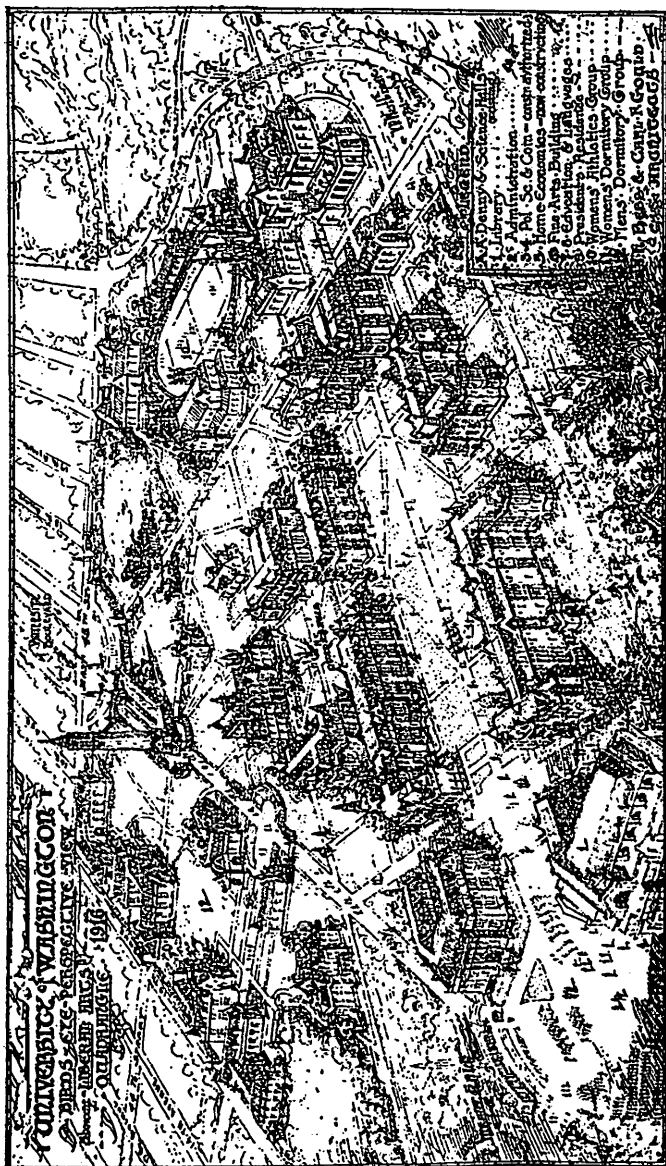


CATALOGUE
OF THE
University of Washington
FOR 1916-17.
AND
ANNOUNCEMENTS
FOR 1917-18



SEATTLE
WASHINGTON

OLYMPIA :
FRANK M. LAMBORN  PUBLIC PRINTER
1917



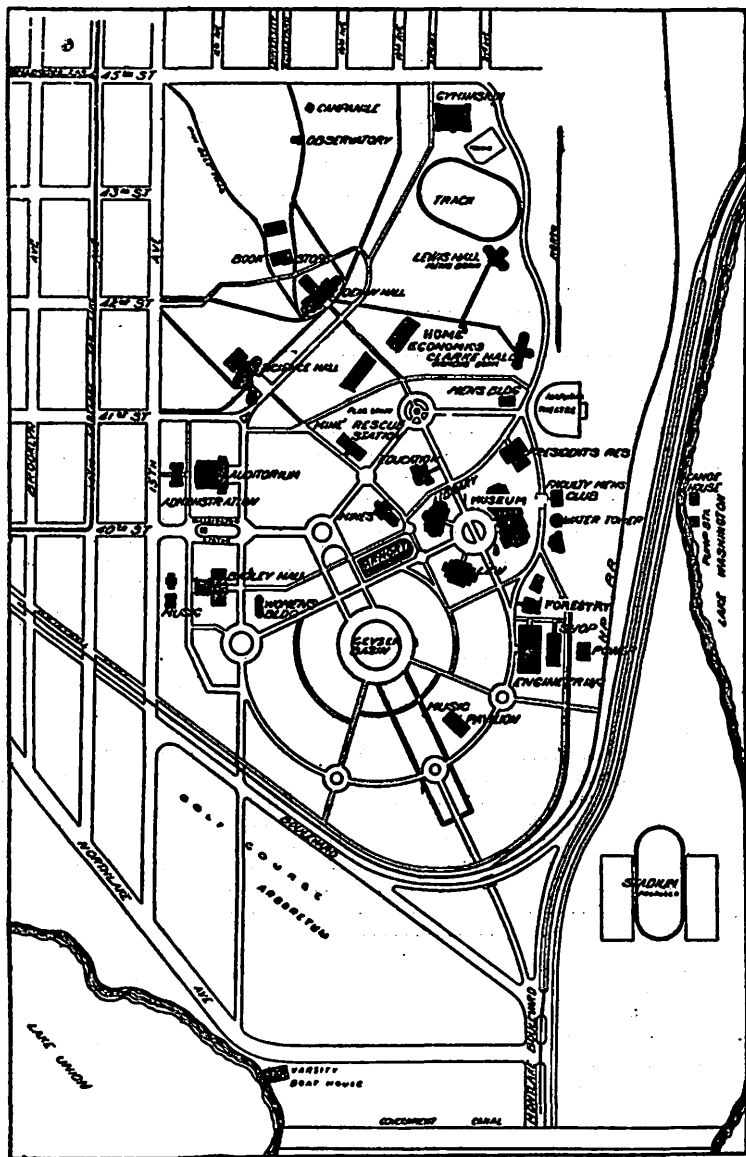
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- 1. Denney & Science Hall
- 2. Library
- 3. Administration
- 4. Pol. Sc. & Com. - crop situated
- 5. Home Economics - not constructed
- 6. Fine Arts Building
- 7. Education & Languages
- 8. President's Residence
- 9. Women's Athletics Group
- 10. Women's Dormitory Group
- 11. Men's Dormitory Group
- 12. Bagg & Carl Rogers
- 13. Cafeteria

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UNIVERSITY CALENDAR

1917-18

Summer session June 18 to July 27

FIRST SEMESTER

Examinations for admission and
for exemption from College } Thursday, Friday and Saturday, Sep-
English tember 6, 7, 8, at 9 a. m. and 2 p. m.

Registration days for new first-year
students..... { Friday and Saturday, Septem-
ber 7 and 8.

Registration days for all other students. { Monday and Tuesday, Septem-
ber 10 and 11.

Instruction begins..... Wednesday, September 12

President's annual address..... Friday, September 14, 10 a. m.

Women's assembly..... Friday, September 21, 11 a. m.

Assembly of Associated Students..... Wednesday, September 26, 9 a. m.

Thanksgiving vacation..... { Wednesday, November 28, 6 p. m.,
to Monday, December 3, 8 a. m.

Assembly of Associated Students..... Wednesday, December 5, 1 p. m.

Christmas vacation..... { Friday, December 21, 6 p. m., to
Wednesday, January 2, 8 a. m.

Semester examinations..... { Monday, Tuesday, Wednesday,
Thursday, Friday, January 21,
22, 23, 24, 25.

SECOND SEMESTER

Registration days..... Monday and Tuesday, January 28 and 29

Instruction begins..... Wednesday, January 30

Women's assembly..... Friday, February 1, 11 a. m.

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

Spring vacation.... Friday, March 29, 6 p. m. to Monday, April 8, 8 a. m.

Assembly of Associated Students..... Thursday, April 11, 9 a. m.

Campus day..... Friday, April 26

Junior day..... Saturday, May 4

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

Semester examinations..... { Monday, Tuesday, Wednesday,
Thursday, Friday, Saturday,
June 3, 4, 5, 6, 7, 8.

Baccalaureate Sunday..... June 9

Class day and President's reception..... Monday, June 10

Alumni day..... Tuesday, June 11

Commencement..... Wednesday, June 12

University Calendar

1917-18

(Superseding Previous Announcements)

In view of the present war emergency, the University of Washington has decided to adopt the four quarter plan for the year 1917-18. Changes in courses and graduation requirements necessitated by the abandonment of the semester system will be announced during the summer of 1917.

FIRST QUARTER

Examinations for admission and for exemption from College English and foreign language.....Thursday, Friday and Saturday, September 27, 28 and 29, at 9 a. m. and 2 p. m.
Registration of new first year students.....
.....Friday and Saturday, September 28 and 29
Registration of all other students.....
.....Monday and Tuesday, October 1 and 2
Instruction begins.....Wednesday, October 3
President's Annual Address.....Friday, October 5, 10 a. m.
Women's AssemblyFriday, October 12, 11 a. m.
Assembly of the Associated Students.Thursday, October 18, 9 a. m.
Thanksgiving Recess
Wednesday, November 28, 6 p.m., to Monday, December 3, 8 a.m.
Assembly of the Associated Students.Wednesday, December 5, 1 p.m.
Quarter Examinations
....Wednesday, Thursday and Friday, December 19, 20 and 21

SECOND QUARTER

Registration days.....Wednesday and Thursday, January 2 and 3
Instruction begins.....Friday, January 4
Washington's birthday (holiday).....Friday, February 22
Quarter Examinations
.....Saturday, Monday and Tuesday, March 23, 25 and 26

THIRD QUARTER

Registration days.....Tuesday and Wednesday, April 2 and 3
Assembly of the Associated Students.Wednesday, April 17, 9 a. m.
Campus day.....Friday, April 26
Junior daySaturday, May 25
Memorial day (holiday).....Thursday, May 30
Quarter Examinations
.....Wednesday, Thursday and Friday, June 12, 13 and 14
Class day and President's reception.....Saturday, June 15
Baccalaureate SundayJune 16
Commencement and Alumni day.....Monday, June 17

SUMMER SESSION (Fourth Quarter)

Registration for First Term.....Tuesday, June 18
Instruction beginsWednesday, June 19
Term ExaminationsWednesday, July 24
Registration for Second Term.....Friday, July 26
Term ExaminationsSaturday, August 31

THE BOARD OF REGENTS

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

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

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

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

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

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

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

RUTH KARR MCKEE.....Hoquiam
Term ends March, 1923.

WILLIAM MARKHAM, Secretary to the Board.

OFFICERS OF ADMINISTRATION

THE UNIVERSITY

HENRY SUZZALLO, PH. D., President of the University, Administration Hall.
HERBERT THOMAS CONDON, LL. B., Comptroller and Bursar, Administration Hall.

EDWARD NOBLE STONE, A. M., Registrar and Recorder, 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, Library.
EVERETT OWEN EASTWOOD, C. E., Consulting Engineer, Engineering Hall.
DAVID CONNOLLY HALL, M. D., University Health Officer, Gymnasium.
FRANK STEVENS HALL, Curator of the Museum, Museum.

THE COLLEGES AND SCHOOLS

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

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

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.

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

HUGO WINKENWERDER, M. F., Dean of the College of Forestry, Forestry Hall.

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

HENRY LANDES, A. M., Dean of the College of Science, Science Hall.

FREDERICK ELMER BOLTON, PH. D., Dean of the College of Education, Home Economics Hall.

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

WILLIAM ELMER HENRY, A. M., Director of the Library School, Library.

CARLTON HUBBELL PARKER, PH. D., Dean of the School of Commerce, Commerce Hall.

THE EXTENSION DIVISION

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

OTHER ADMINISTRATIVE OFFICERS

Office of the President:

LILLIAN BROWN GETTY, Secretary to the President.

Office of the Comptroller:

MAX HIPKOE, Assistant Purchasing Agent.

WILLIAM BEACH JONES, A. B., Cashier.

AIMEE WILSON, Secretary to the Comptroller.

Office of the Registrar:

VICTOR J. BOUILLON, A. B., Assistant Registrar.

LAURA ALICE HURD, A. B., Chief Clerk.

KATE PROTHERO, Secretary to the Registrar.

HARRIETT WESTMORELAND, in charge of Alumni Register.

BUILDINGS AND GROUNDS

WILFRED LEWIS, B. S. (C. E.), Superintendent.

SANDY MORROW KANE, Engineer.

L. R. KETTENRING, Acting Electrician.

JAMES S. KRAPE, Head Carpenter.

GEORGE LEWIS MOTTER, Head Gardener.

UNIVERSITY COMMONS AND RESIDENCE HALLS

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

FRANCES HEVERLO, PH. B., in charge of Clarke Hall.

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

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

CORNELIUS BARRY, Laboratory Assistant.

UNITED STATES ARMY RESERVE OFFICERS' TRAINING
CORPS

WILLIAM TAYLOR PATTEN, Captain, U. S. A., Retired.

WILLIAM DAVID FRAZER, First Lieutenant, Coast Artillery Corps.

MICHAEL J. CASHION, First Sergeant, U. S. A., Retired.

LEE BARKER, Sergeant, Infantry, U. S. A.

JOHN C. BRANTH, Sergeant, Coast Artillery Corps, U. S. A.

**MINING AND METALLURGICAL EXPERIMENT STATION,
UNITED STATES BUREAU OF MINES**

DORSEY A. LYON, M. A., Superintendent.

UNION B. WHITE, Chief Clerk.

MINES RESCUE TRAINING STATION

JOHN J. CORRY, Foreman in Charge.

STATE FOOD AND DRUG WORK

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

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

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

LIBRARY STAFF

WILLIAM ELMER HENRY, A. B., 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 McDONNELL, A. B., Washington; Periodicals Librarian.

EVELYN MAY BLODGETT, A. B., Vassar; Pratt Institute Library School; Acting Catalogue Librarian.

MARY HUBBARD, A. B., Western College for Women; B. L. S., Illinois; Assistant Reference Librarian and Instructor in Library Economy.

LOUISE FENIMORE SCHWARTZ, A. B., Knox College; B. L. S., Illinois; Circulation Librarian.

MABEL ASHLEY, A. B., Kansas; Washington, Graduate in Library Economy; Order and Accession Librarian and Instructor in Library Economy.

BEATRICE MERCER, A. B., Washington, Certificate in Library Economy; Assistant Circulation Librarian.

EDNA MORRIS HULL, A. B., Mt. Holyoke; B. L. S., New York State Library School; Assistant Catalogue Librarian.

UNIVERSITY FACULTY

In this list the names of the faculty are arranged in five groups, professors, associate professors, assistant professors, instructors, and lecturers, followed by the name of the teaching fellow and assistants. In each of the five groups the names occur in order of academic seniority. An alphabetical list of the faculty is given on pages 14-25.

HENRY SUZZALLO, President of the University, *Ex-officio* Chairman.

EDWARD NOBLE STONE, Registrar and Recorder, *Ex-officio* Secretary.

Professors

*ORSON BENNETT JOHNSON	OLIVER HUNTINGTON RICHARDSON
HENRY LANDES	IVAN WILBUR GOODNER
EDMOND STEPHEN MEANY	WALTER GREENWOOD BEACH
J. ALLEN SMITH	IRVING MACKAY GLEN
CAROLINE HAVEN OBER	EDWIN AUGUSTUS START
ALMON HOMER FULLER	CHARLES CHURCH MORE
JOHN THOMAS CONDON	HENRY KREITZER BENSON
HORACE G. BYERS	JOHN WEINZIERL
TREVOR KINCAID	HUGO WINKENWERDER
FREDERICK MORGAN PADELFORD	VERNON LOUIS FARRINGTON
MILNOR ROBERTS	FREDERICK ELMER BOLTON
ARTHUR SEWALL HAGGETT	EDWIN JOHN VICKNER
FREDERICK ARTHUR OSBORN	EFFIE ISABEL RAITT
WILLIAM SAVERY	WILLIAM FRANKLIN ALLISON
DAVID THOMSON	STEVENSON SMITH
CHARLES WILLIS JOHNSON	WILLIAM PIERCE GORSUCH
PIERRE JOSEPH FREIN	CLARK PRESCOTT BISSETT
THEODORE CHRISTIAN FRYE	ETHEL HUNLEY COLDWELL
ROBERT EDOUARD MORITZ	WILLIAM TAYLOR PATEN
CARL EDWARD MAGNUSSEN	ARTHUR RAGAN PRIEST
HARVEY LANTZ	ALLEN ROGERS BENHAM
EVERETT OWEN EASTWOOD	LESLIE JAMES AYER
FREDERICK WILLIAM MEISNEST	FRANCIS PATRICK GOSS
WILLIAM ELMER HENRY	WILLIAM DAVID FRAZER
DAVID CONNOLLY HALL	†COLIN VICTOR DYMENT
HERBERT HENRY GOWEN	†BENJAMIN OYARZUN

Associate Professors

†FRANK MARION MORRISON	BURT PERSONS KIRKLAND
LOREN DOUGLAS MILLIMAN	THOMAS KAY SIDBY
SAMUEL LATIMER BOOTHROYD	WILLIAM MAURICE DEHN

* Died, March 9, 1917.

† Appointed February 1, 1917.

‡ Absent on leave, 1916-17.

EDWARD McMAHON
CHARLES WESLEY SMITH
JACOB NEIBERT BOWMAN
ARTHUR WILSON LINTON
GEORGE SAMUEL WILSON
GEORGE WALLACE UMPHREY

OTTO PATZER
CHARLES WILLIAM HARRIS
LEONARD VINCENT KOOS
VANDERVEER CUSTIS
EDGAR ALLEN LOEW
DAVID ALLEN ANDERSON

Assistant Professors

EDWIN JAMES SAUNDERS
OTILIE GERTRUDE BOETZKES
GEORGE IRVING GAVETT
*HANS JACOB HOFF
ROBERT EYSTAFIEFF ROSE
ROBERT MAX GARRETT
ELIAS TREAT CLARK
EDWARD GODFREY COX
JOSEPH DANIELS
ELI VICTOR SMITH
HENRY LOUIS BRAKEL
†CHARLES MUNRO STRONG
WILLIAM THEODORE DARBY
HARVEY BRUCE DENSMORE
*CHARLES EDWIN WEAVER
HERMAN GUSTAV ADOLPH BRAUER
CLARENCE RAYMOND COREY
ALLEN FULLER CARPENTER
GEORGE BURTON RIGG
ERNEST GEORGE ATKIN
ABRAHAM BERGLUND
GRACE GOLDENA DENNY
HORACE JAMES MACINTIRE
GINO ARTURO RATTI
JOEL MARCUS JOHANSON
JOHN WILLIAM MILLER
FRED WASHINGTON KENNEDY
ERNEST OTTO ECKELMAN
CHARLES LOUIS HELMLINGE
JOHN WILLIAM HOTSON

THERESA SCHMID McMAHON
LEWIS IRVING NEIKIRK
FRED WAYNE CATLETT
HAROLD EUGENE CULVER
FRANCES DICKEY
CARL FRELINGHUYSEN GOULD
MARY FREDERICKA RAUSCH
‡LEE A WHITE
WALTER EDMUND SQUIRE
MORITZ ROSEN
ALBERT FRANZ VENINO
SAMUEL HERBERT ANDERSON
FRANK MELVILLE WARNER
NANNIE BELLE JUDY
DALLAS DEVELLO JOHNSON
FRIEDRICH KURT KIRSTEN
CHARLES EDWARD NEWTON
SERENO BURTON CLARK
ELDIE TROKELL
CLIFFORD WOODY
MACY MILLMORE SKINNER
HAMILTON ACHILLE WOLF
RALPH HASWELL LUTZ
HARLAN LEO TRUMBULL
CURT JOHN DUCASSE
ERIC TEMPLE BELL
BROR LEONARD GRÖNDAL
LUIS A. SANTANDER
§FRED HARVEY HEATH
§LEWIS LILLY

Instructors

SAMUEL THOMAS BEATTIE
SANDY MORROW KANE
WALTER BELL WHITTLESSEY
JESSIE BEE MERRICK
NEWELL WHEELER SAWYER
VICTOR LOVITT OAKES CHITTICK

HJALMAR LAURITS OSTERUD
HENRY SLATER WILCOX
LESLIE FORREST CURTIS
RUDOLPH HERBERT ERNST
*LEO JONES
||THOMAS WITHERS

* Absent on leave, 1916-17.

† Absent on leave, second semester, 1917-18.

‡ Resigned, February 1, 1917.

§ Appointment effective February 1, 1917.

|| Resigned, January 1, 1917.

JOSEPH BARLOW HARRISON	ALLETTA GILLETTE
MARY HUBBARD	CHARLES ALEXANDRE GUEBARD
GEORGE MILTON JAMES	CHARLES WENDELL DAVID
LLOYD LEROY SMAIL	JAMES ALVIN GILBREATH
CONRAD TRESSMANN	FRANCES GRANT HEVERLO
LUTHER EWING WEAR	SETH CHAPIN LANGDON
FRANCES EDITH HINDMAN	HORACE HARDY LESTER
*HIRAM BOARDMAN CONIBEAR	WALTER EDWARD ROLOFF
CLEMENT AKERMAN	LOUISE HOWE TIFFANY
MABEL ASHLEY	LOUISE VAN OGLE
HELEN BALCH CULVER	ALBERT PORTER ADAMS
EVERETT FRANCIS DAHM	†MARIE GASHWEILER
WILLIAM ELMHIRST DUCKERING	CHAUNCEY WERNECKE
VICTOR JOHN FARRAR	KATE LEILA GREGG
NATHAN FASTEN	KATHARINE MARTINDALE
ROBERT CHENAULT GIVLER	MAX PATTEN PHILBRICK
EDWIN RAY GUTHRIE	MARY IRENE PRAY
†PAUL JEHU KRUSE	HARRY ROGERS
CHARLES GUSTAVE PAUL KUSCHKE	IWAR SIGURD WESTERBERG
†FRANK JOSEPH LAUBE	HELEN HARRINGTON
JOSEPH GRATTAN O'BRYAN	THOMAS AUGUSTUS MASON
EARL MILLIRON PLATT	ELVINE SIMEON
HAROLD OGDEN SEXSMITH	JOHN LAVELL MCALLEN
HARRY KELLEY RUBEY	§WILLIAM NEILL WHITELAW
GERTRUDE ELLIOTT	

Lecturers

HARVEY L. GLENN	CARL BUSH
GEORGE NELSON SALISBURY	JAMES P. ROBERTSON
FREDERICK POWELL	B. LETCHER LAMBUTH
ROBERT F. McELVENNY	THOMAS ROCHESTER SHEPARD
L. A. NELSON	MALCOLM CARTER BRUCE
CORNELIUS OSSEWARD	WAYNE EDGAR BUTTERBAUGH
CONRAD ZIMMERMAN	

Assistants

FOREST JACKSON GOODRICH, B. S., Washington, Assistant in Pharmacy and Assistant State Chemist.

CLARENCE JOHN ALBRECHT, A. B., Iowa, Assistant in the Museum.

MARTHA REEKIE, A. B., Washington, Assistant in the Museum.

MADGE WILKINSON, Clinical Assistant.

LILLIAN BLOOM, Assistant in Physical Education for Women.

* Absent on leave, first semester, 1916-17.

† Absent on leave, 1916-17.

‡ Absent on leave, second semester, 1916-17.

§ Appointment effective February 1, 1917.

*JAMES MCCONHEY, LL.B., Northwestern, Assistant in Accounting.
 JAMES CLARENCE PALMER, B. S., Washington, Assistant in Pharmacy and
 Assistant State Chemist.
 ANNE VOELKER, Assistant in Music.

Teaching Fellows

WALTER BAGLEY	WILLIAM MASKS
JACOB ROY BENDER	RUTH MERLING
HARRY BRILLINGER	JOHN MOORE
HERMAN EVERETT BROWN	STEPHEN JEFFERSON PATTEN
GORDON LUTHER CAVE	MARGARET PROSSER
CLYDE MYRON CRAMLETT	WILLIAM RAY RADER
BERNARD FREYD	WILLIAM RENNIE
MADELL GILLE	ALFRED SHEERER
HELEN GILMAN	GEORGE SCHWARTZ
RUBY CLIFT GLOCKLER	NOEL FINLEY THOMPSON
FLOYD HUFF	THOMAS GORDON THOMPSON
ZALIA JENCKS	ERNESTO VELASCO
JOANNE KARRER	MARY VAN ORDEN
ALBERT MCSWEENEY	

ALPHABETICAL LIST OF THE UNIVERSITY FACULTY

HENRY SUZZALLO, PH. D., President of the University.
 ALBERT PORTER ADAMS, Bandmaster.
 CLEMENT AKERMAN, Instructor in Economics.
 A. B., Georgia, 1898; A. M., Harvard, 1914.
 WILLIAM FRANKLIN ALLISON, Professor of Municipal and Highway Engineering.
 B. S., South Dakota State College, 1895; B. S. (C. E.), Purdue, 1897;
 C. E., Cornell, 1904.
 DAVID ALLEN ANDERSON, Associate Professor of Education.
 A. B., Iowa, 1908; A. M., 1910; Ph. D., 1912.
 SAMUEL HERBERT ANDERSON, Assistant Professor of Physics.
 A. B., Park College, 1902; A. M., 1903; Ph. D., Illinois, 1912.
 MABEL ASHLEY, Instructor in Library Economy.
 A. B., Kansas, 1905.
 ERNEST GEORGE ATKIN, Assistant Professor of French.
 A. B., Cornell, 1904; A. M., 1911; Ph. D., Harvard, 1916.
 LESLIE JAMES AYER, Professor of Law.
 B. S., Upper Iowa University, 1899; J. D., Chicago, 1906.

* First semester, 1916-17.

WALTER GREENWOOD BEACH, Professor of Sociology.

A. B., Marietta, 1888; A. B., 1891, A. M., Harvard, 1892.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

ERIC TEMPLE BELL, Assistant Professor of Mathematics.

A. B., Stanford, 1904; A. M., University of Washington, 1908; Ph. D., Columbia, 1912.

ALLEN ROGERS BENHAM, Professor of English.

A. B., Minnesota, 1900; A. M., 1901; Ph. D., Yale, 1905.

HENRY KREITZER BENSON, Professor of Industrial Chemistry and Director of the Bureau of Industrial Research.

A. B., Franklin and Marshall, 1899; A. M., 1902; Ph. D., Columbia, 1907.

ABRAHAM BERGLUND, Assistant Professor of Economics.

A. B., Chicago, 1904; Ph. D., Columbia, 1907.

CLARK PRESCOTT BISSETT, Professor of Law.

A. B., Hobart College, 1896.

OTILIE GERTRUDE BOETZKES, Assistant Professor of German.

A. B., University of Washington, 1901; A. M., 1902.

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

B. S., Wisconsin, 1893; M. S., 1896; Ph. D., Clark, 1898.

SAMUEL LATIMER BOOTHROYD, Associate Professor of Astronomy.

B. S., Colorado Agricultural College, 1893; M. S., 1904.

JACOB NEIBERT BOWMAN, Associate Professor of European History.

A. B., Heidelberg (Ohio), 1896; Ph. D., Heidelberg (Germany), 1900.

HENRY LOUIS BRAKEL, Assistant Professor of Physics.

B. A., Olivet, 1902; A. M., University of Washington, 1905; Ph. D., Cornell, 1912.

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

A. B., Colorado College, 1896; A. M., Wisconsin, 1898; Ph. D., Wisconsin, 1904; A. M. (Hon.), University of Adelaide, South Australia, 1906.

HORACE G. BYERS, Professor of Chemistry.

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

ALLEN FULLER CARPENTER, Assistant Professor of Mathematics.

A. B., Hastings, 1901; A. M., Nebraska, 1909; Ph. D., Chicago, 1915.

FRED WAYNE CATLETT, Assistant Professor of Law.

A. B., Harvard, 1904; A. M., Harvard, 1905; LL. B., Harvard, 1907.

VICTOR LOVITT OAKES CHITTICK, Instructor in English.

A. B., Acadia, 1905; A. M., 1906; A. M., Harvard, 1908.

ELIAS TREAT CLARK, Assistant Professor of Forestry.

Ph. B., Yale, 1907; M. F., 1908.

SERENO BURTON CLARK, Assistant Professor of Latin and Greek.

A. B., Michigan, 1901; Ph. D., Harvard, 1907.

ETHEL HUNLEY COLDWELL, Dean of Women.

B. L., Mills College, 1894; A. M., Stanford, 1899.

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

LL. B., Michigan, 1891; LL. M., Northwestern, 1892.

*HIRAM BOARDMAN CONIBEAR, Supervisor of Aquatics.

Graduate, Chautauqua School of Physical Training and Athletics, 1901.

CLARENCE RAYMOND COREY, Assistant Professor of Mining and Metallurgy.

E. M., Montana State School of Mines, 1905; M. S., Columbia, 1915.

EDWARD GODFREY COX, Assistant Professor of English.

A. B., Wabash, 1899; A. M., Cornell, 1901; Ph. D., 1906.

HAROLD EUGENE CULVER, Assistant Professor of Geology.

Ph. B., Wisconsin, 1910; Ph. M., 1911.

HELEN BALCH CULVER, Instructor in Design.

Graduate Pratt Institute, 1905; Graduate, Teachers' College, Columbia, 1909.

LESLIE FORREST CURTIS, Instructor in Electrical Engineering.

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

VANDERVEER CUSTIS, Associate Professor of Economics.

A. B., Harvard, 1901; A. M., 1902; Ph. D., 1905.

EVERETT FRANCIS DAHM, Instructor in Business Administration, and Assistant Director of the Extension Division.

A. B., Wisconsin, 1913.

JOSEPH DANIELS, Assistant Professor of Mining Engineering and Metallurgy.

S. B., Massachusetts Institute of Technology, 1905; M. S., Lehigh, 1908.

WILLIAM THEODORE DARBY, Assistant Professor of English.

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

CHARLES WENDELL DAVID, Instructor in History.

A. B., Oxford, 1911; A. M., Wisconsin, 1912.

WILLIAM MAURICE DEHN, Associate Professor of Chemistry.

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

GRACE GOLDENA DENNY, Assistant Professor of Domestic Art.

A. B., Nebraska, 1907.

* Absent on leave, first semester, 1916-17.

HARVEY BRUCE DENSMORE, Assistant Professor of Greek.
A. B., Oregon, 1903.

FRANCES DICKEY, Assistant Professor of Music.
Graduate, Iowa State Teachers' College, 1901; B. S., Columbia, 1912;
A. M., 1913.

CURT JOHN DUCASSE, Assistant Professor of Philosophy.
A. B., University of Washington, 1908; A. M., 1909; Ph. D., Harvard,
1912.

WILLIAM ELMHURST DUCKERING, Instructor in Civil Engineering.
A. B., University of Washington, 1903; B. S. (C. E.), 1909; C. E.,
1916.

COLIN VICTOR DYMENT, Professor of Journalism.
B. A., Toronto, 1900.

EVERETT OWEN EASTWOOD, Professor of Mechanical Engineering.
C. E., Virginia, 1896; A. B., 1897; A. M., 1899; S. B., Massachusetts
Institute of Technology, 1902.

ERNEST OTTO ECKELMAN, Assistant Professor of German.
A. B., Northwestern (Watertown, Wis.), 1897; B. L., Wisconsin, 1898;
Ph. D., Heidelberg (Germany), 1906.

GERTRUDE ELLIOTT, Instructor in Home Economics.
B. S., Illinois, 1913.

RUDOLPH HERBERT ERNST, Instructor in German.
A. B., Northwestern (Watertown, Wis.), 1904; A. M., Harvard, 1911.

VICTOR JOHN FARRAR, Research Assistant in History.
A. B., Wisconsin, 1911; A. M., 1912.

NATHAN FASTEN, Instructor in Zoology.
B. S., College of New York, 1910; Ph. D., Wisconsin, 1914.

WILLIAM DAVID FRAZER, First Lieutenant, Coast Artillery Corps, Pro-
fessor of Military Science and Tactics.
B. S. (C. E.), Michigan Agricultural College, 1909; Graduate of Coast
Artillery School, 1915.

PIERRE JOSEPH FREIN, Professor of French.
A. B., Williams, 1892; Ph. D., Johns Hopkins, 1899.

THEODORE CHRISTIAN FRYE, Professor of Botany.
B. S., Illinois, 1894; Ph. D., Chicago, 1902.

ALMON HOMER FULLER, Professor of Civil Engineering and Dean of the
College of Engineering.
C. E., Lafayette, 1897; M. C. E., Cornell, 1898; M. S., Lafayette, 1900.

ROBERT MAX GARRETT, Assistant Professor of English.
A. B., Idaho, 1902; A. M., University of Washington, 1903; Ph. D.,
Munich, 1909.

*MARIE GASHWEILER, Instructor in Music.

A. B., Colorado College, 1902.

GEORGE IRVING GAVETT, Assistant Professor of Mathematics.

B. S. (C. E.), Michigan, 1893.

JAMES ALVIN GILBREATH, Instructor in Physics.

B. S., Whitman, 1906; A. M., 1907; M. S., Washington, 1916.

ALLETTA GILLETTE, Extension Instructor in English.

A. B., Smith, 1907; A. M., University of Washington, 1911.

ROBERT CHENAULT GIVLER, Instructor in Psychology.

A. B., Hamline, 1906; A. M., Harvard, 1913; Ph. D., 1914.

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

A. B., Oregon, 1894; A. M., 1897.

IVAN WILBUR GOODNER, Professor of Law.

LL. B., Nebraska, 1897.

WILLIAM PIERCE GORSUCH, Professor of Public Speaking and Debate.

A. B., Knox, 1898.

FRANCIS PATRICK GOSS, Lecturer on Journalism.

CARL FRELINGHUYSEN GOULD, Assistant Professor of Architecture.

A. B., Harvard, 1898.

HERBERT HENRY GOWEN, Professor of Oriental History, Literature and Institutions.

St. Augustine's College (Canterbury); D. D., Whitman College, 1912.

KATE LEILA GREGG, Instructor in English.

A. B., Washington, 1908; Ph. D., 1916.

BROR LEONARD GRÖNDAL, Assistant Professor of Forestry.

A. B., Bethany (Kansas), 1910; M. S. F., University of Washington, 1913.

CHARLES ALEXANDRE GUERARD, Instructor in French in the Extension Division.

B. L., University of France, 1876.

EDWIN RAY GUTHRIE, Instructor in Philosophy.

A. B., Nebraska, 1907; A. M., 1910; Ph. D., Pennsylvania, 1912.

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

A. B., Bowdoin, 1893; A. M., 1894; Ph. D., Johns Hopkins, 1897.

DAVID CONNOLLY HALL, University Health Officer and Director of Physical Education for Men.

Ph. B., Brown, 1901; Sc. M., Chicago, 1903; M. D., Rush Medical College, 1907.

- HELEN HARRINGTON, Instructor in Physical Education for Women.
Wellesley College; University of California.
- CHARLES WILLIAM HARRIS, Associate Professor of Civil Engineering.
B. S. (C. E.), University of Washington, 1903; C. E., Cornell, 1905.
- JOSEPH BARLOW HARRISON, Instructor in English.
A. B., University of Washington, 1910; A. B., Oxford, 1913.
- FRED HARVEY HEATH, Assistant Professor of Chemistry.
B. S., New Hampshire, 1905; Ph. D., Yale, 1909.
- CHARLES LOUIS HELMLINGE, Assistant Professor of French.
B. Ph., Wallace College (Ohio), 1911; A. M., University of Washington, 1915.
- WILLIAM ELMER HENRY, Librarian and Director of the Library School.
A. B., Indiana, 1891; A. M., 1892.
- FRANCES GRANT HEVERLO, Instructor in Home Economics.
Ph. B., Chicago, 1908.
- FRANCIS EDITH HINDMAN, Instructor in Pharmacy and Assistant State Chemist and Bacteriologist.
Ph. C., University of Washington, 1910; B. S., 1912; M. S., 1914.
- *HANS JACOB HOFF, Assistant Professor of German.
A. B., Bethany (Kansas), 1901; Ph. D., Illinois, 1908.
- JOHN WILLIAM HOTSON, Assistant Professor of Botany.
A. B., McMaster, 1901; A. M., 1902; Ph. D., Harvard, 1913.
- MARY HUBBARD, Instructor in Library Economy.
A. B., Western College for Women, 1896; B. L. S., Illinois, 1913.
- GEORGE MILTON JAMES, Instructor in Economics.
B. Litt., Dartmouth, 1901; S. T. B., Harvard, 1902; A. B., Middlebury, 1903; A. M., Harvard, 1910; Ph. D., Johns Hopkins, 1913.
- JOEL MARCUS JOHANSON, Assistant Professor of English.
A. B., University of Washington, 1904.
- CHARLES WILLIS JOHNSON, Professor of Pharmaceutical Chemistry and Dean of the College of Pharmacy.
Ph. C., Michigan, 1896; B. S., 1900; Ph. D., 1903.
- DALLAS DEVELLO JOHNSON, Assistant Professor of Education.
A. B., Iowa State Teachers' College, 1914; A. M., Columbia, 1915.
- †ORSON BENNETT JOHNSON, Professor Emeritus of Zoology.
LL. B., Union College Law School, 1869.
- *LEO JONES, Chief of the Bureau of Debate and Discussion.
A. B., University of Washington, 1912; A. M., 1916.
- NANNIE BELLE JUDY, Assistant Professor of Home Economics.
Certificate, Teachers' College, 1910.

* Absent on leave 1916-17.

† Died, March 9, 1917.

SANDY MORROW KANE, Instructor in Metalwork.

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

TREVOR KINCAID, Professor of Zoology.

B. S., University of Washington, 1899; A. M., 1901.

BURT PERSONS KIRKLAND, Associate Professor of Forestry.

A. B., Cornell, 1905.

FRIEDRICH KURT KIRSTEN, Assistant Professor of Electrical Engineering.

B. S., University of Washington, 1909; E. E., 1914.

LEONARD VINCENT KOOS, Associate Professor of Education.

A. B., Oberlin, 1907; A. M., Chicago, 1915; Ph. D., 1918.

*PAUL JEHU KRUSE, Instructor in Education.

B. A., Iowa, 1906; A. M., University of Washington, 1913.

CHARLES GUSTAVE PAUL KUSCHKE, Instructor in Mathematics.

Graduate in Mechanical Engineering, Mittweida (Saxony) Technikum; A. M., Columbia, 1908; Ph. D., California, 1912.

HENRY LANDES, Professor of Geology and Mineralogy and Dean of the College of Science.

A. B., Indiana, 1892; A. B., Harvard, 1892; A. M., 1893.

SETH CHAPIN LANGDON, Instructor in Chemistry.

B. S., Northwestern, 1911; A. M., University of Washington, 1918; Ph. D., 1915.

HARVEY LANTZ, Professor of Law.

Ph. B., De Pauw, 1888; A. M., 1891; LL. B., Kent Law School, 1893.

†FRANK JOSEPH LAUBE, Instructor in Economics.

A. B., Wisconsin, 1899; A. M., University of Washington, 1913.

HORACE HARDY LESTER, Instructor in Physics.

A. B., Minnesota, 1906; A. M., University of Washington, 1912; Ph. D., Princeton, 1915.

LEWIS LILLY, Assistant Professor of Commerce.

A. B., Wisconsin, 1914.

ARTHUR WILSON LINTON, Associate Professor of Pharmacy.

Ph. G., Highland Park, 1902; B. S., Michigan, 1909; M. S., University of Washington, 1915.

EDGAR ALLEN LOEW, Associate Professor of Electrical Engineering.

B. S. (E. E.), Wisconsin, 1906.

RALPH HASWELL LUTZ, Assistant Professor of History.

A. B., Stanford, 1906; LL. B., University of Washington, 1907; A. M., Ph. D., Heidelberg (Germany), 1910.

JOHN LAVELLE MCALLEN, Instructor in Mining in the Short Session.

S. B., Massachusetts Institute of Technology, 1911.

* Absent on leave, 1916-17.

† Absent on leave, second semester, 1916-17.

- EDWARD MCMAHON**, Associate Professor of American History.
Ph. B., University of Washington, 1898; A. M., Wisconsin, 1907.
- THERESA SCHMID MCMAHON**, Assistant Professor of Economics.
A. B., University of Washington, 1899; A. M., 1901; Ph. D., Wisconsin, 1909.
- HORACE JAMES MACINTIRE**, Assistant Professor of Mechanical Engineering.
S. B., Massachusetts Institute of Technology, 1905; M. M. E., Harvard, 1911.
- CARL EDWARD MAGNUSSON**, Professor of Electrical Engineering.
B. E. E., Minnesota, 1896; M. S., 1897; E. E., 1905; Ph. D., Wisconsin, 1900.
- KATHARINE MARTINDALE**, Instructor in Home Economics.
A. B., Smith College, 1912.
- THOMAS AUGUSTUS MASON**, Instructor in Social Economics.
A. B., Dartmouth, 1901; A. M., Harvard, 1908.
- EDMOND STEPHEN MEANY**, Professor of History.
B. S., University of Washington, 1885; M. S., 1899; M. L., Wisconsin, 1901.
- FREDERICK WILLIAM MEISNEST**, Professor of German.
B. S., Wisconsin, 1893; Ph. D., 1904.
- JESSIE BEE MERRICK**, Director of Physical Education for Women.
Ph. B., Wisconsin, 1904; B. S., Columbia, 1907.
- JOHN WILLIAM MILLER**, Assistant Professor of Civil Engineering.
B. S. (C. E.), Nebraska, 1905.
- LOREN DOUGLAS MILLIMAN**, Associate Professor of English.
A. B., Michigan, 1890.
- CHARLES CHURCH MORE**, Professor of Civil Engineering.
C. E., Lafayette, 1898; M. C. E., Cornell, 1899; M. S., Lafayette, 1901.
- ROBERT EDOUARD MORITZ**, Professor of Mathematics.
B. S., Hastings, 1892; Ph. M., Chicago, 1896; Ph. D., Nebraska, 1901; Ph. N. D., Universitaet Strassburg, 1902.
- *FRANK MARION MORRISON**, Associate Professor of Mathematics.
A. B., Michigan, 1892; Ph. D., Chicago, 1913.
- LEWIS IRVING NEIKIRK**, Assistant Professor of Mathematics.
B. S., Colorado, 1898; M. S., 1901; Ph. D., Pennsylvania, 1903.
- CHARLES EDWARD NEWTON**, Assistant Professor of Civil Engineering.
B. S., Michigan College of Mines, 1906; E. M., 1907.
- CAROLINE HAVEN OBER**, Professor of Spanish.
- JOSEPH GRATTAN O'BRYAN**, Lecturer on Law.
A. B., Jesuit College (Denver); 1898.

FREDERICK ARTHUR OSBOEN, Professor of Physics and Director of Physics Laboratories.

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

HJALMAR LAURITS OSTERUD, Instructor in Zoology.

A. B., University of Washington, 1909; A. M., 1910.

BENJAMIN A. OYARZUN, Sanfuentes Lecturer on Spanish Language and Literature.

Bachiller en Humanidades y Filosofia, 1890; Bachiller en Leyes y Ciencias Politicas, 1904, de la Universidad de Chile (University of Chile); Graduate Pedagogical Institute of Chile, 1895.

FREDERICK MORGAN PADELFORD, Professor of English.

A. B., Colby, 1896; A. M., 1899; Ph. D., Yale, 1899.

VERNON LOUIS PARRINGTON, Professor of English.

A. B., Harvard, 1893; A. M., Emporia, 1895.

WILLIAM TAYLOR PATTEN, Captain, U. S. A., Retired, Professor of Military Science and Tactics.

Graduate, United States Military Academy, 1899; Graduate, Infantry and Cavalry School, Fort Leavenworth, 1905.

OTTO PATZER, Associate Professor of French.

B. L., Wisconsin, 1898; M. L., 1899; Ph. D., 1907.

MAX PATTEN PHILBRICK, Instructor in Spanish.

A. B., Colby College, 1902.

EARL MILLIRON PLATT, Instructor in Pharmacy.

Ph. C., University of Washington, 1911; B. S., 1914; M. S., 1916.

MARY IRENE PRAY, Instructor in Physical Education for Women.

B. S., Teachers College, Columbia, 1913.

ARTHUR RAGAN PRIEST, Professor of Debating and Dean of Men.

A. B., DePauw, 1891; A. M., 1894.

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

B. S., Columbia, 1912.

GINO ARTURO RATTI, Assistant Professor of French.

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

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

B. S., Colorado State College, 1908.

OLIVER HUNTINGTON RICHARDSON, Professor of European History.

A. B., Yale, 1889; A. M., Ph. D., Heidelberg (Germany), 1897.

GEORGE BURTON RIGG, Assistant Professor of Botany.

B. S., Iowa, 1896; B. D., 1899; A. M., University of Washington, 1909; Ph. D., Chicago, 1914.

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

A. B., Stanford, 1899.

HARRY STANLEY ROGERS, Instructor in Civil Engineering.

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

WALTER EDWARD ROLOFF, Instructor in German.

A. B., Northwestern, 1904; A. M., 1905; Ph. D., Wisconsin, 1912.

ROBERT EVSTAFIEFF ROSE, Assistant Professor of Chemistry.

Ph. D., Leipzig, 1903.

MORITZ ROSEN, Assistant Professor of Music.

Graduate, Warsaw Conservatory, Russia.

HARRY KELLEY RUBEY, Instructor in Civil Engineering.

B. S. (C. E.), Illinois, 1905.

LUIS A. SANTANDER, Assistant Professor of Spanish.

B. S., and Ph. B., University of Santiago, Chile, 1894; LL. B., 1898;
Licentiate in Laws, 1899.

EDWIN JAMES SAUNDERS, Assistant Professor of Geology.

B. A., Toronto, 1896; A. M., Harvard, 1907.

WILLIAM SAVERY, Professor of Philosophy.

A. B., Brown, 1896; A. M., Harvard, 1897; Ph. D., 1899.

NEWELL WHEELER SAWYER, Instructor in English.

Ph. B., Dickinson, 1908; A. M., Pennsylvania, 1909.

HAROLD OGDEN SEXSMITH, Instructor in Architecture.

Armour Institute of Technology; Chicago Art Institute.

THOMAS KAY SIDEY, Associate Professor of Latin and Greek.

B. A., Toronto, 1891; Ph. D., Chicago, 1900.

ELVINE SIMEON, Instructor in Russian.

Graduate, St. Annen Schule; University of Geneva.

MACY MILLMORE SKINNER, Acting Assistant Professor of German.

A. B., Harvard, 1894; A. M., 1895; Ph. D., 1897.

LLOYD LEROY SMAIL, Instructor in Mathematics.

A. B., University of Washington, 1911; A. M., 1912; Ph. D., Columbia,
1913.

CHARLES WESLEY SMITH, Reference Librarian and Associate Professor
of Library Economy.

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

ELI VICTOR SMITH, Assistant Professor of Zoology.

Ph. B., Illinois Wesleyan, 1907; A. M., University of Washington,
1909; Ph. D., Northwestern, 1911.

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

A. B., Missouri, 1886; LL. B., 1887; Ph. D., Michigan, 1894.

STEVENSON SMITH, Professor of Psychology.

A. B., Pennsylvania, 1904; Ph. D., 1909.

WALTER EDMUND SQUIRE, Assistant Professor of Music.

Graduate in Music, Northwestern, 1906.

EDWIN AUGUSTUS START, Director of University Extension Division.

A. B., Tufts, 1884; A. M., Harvard, 1893.

*CHARLES MUNRO STRONG, Assistant Professor of Spanish.

A. B., Missouri, 1897; A. M., 1900.

DAVID THOMSON, Professor of Latin.

B. A., Toronto, 1892.

LOUISE HOWE TIFFANY, Instructor in Music.

B. M., Knox Conservatory, 1914.

CONRAD TRESSMANN, Instructor in German.

A. B., Minnesota, 1908; Ph. D., Pennsylvania, 1913.

ELDIE TROXELL, Assistant Professor of Journalism.

A. B., DePauw, 1912.

HARLAN LEO TRUMBULL, Assistant Professor of Chemistry.

A. B., University of Washington, 1907; A. M., 1908; Ph. D., Chicago, 1911.

GEORGE WALLACE UMPHREY, Associate Professor of Spanish.

B. A., Toronto, 1899; A. M., Harvard, 1901; Ph. D., Harvard, 1905.

LOUISE VAN OGLE, Instructor in Music.

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

ALBERT FRANZ VENINO, Assistant Professor of Music.

New York College; Pupil, Stuttgart Conservatory of Music; Pupil of Leschetizky.

EDWIN JOHN VICKNER, Professor of the Scandinavian Languages.

A. B., Minnesota, 1901; A. M., 1902; Ph. D., 1905.

FRANK MELVILLE WARNER, Assistant Professor of Engineering Drawing.

B. S. (M. E.), Wisconsin, 1907.

LUTHER EWING WEAR, Instructor in Mathematics.

A. B., Cumberland, 1902; Ph. D., Johns Hopkins, 1913.

CHARLES EDWIN WEAVER, Assistant Professor of Geology.

B. S., California, 1904; Ph. D., 1907.

JOHN WEINZIRL, Professor of Bacteriology.

B. S., Wisconsin, 1896; M. S., 1899; Ph. D., 1906.

CHAUNCEY WERNECKE, Instructor in Civil Engineering.

B. S. (C. E.), University of Washington, 1910.

* Absent on leave, second semester, 1916-17.

IVAR SIGURD WESTERBURG, Instructor in German.

A. B., Clark College, 1897; A. M., Harvard, 1908.

*LEE A WHITE, Assistant Professor of Journalism.

A. B., Michigan, 1910; A. M., 1911.

†WILLIAM NEILL WHITELAW, Instructor in Economics.

A. B., Yale, 1895; LL. B., Kansas City School of Law, 1899.

WALTER BELL WHITTLESEY, Instructor in French.

A. B., University of Washington, 1907; A. M., 1909.

HENRY SLATER WILCOX, Instructor in Psychology.

B. S., Trinity (Hartford), 1908; A. M., Harvard, 1911.

GEORGE SAMUEL WILSON, Associate Professor of Mechanical Engineering.

B. S., Nebraska, 1908.

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

B. S., Wisconsin, 1902; M. F., Yale, 1907.

‡THOMAS WITHERS, Instructor in English.

C. E., Virginia Military Institute, 1870.

HAMILTON ACHILLE WOLF, Assistant Professor of Fine Arts.

National Academy of Design; Art Students' League; Columbia University.

CLIFFORD WOODY, Assistant Professor of Education.

A. B., Indiana, 1908; A. M., 1913; Ph. D., Columbia, 1916.

COMMITTEES OF THE FACULTY

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

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

APPOINTMENTS: Deans Bolton, Priest and Coldwell; major professors.

ASSEMBLY: Deans Priest, Glen and Professor Benson.

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

GRADUATION: Professors Byers, Magnusson, Lantz, David, Anderson, Kirkland, Custis and Mr. Stone.

HONORS: Professors Padelford, Byers, Savery, Meisnest and McMahon.

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

* Resigned, February 1, 1917.

† Appointment effective, February 1, 1917.

‡ Resigned, January 1, 1917.

PETITIONS: The Deans of the Colleges and Schools.

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

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

PUBLICATIONS: Professors Henry, Milliman, Dymont, Umphrey, Saunders and Start.

RELATIONS WITH SECONDARY SCHOOLS: Deans Bolton and Haggett, Professors Melsnest, Padelford, Frye and Mr. Stone.

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

SCHEDULE: Professors Wilson, Morrison, Rose, Johanson and Janes.

SPECIAL STUDENTS: The Deans and the Registrar.

STUDENT AFFAIRS: Professor Thomson, Deans Coldwell and Priest; Professors McMahon, Ayer and Loew.

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

GENERAL INFORMATION

HISTORICAL

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

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

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

GOVERNMENT

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

ENDOWMENT AND SUPPORT

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

The legislative maintenance appropriation for the biennium 1915-17 amounted to \$1,110,000.00. This is derived from the millage tax of 47½ hundredths of one mill, together with sundry receipts from property income.

The legislature of 1915 also appropriated \$150,000.00 for a Home Economics Building and further provided for a permanent

building fund to be derived from tuition and matriculation fees, together with rental receipts from the old University Campus site; this fund to be limited for the biennium to \$150,000.00.

The property of the University includes:

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

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

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

BEQUESTS

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

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

EQUIPMENT

GROUND

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

BUILDINGS

The following 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 (now under course of construction, will be completed by the fall registration of 1917), Crew House for men, Crew House for women, Denny Hall, Dry Kiln, Engineering Hall, Engineer's residence, Executive residence, Faculty Club House, Forestry Hall, Forge and Foundry Building, Gatzert Building, Gymnasium, Home Economics Hall, Journalism Hall, Law Hall, Lewis Hall and Clarke Hall (two dormitories that will be closed for repairs during 1917-1918), Library, Meany Hall, Men's Hall, Mines Hall, Museum, Power House, Practice Cottage, Science Hall, U. S. Bureau of Mines, U. S. Mine Rescue Training Station, Wood Preservation Plant.

LIBRARY FACILITIES

The general library contains 78,322 volumes, and receives 502 current magazines. About 6,000 volumes a year are being added.

The Law School library contains more than 20,000 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 250,000 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."

The nucleus of this museum, consisting of a small ethnological collection, was formed in the late '70's 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-Yukon-Pacific 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 forty-two to fifty-four feet high, a remarkable exhibit in itself, of the timber resources of the Northwest.

The ethnology of the Northwest coast from the Columbia river to the Arctic is represented by collections arranged in geographical sequence: (1) A valuable collection of stone implements and carvings gathered along the Columbia river above The Dalles, by the late Dr. R. E. Stewart of Portland, Oregon; (2) collections illustrative of the various Indian tribes of the Puget Sound region, and of the west coast of Washington, made by the pioneer collectors, Rev. Myron Eells and James G. Swan; (3) collections from the coast tribes of British Columbia and Vancouver Island, together with a very complete collection representing the life of the Tlingit and Tahltan Indians of Southeastern Alaska, made by Lieut. George T. Emmons; (4) collections illustrating the life of the Eskimauan tribes of Alaska and of the "Blond Eskimo" on Coronation Gulf, which were secured by Messrs.

Hachmann and Koenig, H. T. Harding, E. M. Blackwell, James T. White, and James Sullivan.

The Philippine section contains a fine series of old Moro brasses, hats, carvings, implements of warfare, etc., collected by Mrs. J. M. T. Partello and Major J. S. Kulp. Also an extensive industrial exhibit showing the agricultural, fishing and manufacturing industries of the Islands. In the Bash Chinese collection are many valuable porcelains, carvings, embroideries, and scrolls, together with other examples of Chinese art.

The Art section of the museum contains the valuable collection of paintings, tapestries, and carvings loaned by Kennedy C. Friend; the collection given by Mrs. A. M. H. Ellis, consisting of antique laces, textiles, mosaics, etc. Besides these there are collections of engravings and etchings, loaned by Geo. W. Soliday, and collections of pottery, bronzes, medallions, etc. Special loan exhibits are also arranged for from time to time.

The natural history collections are numerous and are constantly increasing in size. An exhibit series of local birds is arranged in various alcoves, and is illustrated by several habitat groups of ptarmigan, grouse, crows, ducks, etc. More elaborate groups of mountain goats, Roosevelt elk, timber wolf, mountain lion, bears, deer and other animals have been installed or are in process of installation. The marine fauna is represented by a series of mounted fishes of the northwest coast, corals, crustaceans, sponges, and mounted shells of the Puget Sound region and of foreign localities. The mineral section contains representative collections made by John R. Baker, Harry P. Strickland, Mrs. E. W. P. Guye and others, and is arranged according to Dana. Ore collections of the state and of Alaska are arranged by mining districts. Botanical and Forestry exhibits consist of a mounted series of western Washington flora; cases of grains and grasses on the straw of the state and of Alaska; a comprehensive display of the woods and timber products of the state, together with an extensive exhibit of Philippine woods. The study or reserve series contain an herbarium of over 8,000 specimens; also a collection of bird skins, eggs and nests, made by Prof. O. B. Johnson, Dr. Clinton T. Cook, L. M. Turner, H. H. Hindshaw, and Jennie V. Getty, mostly collected in the vicinity of Seattle.

LABORATORIES

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

BOTANY LABORATORIES

The botanical and bacteriological laboratories are on the third floor 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, two for research. The laboratories are fitted with the apparatus and conveniences usual for the work.

CHEMISTRY LABORATORIES

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

CIVIL ENGINEERING LABORATORIES

HYDRAULIC. The hydraulic laboratory is being transferred to its new location on the shore of Lake Union where facilities will be available for both medium and high head 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" 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 thirty thousand to two hundred thousand pounds, two impact machines with various hammers ranging in weight from fifty to fifteen hundred pounds, with the necessary auxiliary apparatus for general work.

CEMENT. The equipment for testing hydraulic cement is complete for all the ordinary tests as specified by the American Society of 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-two direct current generators and motors. The machines are of modern design and have a combined capacity of three hundred kilowatts in direct current machines and two hundred and twenty-five kilowatts in alternating current machines. Most of the machines are of five or ten-kilowatt capacity. Power from a storage battery of one hundred and thirty cells is available at a separate switchboard in the dynamo laboratory. The University power house, containing two steam driven units of two hundred and one hundred kilowatts, serve 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, and a three-element G. E. oscillograph. The photometry rooms are equipped with Matthews integrating and bench photometers, and a Sharp and Miller portable instrument.

FOREST LABORATORIES

DENDROLOGY. Individual lockers. Extensive collections of tree seeds, cones and bark specimens. An arboretum is under way and a large number of the less common tree species are to be found on the campus.

LUMBERING. Field work is given at logging camps and saw-mills about Seattle. A complete equipment of instruments and tools is available for work in logging engineering. One room contains a complete collection of lumber showing grades and patterns, charts of lumber grades, exhibits of sawmill and wood saws, logging equipments such as wire rope, 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 by students 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 maintained by the College of Forestry affords an excellent opportunity for demonstrations and practice in modern nursery methods.

TIMBER PHYSICS. Laboratory work in timber physics is carried on in the U. S. Forest Service Timber Testing Laboratory, operated in cooperation with the University. The laboratory is magnificently equipped with seven large testing machines for static and impact loading, circular and band saws, planer and other shop equipment for wood-working.

WOOD TECHNOLOGY. Elementary work in wood technology is carried on in the same room as the work in dendrology. Individual lockers, gas, water, compound microscopes and all apparatus for preparing and sectioning wood for the microscopic study of woody tissues are provided. Hand specimens and planks of domestic and foreign commercial timbers are provided in large quantities. These include extensive collections of South American and Philippine hardwoods. 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. It is expected that this laboratory will be ready in the fall of 1917. 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 twelve-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 thoroughly equipped with all apparatus necessary for scientific experimentation in kiln drying.

COMMERCIAL PLANTS. Plants for the manufacture of paper, wood pipe, cooperage, excelsior, wood conduit, veneers, furniture, boxes, and numerous other secondary wood products are located in or very near Seattle and are available for study. Four large creosoting plants and several smaller preservation plants are also available. As such of these industries as are not in Seattle are conveniently situated on Puget Sound, transportation costs to them are very low.

DEMONSTRATION FOREST AND EXPERIMENT STATION. Arrangements are now nearly completed whereby the University will acquire title to a 60,000 acre tract of forest land to be used by the College of Forestry as a demonstration forest and forest experiment station. This tract, which consists of the Pilchuck-Sultan watersheds of the Snoqualmie Forest, 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, the most important commercial species. 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.

GEOLOGY LABORATORIES

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

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

MECHANICAL ENGINEERING LABORATORIES

The steam and experimental laboratory is fully equipped with steam apparatus, including engines aggregating 900 H.P., of simple and compound, high speed and Corliss types; steam turbine; jet and surface condensers; injector; centrifugal pump; steam calorimeters; indicators; calibrating appliances; oil testing machine; gas engine 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 thoroughly modern woodworking shop, machine shop, foundry and forge shop. The wood shop is equipped with benches, lathes, band saws, circular saws, planer, and trimmer. The forge and foundry are equipped with down-draft forges, power hammer, punch and shears, cupola, moulding machines, shakers, rattler, riddles, brass furnace, core ovens, and traveling crane. Machine shop is equipped with small and large lathes, drill press, milling machine, planer, shaper, metal saw, grinding machine and complete equipment for bench and vise work.

MINING AND METALLURGICAL LABORATORIES

The laboratories of the College of Mines are housed in a two-story building of pressed brick. The main portion of the structure, measuring 50 by 80 feet, contains the offices, library, classrooms, drafting room and museum, as well as laboratories, desks, stockroom and balance rooms for assaying and general metallurgy. The rear wing, 40 by 66 feet, with tower, is occupied by mining and milling machinery, electric furnaces, and stocks of ores, coals and clays. An addition contains a steel-locker room, showerbath room and a metallographic laboratory.

The metallurgical equipment includes standard size furnaces fired by six methods,—coal, coke, gasoline, gas, fuel-oil 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 reverberatory furnace, pyrometers of several types, cyanide equipment, amalgamating devices, blowers, calorimeters, balances, sampling machines, and exhibits of metallurgical processes and products.

The mining 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 1,200 slides, and collections of ores and minerals. The College of Mines mill contains breakers, rolls, 3-stamp battery, feeders, screens, classifiers, jigs, four concentrating tables, flotation cells of six types, coal washing equipment, and accessory apparatus.

UNITED STATES BUREAU OF MINES 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 head-

quarters 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, and in the mining, treatment and uses of coal.

UNITED STATES MINES RESCUE TRAINING STATION

The Mines Rescue Training station of the United States Bureau of Mines occupies a separate building near the Mines building. The "smokerroom," fitted with track and car, overcast airway and smudge floors, is the largest of its kind in the country. Several sets of rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work, or emergencies such as asphyxiation, drowning, electric shock, and the like. A lamp-testing machine is in use for testing safety lamps in mixtures of gas and air under varying conditions of velocity; this machine is a duplicate of the one at the Pittsburg laboratory of the United States Bureau of Mines. 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

The 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.

PHYSICS

The laboratories set apart for the use of the department consist 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

The psychology laboratory occupies seven rooms on the fourth floor of Science Hall. These include an acoustics room, an optics room, a shop, a dark room, a room for time measurements, and a general laboratory for elementary psychology courses. Apparatus is annually added for undergraduate, graduate and research work.

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, histology, anatomy, physiology, entomology and research.

OBSERVATORY

The Observatory is housed in a substantial sandstone structure containing dome for equatorial, room for transit and clocks, small shop, office, room for lectures and laboratory work, dark room, etc. 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-Petzval 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.

BAILEY AND BABETTE GATZERT FOUNDATION FOR CHILD WELFARE

On December 21, 1910, this foundation was established by a gift to the University of thirty thousand dollars 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 this 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.

BUREAU OF INDUSTRIAL RESEARCH

A bureau of industrial research has been established for the purpose of cooperating with the industries of the state in the study of industrial problems. Such problems may be referred to the University as industrial fellowships. Through the bureau the various departments of the University cooperate in a study of a given problem.

It is believed that mutual benefit is derived from such co-operation between the University and the industries. The University benefits through the contact of its faculty with industrial problems and the presence of graduate students working on such problems. The industries benefit through research work done at the University and the special training given to men who become interested in the particular problems of a given industry.

Three industrial fellowships have been established for the year 1917-18. One problem deals with the iron and steel industry, another takes up a study of wood preservation, while the third is devoted to the making of an industrial survey of Seattle and its environs. Inquiries regarding the work of the Bureau should be addressed to Henry K. Benson, Director.

ENTRANCE INFORMATION

LOCATION OF THE UNIVERSITY.

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

INSTRUCTION OFFERED BY THE UNIVERSITY

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

REGISTRATION

All new first-year students will be registered on Friday and Saturday, September 7 and 8, 1917.

Only old students and new students entering with advanced standing, will be registered on Monday and Tuesday, September 10 and 11, 1917.

Registration of all students for the second semester will take place on Monday and Tuesday, January 28 and 29, 1918.

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

No student will be allowed to register after the first week of the semester without qualifying by the aid of an approved tutor. (This rule does not apply to graduate students.)

Except in the cases of students who have been granted a leave of absence, or withdrawn in good standing, during the preceding semester of residence, no student may register in the University after the third week of a semester without special permission from the Board of Deans.

EXAMINATIONS FOR EXEMPTION IN ENGLISH AND FOREIGN LANGUAGE: Examinations in composition for all freshmen will be held in Denny Hall, on Thursday, Friday and Saturday preceding registration at 9 and 2 o'clock. Examinations for exemption in foreign language will be held on the same dates and in the same building. The regular fee of \$1.00 for special examination is charged for any examination in composition taken after the announced dates.

ADMISSION TO THE UNIVERSITY

CORRESPONDENCE AND CREDENTIALS

All correspondence regarding the admission of students to the residence courses of the University as well as the requirements for graduation should be addressed to the Recorder. Every applicant for admission in September, 1917, 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. By doing this, the student avoids much inconvenience and delay at the time of registration.


METHODS OF ADMISSION

Students are admitted to the residence work of the University by certificate or by examination, a graduate of an accredited* four-year secondary school only being admitted without examination.

(a) ADMISSION BY CERTIFICATE

A graduate of an accredited secondary school, whose course has covered the requirements for entrance as either a regular or an unclassified student (see page 47) will be admitted upon recommendation of his principal and the presentation of a satisfactory official 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 Recorder's office.

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

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

(b) ADMISSION ON EXAMINATION

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

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

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

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

* For list of accredited secondary schools see pages 50 and 51.

STATUS OF STUDENTS

Students are classified as graduate and undergraduate. Undergraduates are classed as regular students (freshmen, sophomores, juniors, and seniors), unclassified students, students at large and special students.

ADMISSION TO FRESHMAN STANDING.*

Freshman standing in the University is granted to any recommended graduate of an accredited secondary school who presents fifteen units† of credit, distributed as follows:

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

* Until September, 1918, students who have been planning their secondary school work to meet the old entrance requirements, may be admitted under these requirements as stated in the catalogue of 1914-15.

† 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.

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 post-graduate course in the high school of at least one semester.

SUBJECTS RECOMMENDED FOR ADMISSION TO THE SEVERAL COLLEGES

COLLEGES OF LIBERAL ARTS AND SCIENCE

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

A student entering the College of Liberal Arts or the College of Science must take the following subjects in the University as part of his requirements for graduation, if he has not taken them in high school:

- 2 units (16 credits) of a modern foreign language. (In addition to the amount of work here specified, the student must show *ability to read the language with ease*, or must continue the language until such ability is attained.)
- 1 unit (8 credits) of United States history and civics.
- 1 unit (8 credits) of another history.
- 1 unit (8 credits) of either physics or chemistry. (Both physics and chemistry are required in the College of Science.)
- 1 unit (8 credits) of either botany or zoology.
- 1 unit (8 credits) of additional mathematics or science.

UNIVERSITY OF WASHINGTON

COLLEGE OF EDUCATION.

- 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.
(or $\frac{1}{2}$ unit U. S. history, and $\frac{1}{2}$ unit civics.)

COLLEGES OF ENGINEERING AND MINES

- 3 units of English.
- $1\frac{1}{2}$ units of algebra.
- 1 unit of plane geometry.
- $\frac{1}{2}$ unit of solid geometry.
- 1 unit of physics.

COLLEGE OF FINE ARTS (MUSIC, ARCHITECTURE, DRAWING)

General recommended subjects are the same as for the college of Education.

Music students must also present the equivalent of four years' work in music.

Architecture students should present one unit each in physics and chemistry, and one-half unit each in trigonometry and free-hand drawing.

As all curricula in Fine Arts require at least four years of foreign language, it is desirable that as much of this work as possible be taken in high school.

COLLEGE OF FORESTRY

- 2 units of *one* foreign language.
- 3 units of English.
- $1\frac{1}{2}$ units of algebra.
- 1 unit of plane geometry.
- $\frac{1}{2}$ unit of solid geometry.
- 1 unit of physics.
- 1 or $\frac{1}{2}$ unit of botany.

COLLEGE OF PHARMACY

For the three-year course:

- 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).

SCHOOL OF LAW, LIBRARY SCHOOL, SCHOOL OF COMMERCE

(See "admission to advanced undergraduate standing" page 49.)

ADMISSION TO UNCLASSIFIED STANDING

A graduate of an accredited secondary school who presents fifteen units in subjects accepted by his school for graduation, but 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.

ADMISSION AS STUDENTS AT LARGE

In special cases, students who are entitled to admission to regular or unclassified standing, but who desire to pursue purely elective courses, may be allowed to register as students at large. By virtue of their status, students at large are not candidates for any degree.

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

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

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

6. 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.

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

In order that applicants for admission as special students may receive full consideration, it is desirable that their applications be filed with the Recorder several weeks, at least, before the date of registration.

ADMISSION TO ADVANCED UNDERGRADUATE STANDING

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

ADMISSION TO THE SCHOOLS OF LAW AND COMMERCE AND THE LIBRARY SCHOOL

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

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

Graduates of the advanced courses of approved normal schools who have completed two years of normal work in addition to a four-year high school course fully covering college entrance requirements receive 48 scholastic credits plus 8 in physical education. For graduation with the degree of bachelor of arts or bachelor of science, they must satisfy the following specific requirements: Ancient foreign language or literature, 6 credits; a modern foreign language, 8 credits; laboratory courses in physics, or chemistry, or astronomy, 8 credits; laboratory courses in botany or geology or zoology, 8 credits; economics, or sociology, or American government, 6 credits; philosophy, 8 credits; major subject, 24 credits; elective, 4 credits. For the degree of bachelor of education, they must earn 74 hours of credit, covering the requirements of the College of Education. On all these points, however, they may have the benefit of the stated exemptions for entrance subjects, and they may also be excused from

any prescribed subject for which they have completed a fair equivalent in the normal school, such excuse to be granted only upon the recommendation of the head of the department concerned. In cases of exemption, an equal amount of work in elective subjects is required.

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

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 Recorder'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 session.

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

LIST OF ACCREDITED SCHOOLS

I. PUBLIC HIGH SCHOOLS

Aberdeen	Burton (U. H.)	Doty
Almira	Camas	Eatonville
Anacortes	Cashmere	Edison
Arlington	Castle Rock	Edmonds
Asotin	Centralla	Edwall
Auburn	Chehalis	Ellensburg
Battle Ground	Chelan	Elma
Bellingham	Cheney	Endicott
Whatcom	Chewelah	Enumclaw
Fairhaven	Clarkston	Ephrata
State Normal High School	Cle Elum	Everett
	Colfax	Fairfield
Bickleton	Colville	Farmington
Black Diamond	Conconully	Ferndale
Blaine	Coulee City	Foster
Bothell	Coupeville	Friday Harbor
Bremerton (U. H.)	Creston	Garfield
Brewster	Davenport	Goldendale
Buckley	Dayton	Grandview
Burlington	Deer Park	Granger

Granite Falls	Oroville	Spangle
Harmony	Orting	Spokane
Harrington	Outlook	Lewis and Clark
Hillyard	Palouse	North Central
Hoquiam	Pasco	Sprague
Ilwaco	Pe Ell	Stanwood
Kalama	Pomeroy	Stevenson
Kelso	Port Angeles	St. John
Kennewick	Port Townsend	Sultan (U. H.)
Kent	Prescott	Sumas
Kettle Falls	Prosser	Sumner
Kirkland	Pullman	Sunnyside
Kittitas	Puyallup	Tacoma
La Conner	Raymond	Stadium
Latah	Reardan	Lincoln Park
Laurel	Redmond	Tekoa
Leavenworth	Renton	Tenino
Lebam	Republic	Tolt
Lind	Richland	Toppenish
Lynden	Ridgefield	Twisp
Mabton	Ritzville	Vancouver
Malden	Rockford	Vashon
Marysville	Rosalia	Vera
Medical Lake	Roslyn	Waitsburg
Millwood	Roy	Walla Walla
Monroe	Seattle	Wapato
Montesano	Ballard	Washougal
Mossy Rock	Broadway	Waterville
Mount Vernon	Franklin	Wenatchee
Newport	Lincoln	White Salmon
Nooksack	Queen Anne	Willbur
North Bend	West Seattle	Willson Creek
North Yakima	Sedro Woolley	Winslow
Oakesdale	Selah	Winlock
Odessa	Sequim	Woodland
Okanogan	Shelton	Zillah
Olympia	Snohomish	Douglas, Alaska
Omak	South Bend	Juneau, Alaska

II. OTHER SECONDARY SCHOOLS

Adelphia College, Seattle (academic department)
 Annie Wright Seminary, Tacoma
 Brunot Hall, Spokane
 Holy Names Academy, Seattle
 Holy Names Academy, Spokane
 Pacific Lutheran Academy, Parkland
 Seattle Pacific College, Seattle, (academy)
 St. Helen's Hall, Portland, Oregon
 St. Martin's College, Lacey (high school department)

St. Nicholas School, Seattle.

St. Paul's Academy, Walla Walla

College of Puget Sound, Tacoma (preparatory department)

Walla Walla College Academy, Walla Walla

III. SCHOOLS OUTSIDE OF WASHINGTON

Graduates of secondary schools outside of Washington will be admitted on the same terms as graduates of accredited schools in 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 state university whose standards of admission are practically the same as those of the University of Washington.

DEGREES

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

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

GRADUATE DEGREES

Courses adapted to the needs of students who wish to earn the M. A. or M. S. degree are offered in nearly all departments of the colleges of Liberal Arts and Science. In four departments,

chemistry, English, botany and mathematics courses are offered leading to the Ph. D. degree. Courses leading to the degree of M. S. are offered in the colleges of Engineering, Mines, Forestry and Pharmacy. For further information concerning the requirements for graduate degrees, see the bulletin of the Graduate School.

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

DEGREE WITH HONORS

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

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

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

THE UNIVERSITY NORMAL DIPLOMAS

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

GENERAL SCHOLASTIC REGULATIONS

STUDIES

At the beginning of each semester, the student arranges his schedule of studies with the advice and assistance of his class officer. A regular course consists of 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, eight credits in physical culture being required of women for a degree.

A course of two years in military training is required. All able-bodied male students except those from foreign countries,

not intending to become naturalized, must take the course which by regulation of the University is required during the first and second year. Furthermore, every male undergraduate student is required to take physical exercise or athletics during each week of his attendance at the University, unless excused by his dean and the physical director.

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 Recorder.

REGULATIONS FOR WITHDRAWAL

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

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

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

4. Any student who registers for a given course must ultimately complete that course, or if that be impossible, must complete the same number of hours in some other subject approved by the dean of the college concerned, in addition to the total number of hours otherwise required for graduation. (Students who may be properly withdrawn with the consent of the class

adviser alone shall not be affected by this rule, but it shall not exempt any student from the necessity of completing his required courses.)

5. A student who withdraws from a course without first securing written permission from his instructor, endorsed by his adviser, shall be given a grade of "E" in that course.

SCHOLARSHIP STANDING

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

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

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

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

EXAMINATIONS

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

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

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 semester.)

2. Candidates for the bachelor's degrees in the colleges of Liberal Arts, Science, Education, Fine Arts and Forestry 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 Recorder's office or other place designated by him.

No student shall be initiated into a fraternity or sorority until he or she has earned twelve scholastic credits or provisional credits 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 Recorder's office a certificate of eligibility.

EXPENSES

TUITION AND MATRICULATION

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

* 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.

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

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

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

(d) A tuition fee of \$10.00 to be paid by each student in the following special courses: The short course in forestry, the short course in mining, the summer session, and the marine station. A student in any of these special courses of the University is not required to pay a matriculation fee.

REFUNDING OF FEES

The statute which made provision for the tuition and matriculation fees placed the following limitations on the refunding of such fees to students who may wish to withdraw from the University:

1. The matriculation fee is not returnable in whole or in part.

2. Tuition fees are not returnable in whole or in part, except that 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.

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

EXEMPTIONS

The University authorities may in their discretion grant exemption from the payment of tuition for a given semester to a limited number of students who after one semester of residence at the University have shown themselves worthy from the standpoint of scholarship and financial need. This exemption applies only to the tuition fee and not to the matriculation or any laboratory fees.

ASSOCIATED STUDENTS FEE

The Associated Students fee of five dollars is paid annually by each student at the time of registration. Payment of this fee is optional with graduate students, night law students, teachers attending classes meeting on Saturdays and at irregular hours, regularly enrolled extension students, any student 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 names have been reported to the Recorder by the department of education.

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—not replacement—of the scientific apparatus used by the student. In case these charges overrun this amount it becomes necessary for the student to make a further deposit. At the end of the semester the student receives a rebate order from the department concerned, which informs the 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 1 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 semester in force in the various laboratory courses, arranged by departments:

ASTRONOMY, 2—\$1.00.

BACTERIOLOGY, 5, 103, 104, 106, 108, 111, 112, 115, 116, 209, 210—\$5.00.

BOTANY, 13, 14—\$2.00; 1, 2, 10, 11, 12, 26, 105, 106, 119, 141, 142, 143, 144, 233, 250, 251, 252, 253, 254, 261, 262, 271, 279, 280—\$3.00.

CHEMISTRY, 1, 2, 3, 5, 6, 21, 22, 33, 41, 43, 51, 101, 102, 103, 104, 111, 112, 121, 122, 123, 133, 135, 136, 141, 142, 144, 146, 201, 202, 204, 211, 212, 223, 231, 232, 250—\$10.00; 9, 10—\$15.00.

CIVIL ENGINEERING, 6, 11—\$1.00; 20, 22, 27, 30, 32, 38, 55, 56, 107, 108, 142, 143, 167—\$3.00.

DRAWING AND DESIGN, 9, 10, 55, 56—\$1.00.

ELECTRICAL ENGINEERING, 132, 141, 156—\$2.00; 102, 105, 115, 120, 122—\$3.00; 104, 163, 166—\$4.00.

EDUCATION, 205, 206, 217, 218—\$1.00.

FORESTRY, 1, 102, 303—\$1.00; 51, 52, 101, 103, 304, 306, 309, 310, 313, 314, 318—\$2.00.

GEOLOGY, 1, 2, 3, 6, 11, 12, 21, 111, 113—\$1.00; 22, 121, 123, 124—\$2.00.

GYMNASIUM—\$1.00 for the year, locker and apparatus; paid by all taking one or more courses in Physical Education. Women's suits—\$7.50. To be paid within two weeks from registration.

HOME ECONOMICS, 7, 25, 26, 109, 130, 131, 135—\$1.00; 61, 62, 133, 134—\$1.50; 20, 108, 143—\$2.00; 1, 2, 106, 107—\$3.00; 4, 5, 6, 103—\$4.00.

JOURNALISM, 101, 102, 103, 104, 105, 106, 151, 152, 153, 154, 155, 156, 159, 160, 163, 164, 165, 166—\$2.00; 167, 168—\$2.50.

MATHEMATICS, 51, 52—\$1.00.

MECHANICAL ENGINEERING, 1, 2, 53, 54, 105, 106, 107, 109, 140, 141, 151, 152—\$2.00; 4—\$3.00.

MINES, Mining, 151—\$3.00; 101, 152, 176—\$5.00; Metallurgy, 101—\$20.00; 153, 160—\$12.00; 102—\$10.00; 103, 151—\$5.00; 106, 163, 164—\$3.00.

MUSIC, 15, 16 (A, B, C)—\$16.00 to \$40.00 the semester for one lesson hour, according to instructor; practice rooms, 1 hour, \$4.00, 2 hours, \$7.50.

PHARMACY, 5, 6—\$5.00; 1, 2, 9, 10, 105, 106, 111, 112—\$10.00; 103, 104, 201—\$5.00 or \$10.00 according to hours.

PSYCHOLOGY, 101, 102, 114—\$1.00; 1—\$2.00.

PHYSICS, 1, 2, 49, 50, 51, 52, 53, 87, 89, 93, 94, 101, 102, 105, 109, 116, 117, 206—\$2.50; 114—\$6.00; 95, 96—\$6.00 for the year; second semester new students, 95—\$4.00; 96—\$2.50.

ZOOLOGY, 11, 12, 107, 108—\$1.00; 1, 2—\$1.50; 4, 7, 109, 110, 111, 112, 113, 114—\$2.00; 101, 102—\$3.00; 103, 104—\$5.00; 201, 202, 203, 204—to be arranged.

SPECIAL EXAMINATIONS—A fee of \$1.00 will be charged for all examinations given outside of the regular schedule.

LATE REGISTRATION—A penalty of \$1.00 is imposed upon registration after the regular registration days.

GRADUATION FEE

The fee charged to graduates is five dollars for each one receiving a baccalaureate or higher degree, or a diploma in pharmacy, and three dollars for each one receiving a teacher's diploma. This teachers' diploma fee does not include the legal registration fee of \$1.00 paid to that county school superintendent who first registers a teacher's diploma.

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 Y. W. C. A. in co-operation with 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 anyone to register unless he has in hand or in immediate prospect sufficient funds to maintain him for the first few months.

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, and take an interest in all the organizations for women.

FELLOWSHIPS AND SCHOLARSHIPS

GRADUATE FELLOWSHIPS

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

Three 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, is available for the year 1917-18, at a stipend of six hundred dollars per annum.

UNIVERSITY TEACHING FELLOWSHIPS

The University each year provides for about twenty teaching fellowships in about twelve 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 two hundred fifty dollars, open to students in mining, engineering, and chemistry.

RESEARCH FELLOWSHIPS IN MINING AND METALLURGY

The College of Mines 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, beginning July 1st, 1917. 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.

The purpose of these fellowships is to undertake the solution of problems in mining and metallurgy which are of special importance to the State of Washington, Alaska and the Pacific Northwest.

Applications are due not later than May 15, and should be addressed to the Dean, College of Mines, Seattle, Washington.

THE JOHN WALTER ACKERSON SCHOLARSHIP

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

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 will be made to a young woman of promise on the basis of scholarship and financial need.

CHEMISTRY SCHOLARSHIP

An anonymous donor offers a scholarship of one hundred dollars annually to the student doing the best work in chemistry.

SENIOR SCHOLARS

In June preceding their senior year, juniors who have eighty-eight or more credits with high grade may be elected senior scholars. A senior scholar may be relieved from attendance at regular lectures or recitations, and may be granted other special privileges in order that he may devote himself to more intensive and more correlated study than the 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.

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

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

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

FOR ESSAYS

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

Mr. Vivian W. Carkeek, of the law class of 1901, offers an annual cash prize of twenty-five dollars for the best thesis on Washington law.

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 fifty dollars for the best essay on a topic connected with courses in history of law or jurisprudence.

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

FOR SCHOLARSHIP IN ITALIAN

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

SOPHOMORE LATIN PRIZE

A cash prize of twenty-five dollars, 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.

STUDENT LOAN FUNDS

Mr. Samuel H. Hedges, of Seattle, has endowed a student loan fund, known as The David Jackson Hedges Memorial Fund in memory of the donor's son, which affords assistance by way of

emergency loans to young men of the University upon applications duly approved by the trustees of the fund.

Loan funds are maintained for women students by the following organizations: The Woman's League, The Tolo Club, The Faculty Women's Club, The University of Washington Alumnae and Gamma Phi Beta Sorority. The Dean of Women should be consulted for further information regarding these funds.

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.

ASSOCIATIONS AND CLUBS

ALUMNI ASSOCIATION

The officers of the Alumni Association for 1916-17 are as follows: President, Dr. William C. Speidel; first vice-president, Thomas Swale; second vice-president, Charles Smith; secretary, Bernice Sully; treasurer, Clark Burkheimer.

THE ASSOCIATED STUDENTS

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

CHRISTIAN ASSOCIATIONS

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

DEPARTMENT CLUBS

The following clubs are connected with the work of different University departments: Chemical Club, Classical Club, Deutscher Verein, English Club, Forest Club, French Club, Home Economics Club, Mathematics Club, 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 Reed College, Whitman College, and the University of British Columbia.

The women of the University have a similar dual league with the University of Oregon.

MUSICAL ORGANIZATIONS

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

PHILOLOGICAL ASSOCIATION

The Philological Association was organized to encourage scientific investigation in language and literature. Membership

is open to all members of the University who are interested in philology.

HONOR SOCIETIES

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

WASHINGTON UNIVERSITY STATE HISTORICAL SOCIETY

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

COLLEGE OF LIBERAL ARTS

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

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

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

**J. ALLEN SMITH, PH. D. (Michigan), Professor of Political Science and
Dean of the Graduate School.**

CAROLINE HAVEN OBER, Professor of Spanish.

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

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

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

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

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

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

**HERBERT HENRY GOWEN, D. D. (Whitman), F. R. G. S., F. R. S. A., Pro-
fessor of Oriental History, Literature and Institutions.**

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

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

**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 the Scandinavian
Languages.**

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

**WILLIAM PIERCE GORSUCH, A. B. (Knox), Professor of Public Speaking
and Debate.**

**WILLIAM TAYLOR PATTEN, Captain U. S. A., Retired, Professor of Military
Science and Tactics.**

**ARTHUR RAGAN PRIEST, A. M. (De Pauw), Professor of Debating and
Dean of Men.**

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

COLIN VICTOR DYMENT, B. A. (Toronto), Professor of Journalism.

FRANCIS PATRICK GOSS, Lecturer on Journalism.

**WILLIAM DAVID FRAZER, Lieut. U. S. A., Professor of Military Science and
Tactics.**

**LOREN DOUGLAS MILLIMAN, A. B. (Michigan), Associate Professor of
English.**

**THOMAS KAY SIDNEY, PH. D. (Chicago), Associate Professor of Latin and
Greek.**

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

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

JACOB NIBERT BOWMAN, PH. D. (Heidelberg), Associate Professor of European History.

GEORGE WALLACE UMPHREY, PH. D. (Harvard), Associate Professor of Spanish.

OTTO PATZER, PH. D. (Wisconsin), Associate Professor of French.

LEONARD VINCENT KOOS, PH. D. (Chicago), Associate Professor of Education.

VANDERVEER CUSTIS, PH. D. (Harvard), Associate Professor of Economics.

DAVID ALLEN ANDERSON, PH. D. (Iowa), Associate Professor of Education.

BENJAMIN OYARZUN, PH. B., LL. B. (Santiago), San Fuentes Lecturer on Spanish Language and Literature.

OTILIE GERTRUDE BOETZKE, A. M. (Washington), Assistant Professor of German.

*HANS JACOB HOFF, PH. D. (Illinois), Assistant Professor of German.

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

EDWARD GODFREY COX, PH. D. (Cornell), Assistant Professor of English.

†CHARLES MUNRO STRONG, A. M. (Missouri), Assistant Professor of Spanish.

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

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

ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.

ERNEST GEORGE ATKIN, PH. D. (Harvard), Assistant Professor of French.

GINO ARTURO RATTI, PH. D. (Grenoble), Assistant Professor of French.

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

THERESA SCHMID MCMAHON, PH. D. (Wisconsin), Assistant Professor of Economics.

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

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

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

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

SERENO BURTON CLARK, PH. D. (Harvard), Assistant Professor of Greek and Latin.

DALLAS DEVELLO JOHNSON, A. M. (Columbia), Assistant Professor of Education.

CLIFFORD WOODY, PH. D. (Columbia), Assistant Professor of Education.

ELDIE TROXELL, A. B. (De Pauw), Assistant Professor of Journalism.

MACY MILLMORE SKINNER, PH. D. (Harvard), Acting Assistant Professor of German.

* Absent on leave, 1916-17.

† Absent on leave, second semester 1916-17.

‡ Resigned, February 1, 1917.

RALPH HASWELL LUTZ, PH. D. (Heidelberg), Assistant Professor of History.

CURT JOHN DUCASSE, PH. D. (Harvard), Assistant Professor of Philosophy.

LUIS A. SANTANDER, PH. B., LL. B. (Santiago), Assistant Professor of Spanish.

*LEWIS LILLY, A. B. (Wisconsin), Assistant Professor of Commerce.

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

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

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

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

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

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

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

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

GEORGE MILTON JAMES, PH. D. (Johns Hopkins), Instructor in Economics.

FRANK JOSEPH LAUBE, A. M. (Washington), Instructor in Economics.

EDWIN RAY GUTHRIE, PH. D. (Pennsylvania), Instructor in Philosophy.

†PAUL JEHU KRUSE, A. M. (Washington), Instructor in Education.

ROBERT CHENAULT GIVLER, PH. D. (Harvard), Instructor in Psychology.

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

CHARLES ALEXANDRE GUERARD, B. L. (University of France), Instructor in French.

CHARLES WENDELL DAVID, A. M. (Wisconsin), Instructor in History.

WALTER EDWARD ROLOFF, PH. D. (Wisconsin), Instructor in German.

MAX PATTEN PHILBRICK, A. B. (Colby), Instructor in Spanish.

KATE LEILA GREGG, PH. D. (Washington), Instructor in English.

IVAR SIGURD WESTERBERG, A. M. (Harvard), Instructor in German.

THOMAS AUGUSTUS MASON, A. M. (Harvard), Instructor in Economics.

ELVINE SIMEON, (Univ. of Geneva), Instructor in Russian Language and Literature.

TEACHING FELLOWS

WILLIAM RENNIE, A. B. (Hillsdale College), Teaching Fellow in English.

MARGARET PROSSER, A. B. (Vassar), Teaching Fellow in English.

JOHN BROOKS MOORE, A. B. (Harvard), Teaching Fellow in English.

HERMAN EVERETT BROWN, A. B. (Clark College), Teaching Fellow in English.

BERNARD FREYD, A. B. (Washington), Teaching Fellow in Philosophy.

STEPHEN JEFFERSON PATTEN, PH. B. (Brown), Teaching Fellow in Political Science.

ERNESTE VELASCO, A. B. (Chile), Teaching Fellow in French and Spanish.

ROBERT WRIGHT, A. M. (Washington), Teaching Fellow in English.

MARY VAN ORDEN, A. B. (California), Teaching Fellow in English.

* Appointment effective February 1, 1917.

† Resigned, February 1, 1917.

‡ Absent on leave, 1916-17.

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

DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer, and Director of Physical Education for Men.

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

*FRANK MARION MORRISON, PH. D. (Chicago), Associate Professor of Mathematics.

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

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

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

HENRY LOUIS BRAKEL, PH. D. (Cornell), Assistant Professor of Physics.

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

JESSIE BEE MERRICK, B. S. (Columbia), Director of Physical Education for Women.

* Absent on leave, 1916-17.

***ADMISSION TO FRESHMAN STANDING**

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations.

- 3 units of English.
- 2 units of mathematics (or 3 units if desired).
- 3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):
 - (a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
 - (b) Modern foreign language (at least 2 units in *one* language; not less than one unit will be counted in any language).
 - (c) History, civics, economics (at least one unit to form a year of consecutive work in history).
 - (d) 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.)
- 2 units in subjects represented in the above groups (a)-(d).
- 5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

SUGGESTIONS AS TO 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 page 74, under paragraph 2 entitled "SUBJECTS REQUIRED EITHER

* More detailed information concerning admission is furnished on pages 42-49.

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.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

To secure the degree of Bachelor of Arts the student must complete not less than a total of 128 credits and must observe the restrictions in regard to major and group requirements, scholarship requirements, and the requirements of the Lower Division and the Upper Division.

I. MAJOR AND GROUP REQUIREMENTS.

(a) From 24 to 40 ^{or 36 to 60 g.h. ~~credits~~} credits must be in a single department known as the major department.

(b) The number of credits taken in the major and any other single department combined must not exceed a total of 64 (except that when English is combined with the major department for the purpose of this total, credits in *freshman composition* may be disregarded). ^{96 g.h.}

(c) Not less than ^{72 g.h.} 48 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: English, French, German, Greek, Italian, Latin, Oriental Literature, Public Speaking, Russian, Scandinavian, Spanish.

GROUP 2. PHILOSOPHICAL: Economics, Education, History, Philosophy, Political Science, Sociology.

The group requirement of 48 ~~credits~~ ^{72 g.h.} does not apply to majors in Home Economics and Journalism.

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 var-

ious departments.* 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. *90 gh*

To receive the Junior Certificate the student must have earned not less than 60 college credits (inclusive of 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, except that subject (n) may be taken in the Upper Division by students who begin a modern language in college. In addition thereto, he must have satisfied the qualitative tests prescribed in English composition and in Modern Foreign Language. 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.

* 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: 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., mediaeval and modern (1 and 2), American (7 and 8), English (5 and 6), ancient (17 and 18).
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.
8. Education: Introductory course, viz., Principles of Education.
9. Public Speaking: 1 and 2.

2. SUBJECTS REQUIRED EITHER IN HIGH SCHOOL OR IN COLLEGE.

- (d) A Modern Foreign Language, 2 years (2 units or 16 credits). In addition to the completion of the amount of work here specified, the student must show *ability to read the language with ease*, or must continue the language in the University as provided under requirement (n) below.

See note 1.

- (e) U. S. History and Civics, 1 year (1 unit or 8 credits).

See note 2.

- (f) History 1 year (1 unit or 8 credits). See note 3.

- (g) Physics or chemistry, 1 year (1 unit or 8 credits.)—

- (h) Botany or Zoology, 1 year, (1 unit or 8 credits).—

- (i) Mathematics or Science, 1 year, (1 unit or 8 credits).

See note 4.

3. SUBJECTS REQUIRED IN COLLEGE.

- (j) Philosophy, Psychology, 1 year (8 credits.)

- (k) Economics, Political Science, Sociology, 1 year (8 credits).

- (l) Physical Education or Military Science, 2 years (4 or 8 credits.)

See note 5.

4. SUBJECTS CONDITIONALLY REQUIRED IN COLLEGE.

- (m) Ancient Life and Literature, 1 year (6 credits). See note 6.

- (n) Modern Foreign Language, 1 or more years (6 or more credits.) See note 7.

- (o) English composition, 1 year (2 to 8 credits). See note 8.

NOTE 1. The aim of this requirement in foreign language is to secure for the student a reading knowledge of at least one modern foreign language. The minimum amount of work demanded for satisfying the requirement is two years (2 units or 16 credits). In most cases, however, 3 or more years may be necessary (3 or more units, or 22 or more credits) depending on the ability of the student.

If two or more units of a modern language are offered for entrance, as satisfying this requirement, the student must prove his ability to read it with ease by passing a test examination; or

he must continue the language in college until he can prove his ability so to read it.

If a student takes a foreign language *in college* to satisfy all or a part of the requirements in modern foreign language, he must, in addition to passing the course or courses, obtain a certificate of his ability to read the language with ease.

NOTE 2. Students who do not take United States History and Civics in the high school must take U. S. History (Hist. 7 and 8) in the University.

NOTE 3. One year of history is required in addition to requirement (e). It may be satisfied by any year (1 unit or 8 credits) of history.

NOTE 4. 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 semesters of a science, a semester of each of two sciences, two semesters of mathematics, or a semester of mathematics and a semester of science.

NOTE 5. In addition to the 4 (or 8) credits in military science or physical education required of students in the Lower Division, 4 credits in physical education are required of male students in the junior and senior years.

NOTE 6. A year's 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.

NOTE 7. Advanced work in modern foreign language is required if the quality of the work in a modern foreign language in the first two years has not been of a sufficiently high order to give the student the ability to read it with ease, as provided under note 1.

NOTE 8. English composition is required of all freshmen who cannot show by examination proficiency in that subject. Such students must take a 2, 3, or 4 hour course per week through the year, according to their needs. (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 semester 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 semester (exclusive of Military Science and Physical Education); or for less than 12 credit hours per semester, 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 ~~32~~ to 56 hours of credit (exclusive of the 4 credits in Physical Education required of junior and senior men), according to the number of credits offered for the Junior Certificate. *The student must earn not less than 56 hours of credit (exclusive of Physical Education) while enrolled in the Upper Division.* At least 40 of the credit hours taken in the Upper Division must be in Upper Division courses (Nos. 100 to 199). Of these 40 hours a minimum of 12 must be taken in the major subject.

SCHEDULE LIMITS OF THE UPPER DIVISION

No student in the Upper Division shall be registered for more than 16 or less than 12 credit hours per semester, except with the

COLLEGE OF LIBERAL ARTS

28 $\frac{1}{2}$ gh 77.

consent of the Dean. A maximum of 19 hours per semester 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 purposes of election, outside the major department, the College of Liberal Arts, the College of Science and the College of Education shall be treated as one.

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

36 gh

COLLEGE OF PHARMACY

Materia medica
Therapeutics
Toxicology

} Total amount allowed, ~~8~~ credits.
12 gh

COLLEGE OF ENGINEERING

Mechanical drawing, ~~2~~ credits
Descriptive geometry, ~~2~~ credits
Surveying, ~~2~~ credits
Direct currents, 4 credits
Alternating currents, ~~2~~ credits

} Total amount allowed, ~~12~~ credits.
18 gh

COLLEGE OF MINES

General metallurgy, ~~2~~ credits

COLLEGE OF FINE ARTS

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

COLLEGE OF FORESTRY

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

SCHOOL OF LAW

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

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

CURRICULUM IN JOURNALISM

Students who intend pursuing journalism will upon registration as freshmen be put under the direction of the head of the department of Journalism. They must complete in the Lower Division all requirements for the Junior Certificate.

For graduation from the department of Journalism 136 credits are required, of which 40 must be in journalism subjects.

The curriculum for the junior and senior years is as follows:

THIRD YEAR

Journalism 101-102 (Elements of Journalism).....	6 credits
Journalism 103-104 (Mechanics of Publishing).....	2 credits
Journalism 105-106 (Principles of Advertising).....	6 credits
Journalism 107-108 (Current Events).....	2 credits
Sociology 101-102 (Principles of Sociology).....	4 credits
Philosophy 101-102 (History of Philosophy).....	8 credits
Elective	4 credits

The eight credits of journalism in each semester of the junior year are required of all majors who have not previously covered the work in practical life and are excused by examination. Students who appear qualified may in this year elect Journalism 157-158 (Short Story) and Journalism 167-168 (Newspaper Photography) instead of in the fourth year. Students who intend taking most of their hours on the business side may, if they have the hours to spare, take Journalism 161-162 (General Advertising) in this year, in addition to Journalism 105-106 (Principles of Advertising).

FOURTH YEAR

Journalism 151-152 (Editing and Advanced News-writing)	6 credits
Journalism 153-154 (Feature Writing, Exchanges, Syndicates)	4 credits
Journalism 155-156 (Editorial, History, Policy, Jurisprudence)	8 credits
Journalism 157-158 (Short Story)	6 credits
Journalism 107-108 (Current Events)	2 credits
Journalism 159-160 (Business Administration)	4 credits
Journalism 161-162 (General Advertising)	4 credits
Journalism 163-164 (Advanced Advertising)	4 credits
Journalism 165-166 (Newspaper Administration)	6 credits
Journalism 167-168 (Newspaper Photography)	2 credits
Electives	8 to 12 credits

In the senior year all majors must take at least 24 of the 46 hours offered in journalism, subject to the following conditions:

Majors electing a majority of their journalism hours on the editorial side must take also either Journalism 159-160 (Business Administration) Journalism 163-164 (Advanced Advertising), or Journalism 165-166 (Newspaper Administration), unless specifically excused.

Majors electing a majority on the business side must take at least three semester hours on the editorial side.

Majors may take Journalism 107-108 (Current Events) in both the third and the fourth years for credit.

Upon permission from the department, Journalism 153-154 (Feature Writing, Exchanges, Syndicates), Journalism 157-158 (Short Story) and Journalism 107-108 (Current Events) may be taken for one semester only.

SIX-YEAR ARTS AND LAW CURRICULUM

This combined course allows the student with a good record to obtain an A. B. and an LL. B. in six years. It is open only to those students who have maintained a uniformly good record for scholarship during the first three years of collegiate work. At the end of three years, after the student has earned 98 credits, including 8 credits in military 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 104. Twenty-four credits in the first year law work may apply toward the A. B. degree, thus making 128 credits required for this degree.

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

Students are strongly advised to complete their full ninety-six credits in the College of Liberal Arts by the end of the third year so that they can enter the law work clear in the fourth year.

Students from other institutions entering this University with advanced standing may take advantage of this combined course, provided they are registered in the College of Liberal Arts for at least one full year of work, and earn at least thirty credits in this University before entering the School of Law.

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

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 SCIENCE

THE FACULTY

- HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.
HENRY LANDES, A. M. (Harvard), Professor of Geology; DEAN.
THEODORE CHRISTIAN FRYE, PH. D. (Chicago), Professor of Botany.
*ORSON BENNETT JOHNSON, LL. B. (Union College of Law), Professor Emeritus of Zoology.
HORACE G. BYERS, PH. D. (Johns Hopkins), Professor of Chemistry.
TREVOR KINCAID, A. M. (Washington), Professor of Zoology.
FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics and Director of Physics Laboratories.
ROBERT EDOUARD MORITZ, PH. D. (Nebraska), Professor of Mathematics.
DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer and Director of Physical Education for Men.
HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry.
JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
EFFIE ISABEL RAITT, B. S. (Columbia), Professor of Home Economics and Director of the Department of Home Economics.
STEVENSON SMITH, PH. D. (Pennsylvania), Professor of Psychology.
WILLIAM TAYLOR PATTEN, Captain U. S. A., Retired, Professor of Military Science and Tactics.
SAMUEL LATIMER BOOTHBOYD, A. M. (Colorado Agricultural College), Associate Professor of Astronomy.
WILLIAM MAURICE DEHN, PH. D. (Illinois), Associate Professor of Chemistry.
EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.
GEORGE IRVING GAVETT, B. S. (C. E.) (Michigan), Assistant Professor of Mathematics.
ROBERT EVSTAFIEFF ROSE, PH. D. (Leipzig), Assistant Professor of Chemistry.
ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of Zoology.
HENRY LOUIS BRAKEL, PH. D. (Cornell), Assistant Professor of Physics.
CHARLES EDWIN WEAVER, PH. D. (California), Assistant Professor of Geology.
ALLEN FULLER CARPENTER, PH. D. (Chicago), Assistant Professor of Mathematics.
GEORGE BURTON RIGG, PH. D. (Chicago), Assistant Professor of Botany.
GRACE GOLDENA DENNY, A. B. (Nebraska), Assistant Professor of Domestic Art.
JOHN WILLIAM HOTSON, PH. D. (Harvard), Assistant Professor of Botany.
LEWIS IRVING NEIKIRK, PH. D. (Pennsylvania), Assistant Professor of Mathematics.
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* Died, March 9, 1917.

- HAROLD EUGENE CULVER, PH. M. (Wisconsin), Assistant Professor of Geology.
- NANNIE BELLE JUDY (Columbia), Assistant Professor of Home Economics.
- SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Assistant Professor of Physics.
- JESSIE BEE MERRICK, B. S. (Columbia), Director of Physical Education for Women.
- HJALMAR LAURITS OSTERUD, A. M. (Washington), Instructor in Zoology.
- HARLAN LEO TRUMBULL, PH. D. (Chicago), Assistant Professor of Chemistry.
- ERIC TEMPLE BELL, PH. D. (Columbia), Assistant Professor of Mathematics.
- FRED HARVEY HEATH, PH. D. (Yale), Assistant Professor of Chemistry.
- HENRY SLATER WILCOX, A. M. (Harvard), Instructor in Psychology.
- GEORGE NELSON SALISBURY, B. S. (Minnesota), Lecturer in Meteorology; United States Weather Bureau Official.
- IRENE PRAY, B. S. (Columbia), Instructor in Physical Education.
- LOYD LEROY SMAIL, PH. D. (Columbia), Instructor in Mathematics.
- LUTHER EWING WEAR, PH. D. (Johns Hopkins), Instructor in Mathematics.
- NATHAN FASTEN, PH. D. (Wisconsin), Instructor in Zoology.
- CHARLES GUSTAVE PAUL KUSCHKE, PH. D. (California), Instructor in Mathematics.
- JAMES ALVIN GILBREATH, M. S. (Washington), Instructor in Chemistry.
- FRANCES GRANT HEVERLO, PH. B. (Chicago), Instructor in Home Economics.
- SETH CHAPIN LANGDON, PH. D. (Washington), Instructor in Chemistry.
- HORACE HARDY LESTER, PH. D. (Princeton), Instructor in Physics.
- KATHERINE MARTINDALE, A. B. (Smith College), Instructor in Home Economics.

TEACHING FELLOWS

- WALTER BAGLEY, B. S. (Washington), Teaching Fellow in Mathematics.
- JACOB ROY BENDER, A. B. (Ohio University), Teaching Fellow in Mathematics.
- HARRY BRILLINGER, B. S. (Pennsylvania State), Teaching Fellow in Chemistry.
- GORDON LUTHER CAVE, B. S. (Bates), Teaching Fellow in Chemistry.
- CLYDE MYRON CRAMLETT, A. B. (Walla Walla), Teaching Fellow in Mathematics.
- MADELLE GILLE, B. S. (Washington), Teaching Fellow in Zoology.
- HELEN GILMAN, B. S. (Columbia), Teaching Fellow in Zoology.
- *RUBY CLIFT GLOCKLER, M. S. (Washington), Teaching Fellow in Chemistry.
- FLOYD HUFF, B. S. (Butler), Teaching Fellow in Chemistry.
- ZALIA JENCKS, M. S. (Washington), Teaching Fellow in Chemistry.
- JOANNE KARRAR, M. S. (Washington), Teaching Fellow in Botany.
- WILLIAM MASKE, B. S. (Washington), Teaching Fellow in Bacteriology.
- RUTH MERLING, B. S. (Washington), Teaching Fellow in Chemistry.
- ALBERT MCSWEENEY, A. M. (Montana), Teaching Fellow in Mathematics.
- ALFRED SCHEER, PH. B. (Hamline), Teaching Fellow in Physics.

GEORGE SCHWARTZ, B. S. (Washington), Teaching Fellow in Chemistry.
ROY THOMAS STEPHENS, A. B. (Oregon), Teaching Fellow in Physics.
NOEL FINLEY THOMPSON, M. S. (Washington), Teaching Fellow in Botany.
THOMAS GORDON THOMPSON, M. S. (Washington), Teaching Fellow in Chemistry.
ROLF THEODORE WETTELUND, B. S. (Oregon Agricultural College), Teaching Fellow in Mathematics.

WILLIAM SAYERY, PH. D. (Harvard), Professor of Philosophy.
EDWIN JOHN VICKNER, PH. D. (Minnesota), Professor of Scandinavian Languages.
OTTO PATZER, PH. D. (Wisconsin), Associate Professor of French.
JACOB NEIBERT BOWMAN, PH. D. (Heidelberg), Associate Professor of European History.
GEORGE WALLACE UMPHREY, PH. D. (Harvard), Associate Professor of Spanish.
DAVID ALLEN ANDERSON, Associate Professor of Education.
HARVEY BRUCE DENSMORE, A. B. (Oxford), Assistant Professor of Greek.
THERESA SCHMID MCMAHON, PH. D. (Wisconsin), Assistant Professor of Economics.
EDWARD GODFREY COX, PH. D. (Cornell), Assistant Professor of English.

*ADMISSION TO FRESHMAN STANDING

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The term unit means the equivalent of five recitations per week, in periods of not less than forty-five minutes, in one branch of study, for a school year of not less than thirty-six weeks. The fifteen units must include the following combinations:

- 3 units of English.
- 2 units of mathematics (or 3 units if desired).
- 3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):
 - (a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
 - (b) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).

* More detailed information concerning admission is furnished on pages 42-49.

- (c) History, civics, economics (at least one unit to form a year of consecutive work in history).
 - (d) 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)
- 2 units in subjects represented in the above groups (a)-(d).
5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

CURRICULA IN THE COLLEGE OF SCIENCE

A student admitted to freshman standing in the College of Science must, at the time of his entrance, elect one of the following curricula, as described in detail below:

- I. ELECTIVE CURRICULA WITH A MAJOR IN SOME ONE DEPARTMENT.
- II. PRESCRIBED CURRICULA IN HOME ECONOMICS.
- III. CURRICULUM PREPARATORY TO MEDICINE.
- IV. CURRICULUM FOR PROSPECTIVE SCIENCE TEACHERS.
- V. SIX-YEAR CURRICULA IN SCIENCE AND LAW.
- VI. FIVE-YEAR CURRICULA IN SCIENCE AND LIBRARY ECONOMY.

I. ELECTIVE CURRICULA WITH A MAJOR IN SOME 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 128 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 24 to 40 credits in a single department, known as his major department. Not more than 64 credits may be counted in the major and one other department.

B. SCHOLASTIC REQUIREMENTS.

Not less than three-fourths of the credits required for graduation must be earned with grades of 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 12 credits from any one college, and not to exceed 16 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 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 of the Upper Division.

To receive the Junior Certificate the student must have earned not less than 60 university credits, inclusive of 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 (1) that subject (o) may be taken in the Upper Division by students who begin a modern language after entering the University; and (2) subject (l) or (m) may, in certain cases, be taken in the Upper Division with the consent of the dean.

* 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: 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., mediaeval and modern (1 and 2), American (7 and 8), English (5 and 6), ancient (17 and 18).
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.
8. Education: Introductory course, viz., Principles of Education.
9. Public Speaking: 1 and 2.

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 a test examination, *proficiency in English composition*, or he must take English composition in the University, as provided under requirement (p) 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 German or French, 2 years (2 units or 16 credits). In addition to the completion of the amount of work here specified, the student must also show ability to read the language with ease, or must continue the language in the University, as provided under requirement (o) below. See Note I.

- (e) U. S. History and civics, 1 year (1 unit or 8 credits). See Note II.

- (f) History—ancient, medieval and modern, or English, 1 year (1 unit or 8 credits).

- (g) Mathematics, 1 year (1 unit or 8 credits). See Note III.

- (h) Physics, 1 year (1 unit or 8 credits).

- (i) Chemistry, 1 year (1 unit or 8 credits).

- (j) Botany or zoology, 1 year (1 unit or 8 credits).

- (k) Geology, physiography, or astronomy, 1 year; or, astronomy and geology,
- $\frac{1}{2}$
- year each, (1 unit or 8 credits).

3. SUBJECTS REQUIRED IN THE UNIVERSITY.

- (l) Philosophy, psychology, 1 year (8 credits). See Note IV.

- (m) Economics, political science, sociology, 1 year (8 credits). See Note V.

- (n) Physical education or military science, 2 years (8 credits). See Note VI.

4. SUBJECTS CONDITIONALLY REQUIRED IN THE UNIVERSITY.

- (o) Modern foreign language, 1 or more years (6 or more credits). See Note VII.
- (p) English composition, 2 to 8 credits. See Note VIII.
- (q) Ancient language and literature, or English literature, 1 year (6 credits). See Note IX.

NOTE I. The aim of the requirement in foreign language is to secure for the student a reading knowledge of at least one foreign language. The minimum amount of work demanded for satisfying the requirement is 2 years (2 units or 16 credits). In most cases, however, 3 or more years (3 or more units, or 22 or more credits), may be necessary, depending upon the ability of the student. If two or more units of a foreign language are offered *for entrance*, as satisfying this requirement, the student must prove his ability to read it with ease by passing a test examination; or he must continue the language in the University until he can prove his ability to read it.

If a student takes a foreign language in the University to satisfy the requirement in modern foreign language, he must, in addition to passing the course or courses, obtain a certificate of his ability to read the language with ease.

NOTE II. The students who do not take U. S. history and civics in a secondary school must take U. S. history (History 7 and 8) in the University.

NOTE III. One semester of advanced algebra is required.

NOTE IV. Not more than 4 credits in psychology may be counted toward the requirement in philosophy or psychology.

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

NOTE VI. In addition to the 4 credits in military science or physical education required of students in the Lower Division, 4 credits in physical education are required in the junior and senior years.

NOTE VII. A year or more of advanced work in a modern foreign language is required if the quality of the work in modern foreign language in the first two years has not been of a sufficiently

high order to give the student the ability to read it with ease, as provided under Note I.

NOTE VIII. English composition is required of all freshmen who cannot show by examination a proficiency in the subject. Such students must take a 2-, 3-, or 4-hour course per week throughout the year, according to their needs. (See University calendar for dates of examinations.)

NOTE IX. Greek or Roman Civilization or Literature, the Literature of India or of Persia, or English Literature, may be taken to satisfy the requirement in literature. This subject is required of all students who have not taken, or do not plan to take, 3 or more years of Ancient Language.

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 semester (exclusive of military science and physical education), or for less than 12 credit hours per semester, except with the consent of the dean.

E. 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 64 to 56 hours of credit (exclusive of the 4 credits in physical education required of junior and senior men), according to the number of credits offered for the Junior Certificate. *The student must earn not less than 56 hours of credit (exclusive of physical education) while enrolled in the Upper Division.* At least 40 of the credit hours taken in the Upper Division must be in Upper Division courses (100-199). Of these 40 hours a minimum of 12 must be in the major subject.

No student of the Upper Division shall be registered for more than 16 or less than 12 credit hours per semester, except with the consent of the dean. A maximum of 19 hours per semester 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. PRESCRIBED COURSES IN HOME ECONOMICS

Many fields of activity other than teaching are being offered to the 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 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 co-operation of business houses, opportunity to work in stores through two semesters. This is accompanied by conferences with the instructor who receives reports from the store.

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 two weeks.

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, economics and sociology in this curriculum. There is also opportunity afforded to select work that will prepare for interior decorating by choosing courses in home economics and fine arts.

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 for dieticians in hospitals, sanatoria 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 com-

bines some liberal arts subjects with all phases of home economics and its supporting 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 semester in the Seattle schools is required.

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, Textile and Non-textile Merchandise. Mercantile establishments offer many opportunities for employment that offer exceptional advantages for growth. The training received in this course in technical and commercial work, with the practical experience provided here, equips the young woman of ability to enter a field that promises additional advantages with increasing experience and the development of latent powers.

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 five curricula in home economics; 120-128 credits are required for graduation from any of these curricula.

GROUP I—GENERAL CURRICULUM

Required courses:

English, 8 credits

Language, 16 credits

Chemistry, 8 credits

Biological Science, 8 credits

History, 8 credits

Philosophy, 8 credits

Economics or Sociology, 8 credits

Home Economics, 25 credits

Physical Education, 8 credits

Recommended courses and sequences (120+8 credits required for graduation):

English 1-2, Chemistry 5-6, Fine Arts III-3, Home Economics 25-26, Home Economics 4, Language 8 credits, Physical Education 4 credits, Home Economics 5-6, Language, Fine Arts II-1, Home Economics 4, Zoology 7, Botany 1-2 or Zoology 1-2, Home Economics 61-62, Home Economics 143, History 8 credits, Economics 3-4, Home Economics 101, Home Economics 106, Psychology 1, Home Economics 181-182, Home Economics 144, Psychology 112, Bacteriology 106.

Suggested electives:

Freshman and Sophomore: English 21-22, 71-72, 73-74, Home Economics 20, Zoology 16, Fine Arts III, 4-5-6.

Junior and Senior: Philosophy 1, 2, or 3, Bacteriology 113, Economics 183, 186, Philosophy 115, 116, Home Economics 33-130, 103, 124, 135, 11-12.

GROUP II—FOOD AND NUTRITION

GROUP III—TEACHERS' CURRICULUM

GROUP IV—INSTITUTIONAL MANAGEMENT

Required work: Groups II, III and IV.

English, 8 credits 10

Chemistry, 16 credits

Zoology, 4 credits

Bacteriology, 5 credits

Economics or Sociology, 8 credits

Psychology, 4 credits

Literature; History and Languages, 16 credits

Home Economics, 25 credits

Physical Education, 8 credits

Students who elect a modern language must complete two years of that language.

Recommended courses and sequences:

GROUP II—FOOD AND NUTRITION (120+8 credits are required for graduation):

English 1-2, Chemistry 5-6, Fine Arts III-3, Home Economics 25-26, Home Economics 4, Language 8 credits, Literature or History, Physical Education, 4 credits, Home Economics 5-6, Chem-

istry 33-144, Botany 1-2 or Zoology 1-2, Zoology 7, Language 8 credits; Literature or History, Physical Education 4 credits; ~~Chemistry 113~~, Home Economics 107, Bacteriology 103-106, Physics 89, Psychology I, Economics 3, Sociology 181-183, Home Economics 108, Home Economics 103, Home Economics 110. *not offered*

GROUP III—TEACHERS' CURRICULUM (124+8 credits are required for graduation):

English 1-2, Chemistry 5-6, Fine Arts III-3, Home Economics 25-26, Home Economics 4, Language, 8 credits, Literature or History, Physical Education 4 credits, Home Economics 5-6, Chemistry 33-144, Fine Arts II-1, Home Economics 7, Zoology 7, 8 credits of Language, Literature or History, Physical Education 4 credits, Home Economics 107, Home Economics 61-62, Economics 3-4, Psychology 1, Bacteriology 106, Physics 89, Education 99, Sociology 181 or Psychology 112, Home Economics 108, Home Economics 143-144, Home Economics 145, Education 109, Education 119, Sociology 181 or Psychology 112, Home Economics 146, Home Economics 110, 103, 124, 130 or 135, Education 157, Education 161.

GROUP IV—INSTITUTIONAL MANAGEMENT (120+8 credits are required for graduation):

English 1-2, Chemistry 5-6, Fine Arts III-3, Home Economics 25-26, Home Economics 4, Language 8 credits, Literature or History, Physical Education 4 credits, Home Economics 5-6, Chemistry 33-113, Zoology 7, Economics 3, Language 8 credits, Literature or History, Physical Education 4 credits, Home Economics 121, Home Economics 29, Psychology I, Home Economics 107, Economics 5, Home Economics 122, Home Economics 124, Economics 6, Physics 89, Commercial Law, Economics 7-8, 181, Home Economics 123, Home Economics 143, Home Economics 125, Bacteriology 106, Philosophy 1 or 2.

Suggested courses for further election:

Freshman and Sophomore: English 21-22, English 71-72, 73-74, Home Economics 20, Zoology 16, Botany 1-2.

Junior and Senior: Fine Arts III, 4-5-6, Bacteriology 113, Chemistry 111, Education 200, Home Economics 101, 33, 35, 103, 110, 109, 184, Journalism 1-2, 7-8, Philosophy 1, 2, 3, 115-116, Economics 183-186.

GROUP V—TEXTILE AND NON-TEXTILE MERCHANDISE**Required work:**

- English 8 credits
- Chemistry, 8 credits
- Economics or Sociology, 8 credits
- Philosophy, 8 credits
- Literature; History and Language, 16 credits
- Home Economics, 25 credits
- Commerce, 16 credits
- Physical Education, 8 credits

Recommended courses and sequence (120+8 hours are required for graduation):

French 8 credits, English 1-2, Chemistry 5-6, Fine Arts III-3, Home Economics 25-26, Business Practice, Physical Education 4 credits, Textile Chemistry, Economics 3-5, Home Economics 27, Home Economics 7, Fine Arts III-167-168, Home Economics 29, French, Physical Education 4 credits, Home Economics 61-62, Psychology 1, Merchandising, Economics 6, Sociology 181, Home Economics 138, Commercial Law, Sociology 182, Economics 7-8, Home Economics 143, Home Economics 130, Home Economics 133, Home Economics 140, Home Economics 136, Philosophy 2.

Suggested electives:

Freshman and Sophomore: English 21-22, 71-72, 73-74, Home Economics 20, Zoology 16, Botany 1 or Zoology 1, Fine Arts III, 4-6.

III. CURRICULUM PREPARATORY TO MEDICINE

Four years of prescribed work, leading to the degree of bachelor of science, are provided for those students who desire to enter a medical school after graduation from this institution. By special permission, a student planning to enter a medical school before completion of the four-year course may be permitted to take out of regular order such courses as may be accorded advanced credits in the particular school selected. This course must not be interpreted as waiving any portion of the four years' work required in residence at a medical school in order to secure a medical degree.

<i>Freshman</i>		<i>Sophomore</i>	
	Credits		Credits
Botany (a)	4	Anatomy, comparative	8
Chemistry 21 (b)	8	Chemistry (22)	8
Zoology, invertebrate	4	Physics (93-94)	8
Mathematics (c)	4	French or German	8
English	4	Mil. Sci. or Phys. Ed.	4
German or French (d)	8		
Mil. Sci. or Phys. Ed.	4		
<i>Junior</i>		<i>Senior</i>	
	Credits		Credits
Chemistry, physiological	4	Bacteriology 103 and 108	8
Embryology	4	Elective	12
Histology	4	Pharmacology and Toxicology ..	4
Neurology	4	Psychology	8
Physiology	8		
Elective	8		

(a) Botany 2, second semester. If botany was studied in the high school, then botany 10 should be elected.

(b) Chemistry 1, 2 and 41 are required of students who have not had high school chemistry.

(c) Trigonometry is regularly required, but solid geometry may be elected if not previously studied in the high school.

(d) Students offering four units of German or French are exempt from this requirement and may elect a corresponding number of hours. Students offering two units of either German or French are required to take the other language.

IV. 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 wider 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:

<i>Freshman</i>		<i>Sophomore</i>	
	Credits		Credits
Science (botany, geology, or zoology)	8	History	8
Science (physics or chemistry) ..	8	Political Science	6
Mathematics	4	Science	16
English	0 to 8		
German or French	8		
<i>Junior</i>		<i>Senior</i>	
	Credits		Credits
Ancient language or literature ..	6	Education	12
Philosophy and psychology	8	Science	8
Science	16	Elective	8

(8 credits in Military Science or Physical Education are also required.)

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), 16 credits

Chemistry, 16 credits

Geology, 15 credits

Mathematics (exclusive of astronomy), 16 credits

Physics, 16 credits

Zoology, 16 credits

(b) Included in or in addition to the work in (a) every student must take 4 credits in mathematics, 8 credits in physics, 8 credits in chemistry, 8 credits in botany or zoology.

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

(d) If 16 credits of chemistry are taken, only 12 credits 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 8 credits.

(h) Until 1919 students may fulfill the requirements for the normal diploma by electing 12 credits from the following subjects: Principles of Education, Educational Sociology, Secondary Education, Principles of Teaching, and Practice Teaching. However, under Rule 64 (e), until 1919-20 students who find it difficult to adjust their schedules to include practice work will be allowed to fulfill the previous requirements. By including History of Education, instead of Educational Sociology, all the specific requirements can be met. It is recommended that the additional credits be made up by including Childhood and Adolescence as a substitute for the practice work. The Department of Education has authority to make any reasonable adjustments.

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 90

scholastic credits, 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 6 additional credits in the College of Science (plus 8 credits in Physical Education) and 24 credits in the School of Law; making a total of $128+8$ 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 ECONOMY

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 economy. Under this arrangement a student should first complete all the required work of the course for Science Teachers (outlined above), substituting courses in Library Economy for the 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 Economy. 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 economy at the end of the fifth year.

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), PRESIDENT.
- FREDERICK ELMER BOLTON, PH. D. (Clark), Professor of Education; DEAN.
- CAROLINE HAVEN OBER, Professor of Spanish.
- TREVOR KINCAID, A. M. (Washington), Professor of Zoology.
- FREDERICK MORGAN PADELFORD, PH. D. (Yale), Professor of English.
- ARTHUR SEWALL HAGGETT, PH. D. (Johns Hopkins), Professor of Greek and Dean of the College of Liberal Arts.
- FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics and Director of the Physics Laboratories.
- WILLIAM SAVERY, PH. D. (Harvard), Professor of Philosophy.
- DAVID THOMSON, B. A. (Toronto), Professor of Latin.
- PIERRE JOSEPH FREIN, PH. D. (Johns Hopkins), Professor of French.
- THEODORE CHRISTIAN FRYE, PH. D. (Chicago), Professor of Botany.
- ROBERT EDOUARD MORITZ, PH. D. (Nebraska), PH. N. D. (Strassburg), Professor of Mathematics and Astronomy.
- FREDERICK WILLIAM MEISNEST, PH. D. (Wisconsin), Professor of German.
- DAVID CONNOLLY HALL, SC. M., M. D. (Chicago), University Health Officer and Director of Physical Education for Men.
- WALTER GREENWOOD BEACH, A. M. (Harvard), Professor of Social Science.
- IRVING MACKEY GLEN, A. M. (Oregon), Professor of Music and Dean of the College of Fine Arts.
- JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
- EDWIN JOHN VICKNER, PH. D. (Minnesota), Professor of the Scandinavian Languages.
- EFFIE ISABEL RAITT, B. S. (Columbia), Professor of Home Economics and -Director of the Department of Home Economics.
- WILLIAM PIERCE GORSUCH, A. B. (Knox), Professor of Public Speaking and Debate.
- STEVENSON SMITH, PH. D. (Pennsylvania), Professor of Psychology.
- EDWARD MCMAHON, A. M. (Wisconsin), Associate Professor of American History.
- GEORGE WALLACE UMPHREY, PH. D. (Harvard), Associate Professor of Spanish.
- LEONARD V. KOOS, PH. D. (Chicago), Associate Professor of Education.
- DAVID ALLEN ANDERSON, PH. D. (Iowa), Associate Professor of Education.
- EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.

ROBERT EVSTAFIEFF ROSE, PH. D. (Leipzig), Assistant Professor of Chemistry.

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

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

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

FRANCES DICKET, A. M. (Columbia), Assistant Professor of Music.

DALLAS DEVELLO JOHNSON, A. M. (Columbia), Assistant Professor of Education.

CLIFFORD WOODY, PH. D. (Columbia), Assistant Professor of Education.

JESSIE BEE MERRICK, B. S. (Columbia), Director of Physical Education for Women.

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

HELEN BALCH CULVER, Bachelor's Diploma (Pratt), Instructor in Design.

ROBERT C. GIVLER, PH. D. (Harvard), Instructor in Psychology.

*PAUL JEHU KRUSE, A. M. (Washington), Instructor in Education.

*Absent on leave, 1916-17.

SCOPE AND AIMS

The purpose of the College of Education is to bring together and correlate all of the forces of the University which contribute in a professional way to the preparation of superior teachers and other educational leaders. By the establishment of this advanced college for teachers it is hoped to set a high standard for the training of teachers in the State of Washington and in the Northwest.

The curriculum of the college is based upon the assumption that teachers should have first of all, and fundamental to all other preparation, a broad and liberal education; second, that this training should be supplemented by professional education which gives a knowledge of the pupils to be taught, the problems to be met, and new meaning to the subjects of instruction, as well as fundamental principles of teaching; and third, that they should be masters of some special subjects which they expect to teach.

The College of Education is especially fitted to provide teachers of the following types:

(1) High school teachers; (2) high school principals; (3) superintendents of public schools; (4) grammar school principals; (5) supervisors of primary schools; (6) supervisors and teachers of music, drawing, manual training, home economics, physical training and other special subjects; (7) normal school and college instructors in education; (8) 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, at least elementary college courses should be taken in not less than four subjects which are taught in the high schools.

SPECIALIZED ACADEMIC WORK

Each teacher should have thorough, extended preparation in one subject and reasonable preparation in at least two additional subjects. Experience has shown that the following com-

binations are most frequently demanded: Latin, German; Latin, Greek; English, German; English, history, civics; English, Latin, history; Spanish, French; Mathematics, physics, chemistry; Botany, zoology, physiology, physiography; French, German; Home Economics alone or in connection with one or two other subjects; Manual Training alone or in connection with one or two other subjects; 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 closely allied to and fundamental to those in education, those in zoology, psychology, and sociology.

SPECIAL TEACHERS' COURSES

Nearly all of the academic departments have teachers' courses for the purpose of studying the problems of teaching those subjects in the high schools. Work in special methods relating to particular subjects is given by those dealing most directly with the given subject-matter. Foundation principles of general method as based upon the laws of learning and teaching are developed in the subject of Education.

OBSERVATION AND PRACTICE TEACHING

By an arrangement between the University and the schools of Seattle, students in the Department of Education may observe the regular work in certain schools (at present twelve are used) and do cadet work under direction of the regular teachers of the school and the University professor in charge of the practice work. In this way students have an opportunity to observe and gain valuable experience under exceptionally favorable conditions. One or two semesters of such experience under guidance and expert criticism is far superior to several years of the trial and error method through which many teachers are obliged to gain their first teaching experience.

MATERIAL EQUIPMENT OF DEPARTMENT OF EDUCATION

The Department of Education occupies eight rooms on the second floor of Home Economics Hall, comprising five offices, two lecture rooms and a seminar room. The department is equipped with the standard educational works, besides many special books and monographs in English, German, and French. All the American educational journals of importance, and many English, German, and French periodicals are on file. In all, nearly sixty journals are received. The equipment is especially good for work in educational psychology, educational sociology, educational tests and measurements, philosophy of education, child study, educational organization and administration, school surveys, and current school problems.

**THE BAILEY AND BABETTE GATZERT FOUNDATION
FOR CHILD WELFARE**

Although the foundation is not a part of the College of Education its work is open to the observation of students in Education.

INDUSTRIAL ARTS

While no separate department of industrial arts is maintained during the regular year, special attention is devoted to this work during the summer session. A good curriculum may be secured during the regular academic year by selecting from the courses in engineering and fine arts and education. The following courses are suggested: carpentry and wood-turning, pattern making and cabinet work, forge and foundry, engineering drawing, public school drawing, freehand drawing, principles of design and the theory and organization of industrial arts. Because of the splendid industrial arts work in the Seattle public schools, students have unusual facilities for observing the best organization and equipment. A large number of industrial centers and prevocational classes are maintained in various parts of the city.

ATHLETICS AND PLAYGROUND ACTIVITIES

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

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 can not 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 book-keeping, 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. For the courses thus arranged for the year 1917-1918, see the statement of courses in education.

ORGANIZATION OF THE WORK IN THE COLLEGE OF ' EDUCATION

Three lines of work are provided in the College of Education:

(a) The course leading to the degree of bachelor of education; (b) The 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 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 at-

mosphere that should surround a teachers' college. The foundation work in zoology and psychology will be given as far as possible with the teaching profession in mind. It is planned to give some work of a general nature in education during the first two years that will serve as vocational guidance and will assist the student to arrange his work most advantageously and to accomplish it most economically. By the more prolonged individual acquaintance between students and the faculty of the College of Education it is hoped that the student will receive greater professional help and the faculty will be better able to judge of the teaching qualities of the students.

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

The work in education and allied courses has been so extended that adequate professional preparation can now be secured. The courses in zoology, psychology, and sociology are all directly contributory to a knowledge of, and to an interpretation of, the courses in education. It is believed that the growing demand for thoroughly equipped teachers will now be met.

A degree may be obtained at the end of the fourth year, but the standard which the University encourages and hopes to establish for high school teaching is the five-year course, consisting of thorough professional work combined with advanced academic study. 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 masters' degrees in a year of graduate work. The masters' degrees in education are specifically intended as teachers' degrees representing mastery of an extensive field of scholarship plus professional training, rather than intensive research in a limited field of investigation.

***ADMISSION TO FRESHMAN STANDING**

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

- 3 units of English.
- 2 units of mathematics (or 3 units if desired).
- 3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):
 - (a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
 - (b) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).
 - (c) History, civics, economics (at least one unit to form a year of consecutive work in history).
 - (d) Physics, chemistry, botany, zoology, general biology, physical geography, geology, general 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).
- 2 units in subjects represented in the above groups (a)-(d).
- 5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

In addition to the three units of English and the two units of mathematics required for admission to all colleges of the University, it is recommended that a student expecting to enter the College of Education should elect his work from the groups (a) to (d), so as to offer the following subjects:

- A. foreign language.....at least 2 units
- A history (American preferred) or U. S. history
and civics1 unit
- A science (physics, chemistry, botany, or zoology) 1 unit

* More detailed information concerning admission is furnished on pages 42-49.

If he shall not have included these subjects in his high school elections, it will be necessary for him to include them among his elections in college.

REQUIREMENTS FOR GRADUATION WITH THE DEGREE OF BACHELOR OF EDUCATION

To secure the degree of Bachelor of Education the candidate must fulfill the following conditions:

1. Comply with the admission regulations as stated above.
2. Complete the requirements in college subjects as follows:

Zoology	8 credits
Psychology	4 credits
Sociology	8 credits
Physical education	8 credits
English	0-8 credits
Education	24 credits
Teaching subjects:	64 credits

(a) Two academic majors or

(b) One academic major and two or three
academic minors.

Free electives, depending upon the foregoing
selections.....

Total for graduation..... 132 credits

1. An academic major shall consist of 24 to 32 credits. At the option of the major professor this may include the teachers' course.

2. An academic minor shall consist of 12 to 16 credits.

3. The distribution of the 64 credits in teaching subjects shall be 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 shall be 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 hours of credit in English will vary according to the section in which the student is assigned. Those whose preliminary training has been poor will be required to take four hours, those whose preliminary training has been fair will be

required to take three hours, those whose preliminary training has been superior will be excused from the course.

6. The student's free electives may, therefore, vary from 0 to 18 credits according to the exemption in English and the number of credits secured in the major and minor subjects.

7. The teaching subjects may be selected from any subjects now recognized in the College of Liberal Arts or the College of Science.

8. The 24 credits in Education required for the degree of bachelor of education should include as foundation work the 12 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, etc.

9. The required English must be completed during the first year. The required zoology or some other year of science must be taken during the first two years. If history or foreign languages are elected one course in the ones selected must be completed during the first two years. If mathematics is elected, four credits in it must be completed during the first two years. If the foregoing courses are not completed as specified, only half credit will be allowed.

10. The distribution of the 8 credits in zoology required of students in the College of Education shall be determined by the head of the department of zoology.

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

12. 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.

13. Students in the College of Liberal Arts have the right to major in the Department of Education. Students majoring in Education must take at least 24 credits in Education. Students in the Colleges of Science, Engineering, Forestry, Mines, Law, Pharmacy, and Fine Arts, may elect courses in Education according to conditions fixed by these divisions.

FRESHMAN YEAR

<i>First Semester</i>		<i>Second Semester</i>	
	Credits		Credits
English	0-4	English	0-4
Zoology	4	Zoology	4
Physical Ed.	2	Physical Ed.	2
Introduction to Ed.	2	Introduction to Ed.	2
Elective	6-10	Elective	6-10
Total	16+2	Total	16+2

ELECTIVES OPEN TO FRESHMEN

LANGUAGES: English, French, German, Greek, Italian, Latin, Public Speaking, Scandinavian, Spanish.

SCIENCES: Botany, chemistry, geology, home economics, mathematics, physics, zoology.

SOCIAL SCIENCES: History, journalism, political science, economics, sociology, commerce.

MANUAL AND INDUSTRIAL ARTS: Drawing, woodwork, forge-work.

SOPHOMORE YEAR

<i>First Semester</i>		<i>Second Semester</i>	
	Credits		Credits
Physical Ed.	2	Physical Ed.	2
Psychology	4	Education	3
Major subject	4	Major subject	4
Elective	8	Elective	9
Total	16+2	Total	16+2

The foregoing for the sophomore year is only suggestive. Physical education is the only fixed requirement in the sophomore year. If psychology is not taken the first semester it should be taken the second and the education may be postponed until the junior year. Sociology should be taken during either the freshman or sophomore years. The range of electives open to sophomores is very wide. For limitations see the departmental statements.

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.

JUNIOR AND SENIOR YEARS

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

ADMISSION OF NORMAL SCHOOL GRADUATES TO
ADVANCED STANDING

Graduates from the advanced course of the Washington State Normal Schools, who have completed two full years of advanced work in addition to a four-year high school course covering college entrance requirements, will be admitted to the College of Education with provisional junior standing. They are given 48 scholastic credits plus 8 in physical education. The remaining work necessary to full junior standing may be made up after admission to the College of Education.

Graduates from approved normal schools who enter the College of Education may be exempted from such portions of prescribed subjects, including Education, as they have completed in the normal school, exemptions to be granted only upon the recommendation of the heads of the departments concerned.

Graduates from 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.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
IN EDUCATION OR MASTER OF SCIENCE IN
EDUCATION

1. Registration in the College of Education at least one year before graduation. (The student may register in the College of Education as early as the beginning of the freshman year and is urged to do so if he plans to prepare for teaching.)

2. A bachelor's degree from this University or from some other institution of recognized standing.

3. Education, 24 credits.

4. A major academic subject, 24 to 32 credits at the option of the major professor.

5. Two academic minors of at least 16 credits each.
6. A teachers' course in the academic major, maximum 6 credits.
7. At least 3 credits in psychology.
8. Total 158 credits, including the undergraduate credits.
9. Upon completion of the course for the degree of master of arts in Education or master of science in Education the candidate shall be examined in the academic major, the two academic minors and in Education under regulations which apply to the examination of candidates for masters' degrees in the graduate school.

NOTE 1. Such of the above requirements as have been included in the work taken for the bachelor's degree need not, of course, be taken a second time.

NOTE 2. Upon approval of the professor in charge of the academic major a part of the work for the major may be taken in allied lines.

REQUIREMENTS FOR THE NORMAL DIPLOMAS AND LIFE DIPLOMAS

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

I. THE UNIVERSITY FIVE-YEAR NORMAL DIPLOMA, valid in the public schools in the state for a period of five years from date of issue, is granted on the following conditions:

1. (a) Graduation from this University from the Colleges of Liberal Arts, Science, Education, or Fine Arts. (The candidate must present 132 credits for graduation.) (b) Completion of at least 12 credits (semester hours) in the Department of Education. (c) Completion of a teachers' course in the major academic subject, if offered: maximum, 6 credits. (d) General psychology, 4 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 as a teacher will be considered.

The courses in education include the following:

(a) OLD PLAN

Principles of Education

History of Education or Social Foundations of Education

Childhood and Adolescence or Secondary Education

Observation and Teaching or Methods of Teaching

(b) NEW PLAN

(Effective for students entering as freshmen September, 1916, or later.)

Principles of Education..... 3 credits

Educational Sociology 2 credits

Secondary Education 2 credits

Methods of Teaching..... 2 credits

Practice of Teaching..... 3 credits

Students who entered before September, 1916, may have the privilege of following either plan.

The department reserves the right to adjust these requirements in education subjects to individual cases. Variations will sometimes need to be made in the case of normal school students, persons who have taken education courses in summer sessions, and teachers with considerable experience. No deviations will be permitted except on approval of the dean of the College of Education. Candidates for the University five-year diploma who have done part of their education work in other colleges or universities than the University of Washington shall be required to earn not less than 8 credits in Education in this University. The amount of exemption shall be determined in each case by the dean of the College of Education.

2. Persons who have received the masters' or doctors' degree from this University shall be eligible to the University five-year normal diploma, provided they have fulfilled the specific professional requirements exacted of those with the bachelors' degree.

3. Graduates from other accredited colleges or universities than the University of Washington who desire the University five-year normal diploma shall be required to be in residence in

this University at least one semester subsequent to graduation and to earn not less than 16 credits in approved courses, at least 8 credits of which shall be in Education. They must have secured at least 3 credits in psychology, a total of 12 credits in education, and have completed a teacher's course in an academic subject.

4. Graduates of the advanced courses of state normal schools who subsequently graduate from this University and who become candidates for the University five-year diploma must earn at least 8 credits in Education in this University.

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

TEACHERS' APPOINTMENT COMMITTEE

The University maintains an Appointment Committee for the purpose of assisting teachers to secure desirable positions. The services of this committee are entirely free to students and graduates of the University and to school officers. Calls are received at all times of the year. The head of the department of education is chairman of the committee.

*This apparently means
that a student may
secure Life Dip. on
graduation with
theachelor's degree if
has ^{a teaching} requirement.
See case Gabriel Lottfield.*

recd. 9-14-21

LIBRARY SCHOOL

THE FACULTY

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

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

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

MARY HUBBARD, A. B., B. L. S. (Illinois), Instructor in Library Economy.

MABEL ASHLEY, A. B. (Kansas), Graduate in Library Economy (Washington), Instructor in Library Economy.

GERTRUDE E. ANDRUS, Diploma (Carnegie Library School), Superintendent Children's Department, Seattle Public Library, Lecturer on work with schools and children.

ADMISSION

The Library School curriculum is based upon two years of college work 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 economy 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.

CURRICULA

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 to total 128 credits.

The electives taken must include three group minors of not less than sixteen 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 128 credits, sixty of which shall be in science under the following restrictions:

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, 16 credits
- Chemistry, 16 credits
- Geology, 16 credits
- Mathematics, 16 credits
- Physics, 16 credits
- Zoology, 16 credits

B. Either included in or in addition to the work in (A) every student must take four credits in mathematics, eight credits in physics, eight credits in chemistry, eight credits in botany or zoology.

C. If 16 credits in chemistry are taken, only 12 credits in geology are required.

The following would ordinarily be the most satisfactory combination:

- Chemistry, 16 credits
- Botany, 16 credits
- Geology, 12 credits
- Mathematics, 4 credits
- Physics, 8 credits
- Zoology, 4 credits

III. REQUIREMENTS FOR THE DEGREE OF BACHELOR OF LIBRARY ECONOMY.

The curriculum in Library Economy, constituting one year of work, consists of 32 credits distributed through the senior and graduate years, 13 credits being earned in the senior year and nineteen in the graduate year.

At the end of the graduate or fifth year, or upon the completion of 152 credits, 32 of which must be in Library Economy, the degree of bachelor of library economy is granted.

CURRICULUM IN LIBRARY ECONOMY

Order accession and loan systems.....	2 credits	- 101 7
Classification and subject headings.....	3 credits	- 102 7
Cataloguing	3 credits	- 103-104 - WS
Reference	2 1/2 credits	- 105-106 - WS
Printing and binding	1 credit	- 114 - 7
Organization (and extension)	2 credits	- 115 - 7
Administration	1 credit	- 116 - 2 - W
Subject bibliography	1 credit	
Book selection 117-118.....	2 credits	119-2 cr, S,
Work with children and schools.....	1 credit	- S
* Special lectures	1 credit	- S, 109-110, 111, 113, 113
Practice	39 credits	107 Reference 2 cr, Fall -
		108 1 32 W

NOTE: This curriculum is not open to election by students outside the Library School.

PRACTICE

Practice work under careful supervision covers 432 practice hours, distributed as nine hours per week through three semesters for those who do a part of the work as under-graduates, or 14 hours per week for those who enter as graduate students and complete the work in one year.

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 16 credits each in French and German.

B. Before entering upon the work of the senior year each student must be able to manipulate 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.

SCHOOL OF COMMERCE

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

**CARLETON HUBBELL PARKER, PH. D. (Heidelberg), Professor of Economics ;
DEAN.**

**STEPHEN IVAN MILLER, JR., LL. B. (Michigan), A. B. (Stanford), Pro-
fessor of Transportation.**

VANDERVEER CUSTIS, PH. D. (Harvard), Associate Professor of Economics.

**THERESA SCHMID McMAHON, PH. D. (Wisconsin), Assistant Professor of
Economics.**

ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.

**LEWIS LILLY, A. B. (Wisconsin), Assistant Professor of Accounting and
Finance.**

**BRUCE D. MUDGETT, A. B., PH. D. (Pennsylvania), Assistant Professor of
Insurance.**

**REXFORD G. TUGWELL, M. A. (Pennsylvania), Assistant Professor of
Marketing.**

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

FRANK JOSEPH LAUBE, A. M. (Washington), Instructor in Economics.

TENTATIVE ANNOUNCEMENT OF THE ORGANIZATION OF THE SCHOOL OF COMMERCE

ADMISSION

Students who desire to enroll in the School of Commerce must complete the requirements of the Lower Division in either the College of Liberal Arts or the College of Science. These requirements include the subjects of the high school and of the freshman and sophomore years of college as specified on pages 10-15 of the catalogue, and sufficient electives to make a total of 60 college credits, together with two years of required work in military science and physical education. In completing these requirements such students should observe that Economics 1 and 2 are prerequisite to all courses in Commerce and that Psychology 1 is a necessary preliminary to work in the School of Commerce. It is desirable also that Economics 9 and 10 be taken by those who expect to enter the School of Commerce. If these subjects (Econ. 9 and 10) are not taken before entrance, they must be taken after entrance.

Students in the Lower Division who expect to enter the School of Commerce will be placed under the guidance of the dean of the School of Commerce.

CURRICULUM OF THE SCHOOL OF COMMERCE

To meet the needs of specialization in the various fields of commercial activities, the work of the School of Commerce will be organized in groups as follows:

1. Business Organization and Policies
2. Accounting
3. Insurance
4. Marketing.
5. Banking
6. Transportation
7. Taxation
8. Secretarial Work
9. Teaching of Commercial Subjects

DEPARTMENTS OF INSTRUCTION

**COLLEGES OF LIBERAL ARTS, SCIENCE, EDUCATION
LIBRARY SCHOOL AND SCHOOL OF COMMERCE**

The departments of these five colleges and schools are arranged in alphabetical order.

Courses bearing numbers from 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.

Odd numbers denote courses regularly given in the first semester, even numbers those regularly given in the second semester.

Two numbers connected by a hyphen indicate a year course.

Courses listed as year courses ordinarily carry credit only when pursued for the full time; the instructor's permission must be obtained for credit for only a single semester of such a course. No credit in a beginning foreign language is given for less than a year's work.

The credit indicated in connection with each course is the "semester credit," being based on the class periods per week.

ASTRONOMY

(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 others who need some knowledge of astronomy as a part of their technical training; and (c) those who wish to pursue the subject more intensively than either of the other classes.

REQUIREMENTS FOR A MAJOR IN ASTRONOMY

24 credits. Reinforcing subjects of not more than 32 credits selected from mathematics, physics, chemistry, and geology are recommended.

- 3 - Introduction to Astr. - W.S. - 2 cr.
 2 The Sun & Stars - 3 cr - WS
 1 The Solar System - W - 3 cr
 120 UNIVERSITY OF WASHINGTON

COURSES 3

- 3 1. DESCRIPTIVE ASTRONOMY. Four credits. ~~Either semester.~~ *per qtr.*
~~Four~~ hours per week lectures, recitations and observations.
 Laboratory deposit, \$1.00. BOOTHROYD. *7 all winter.*

A course which is designed to give a comprehensive review of the astronomy of today. The student is expected to gain familiarity with the stars and planets in the sky sufficient to enable him to identify any of the brighter stars and planets.

- 4 2 LABORATORY ASTRONOMY. *2 cr. W. & Sp.* Four credits. Second semester.
 Two recitations and ~~four~~ hours per week laboratory work. Laboratory deposit, \$1.00. Must be accompanied or preceded by 1-2 BOOTHROYD.

Since in the work covered by courses 1 and 2 the aim is to give a clear conception of the development of the scientific method, these courses are especially desirable for those who contemplate a scientific career, as well as a necessary requirement for a liberal education. They are required of all students majoring in astronomy and are strongly recommended for engineers and for majors in mathematics, physics, geology and chemistry. The six-inch equatorial telescope and other equipment of the observatory will be used for illustration and demonstration.

101. GEODETIC ASTRONOMY. Four credits. *7 all* ~~First semester.~~
 Prerequisite, Astronomy 2 or Civil Engineering 20, Mathematics 11-12 or its equivalent. Must be preceded or accompanied by Mathematics 61 or its equivalent. BOOTHROYD.

After the elements of the subject have been mastered, they are applied to the problems of determination of time, latitude, longitude and azimuth with the sextant and surveyor's transit. The student becomes acquainted in this work with the use of the astronomical transit, clock and chronograph. Especially desirable for navigators and for civil, electrical and mining engineers.

102. GEODESY. Four credits. *Spring* ~~Second semester.~~ Prerequisite, Astronomy 101. Must be preceded or accompanied by Mathematics 62 or its equivalent. BOOTHROYD.

Precise surveying methods and elements of geodesy, mapping and map projection, Method of Least Squares. This course is planned especially for engineers who desire a knowledge of precise surveying methods such as are used in the survey of the larger cities, in geodetic surveying and in all survey work where

21 - Engineering Astr. - 2 cr. - W.
 22 - Geol. Astr. - 2 cr. - S.
 23 - Nautical Astr. - 2 cr. - W.

DEPARTMENTS OF INSTRUCTION

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a high degree of accuracy is necessary. As much practice in precise surveying methods will be given as the time permits.

103, 104, 105-106. ~~ANALYTICAL MECHANICS~~. Two credits per semester. Prerequisite, Mathematics 34. ~~7. W. S.~~ *7. W. S.*

106, 107-108. ~~CELESTIAL MECHANICS~~. Three credits per semester. Prerequisite, Astronomy 1-2, 3-4, 105-106, and Mathematics 113-114. ~~BOOTHROYD.~~ *7. W. S. p.*

~~201-202. ADVANCED ASTRONOMY. Two credits per semester. BOOTHROYD.~~

This work may be taken along any one of three lines as follows: (1) Astro-physics. Prerequisite, Astronomy 2, Physics 101, Mathematics 33-34. (2) Practical astronomy. Prerequisite, Astronomy 102, mathematics 33-34. (3) Theoretical astronomy. Prerequisite, astronomy 107-108.

BACTERIOLOGY

(Science Hall)

PROFESSOR WEINZIRL, MR. MASKE, MR. FREEMAN

The courses in bacteriology are essentially all applied and bear primarily upon: (a) medicine, (b) sanitation, and (c) industry.

SUGGESTED ELECTIONS

For pre-medical students: 103, 108, are required; 111, 112, 113, 114, may be elected.

For home economics students: 106 is required; 113 is recommended.

For chemical engineering students: 103, 104, 111, 113.

For pharmacists: 5 is required; in junior and senior years, 108, 111, 112, 113, 114, may be elected.

For hygienic training: 103, 104, 111, 113, 207, 208, 209, 210,

For a major: 103, 104 or 108, 111, 112, 113, 114, 207, 208, 209, 210.

The laboratory deposit for courses 5, 103, 104, 106, 108, 111, 112, 115, 116, 209 and 210 is \$5 per semester; no deposit for other courses.

COURSES

Spring 5. BACTERIOLOGY FOR PHARMACISTS. ~~Four~~ ⁵ credits. ~~First semester.~~ Prerequisite, sophomore standing, one year of botany and one year of chemistry. WEINZIRL.

A general survey including technique, biology, diseases, immune sera, vaccines, disinfectants, etc.

~~102. PUBLIC HEALTH. Two credits. Second semester. Lectures only. Prerequisite, junior standing.~~

~~The conservation of health through public agencies. This course is designed primarily for students not majoring in science, but who desire to have a knowledge of the applications of bacteriology and related public health agencies. It is not open to students who have taken a course in bacteriology.~~

103. GENERAL BACTERIOLOGY. Four credits. ~~First semester.~~ ^{Fall} Prerequisite, junior standing; botany or zoology, 1 year; chemistry, 1 year. WEINZIRL, MASKE.

Methods of growing bacteria and studying their structure, functions and distribution.

~~104. SANITARY AND INDUSTRIAL BACTERIOLOGY. Four credits. Second semester. Prerequisite, Bacteriology 103. WEINZIRL, MASKE.~~

A brief survey of disease bacteria. Most of the time is given to sanitation and industry. Inspection trips.

¹⁰⁷ 106. HOUSEHOLD BACTERIOLOGY. ~~Five~~ ⁴ credits. ~~Second semester.~~ ^{Fall & Winter} Prerequisite, junior standing. Three lectures and two laboratory periods. For home economics students. WEINZIRL.

Bacteriology as related to the home and its activities.

¹⁰⁹ 108. MEDICAL BACTERIOLOGY. Four credits. ~~Second semester.~~ ^{W & Sp.} Prerequisite, Bacteriology 5 or 103. Required of pre-medical students. WEINZIRL, MASKE.

The study of pathogenic bacteria.

~~111. BACTERIOLOGICAL ANALYSIS. Two credits. First semester. Laboratory work only. Prerequisite, Bacteriology 103 or equivalent. WEINZIRL.~~

Analysis of water, sewage, milk, meat, etc.

~~112. LABORATORY DIAGNOSIS. Two credits. Second semester. Prerequisite, Bacteriology 104 or 108. WEINZIRL.~~

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. **SANITARY PROBLEMS.** Two credits. First semester. Lectures only. Prerequisite, Bacteriology 103 or equivalent. WEINZIRL.

The sanitary problems relating to water, sewage, and food.

114. **DIAGNOSTIC METHODS.** Two credits. Second semester. Lectures only. Prerequisite, Bacteriology 104 or 108. To be taken with Bacteriology 104. WEINZIRL.

The consideration of diagnostic methods and their application.

115-116. **PATHOLOGY.** Four credits per semester. Prerequisite, Bacteriology 103, Zoology 101 and 102. WEINZIRL.

Gross and microscopical study of pathological lesions.

117. **SCHOOL HYGIENE.** See EDUCATION 165. WEINZIRL.

207-208. **SEMINAR.** Two credits per semester. For graduate students only. With research constitutes a full year's work, and is planned as the regular third year's work in bacteriology. Time to be arranged. WEINZIRL.

209-210. **RESEARCH.** Two or four credits per semester. Open to qualified students after consultation. WEINZIRL.

BOTANY

(Science Hall)

PROFESSOR FRYE, ASSISTANT PROFESSORS RIGG AND HOTSON, MISS

KARRER, MR. THOMPSON, MISS CLARK, MISS HILTON, MRS.

HARTGE, MISS MAJORS, MISS GRIFFITHS

SUGGESTED SELECTIONS

1. For the required science in the colleges of Liberal Arts and Science only courses 1, 2, 105, 106 will be accepted.

2. For a major: courses 105, 106, 141, 142, 143, 144, of which 105 and 106 are required unless 11 and 12 were taken in the freshman year. The total number of credits in the department must be at least 24.

3. For those preparing to teach botany: courses 10, 26, 105, 106, 141, 142, 143, 144.

4. For pharmacy students: courses 13, 14.

5. For forestry students: courses 1, 11, 12, 141, 142, 143, 144.

COURSES

✓
1. **ELEMENTARY BOTANY.** Four credits. ~~First semester.~~ *7 + W*
FRYE, RIGG.

The structure and functions of roots, stems, leaves and seeds.
Only for those who have had no botany in the high school.

3 ✕ **ELEMENTARY BOTANY.** Four credits. ~~Second semester.~~ *SC.*
Open to students entering the second semester without any previous botany work. RIGG.

Types of the great groups of plants from the lowest to the highest. Plant analysis.

8 - 9 - 10. ~~ECOLOGY AND TAXONOMY.~~ *arranged* Four credits. ~~Second semester.~~ *7, W, S*
To be taken rather than Botany 2, by those who expect to continue with Botany 105. Prerequisite, Botany 1 or one year of high school botany or junior standing, except for teachers. FRYE.
Elementary ecology with field work. Analysis of plants.

11. **FORESTERS' BOTANY.** ~~Four~~ *5* credits. ~~First semester.~~ *Winter* For forestry students. Prerequisite, Botany 1. HOTSON, Assistants.
A study of types of plants to illustrate the advances in complexity.

12. **FORESTERS' BOTANY.** ~~Four~~ *5* credits. ~~Second semester.~~ *Spring* A continuation of 11. Prerequisite, Botany 11. HOTSON, Assistant.

13-14. **PHARMACY BOTANY.** ~~Four~~ *5* credits per semester. *str* RIGG.
Gross structure of vegetative and reproductive parts of seed plants. Brief study of spore plants. Microscopy of powdered drugs. *W. & Sp.*

26. **SCHOOL GARDEN.** ~~Four~~ *arranged* credits. ~~Second semester.~~ *Spring* Prerequisite, Botany 1; and 2 or 10. HOTSON.

105. ¹⁰⁶⁻¹⁰⁷ **MORPHOLOGY AND EVOLUTION.** Four credits. ~~First semester.~~ *7, W, S*
Prerequisite, sophomore standing, Botany 2 or 10, or Zoology 1 and 2, or senior standing without prerequisites. FRYE, Assistant.

A morphological study of types to show advances in complexity; the principles upon which advance is based; the general line of evolution.

106. **MORPHOLOGY AND EVOLUTION.** Four credits. Second semester. ~~Prerequisite, Botany 105, and sophomore standing. Required of all majors unless 11 and 12 was taken in the freshman year.~~ FRYE, Assistants.

DEPARTMENTS OF INSTRUCTION

125

²⁰
~~119. PLANT HISTOLOGY. Four credits. First semester. Pre-~~
 requisite, Botany 12 or 106. FRYE.

Preparation of slides for the compound microscope. Study of plant tissues, and their origin.

²⁷⁰
~~127. JOURNAL CLUB. No credit. One meeting per week at~~
 time to be arranged. Prerequisite, junior standing; two years of botany. FRYE.

Review of articles in current journals. Suggested for all seniors, graduates and instructors in the department.

^{140, 141, 142}
~~140, 141. GENERAL FUNGI. Four credits. First semester. Time~~
 to be arranged. Prerequisite, Botany 11 or 105 and junior standing. HOTSON. 2 lect. & 3 lab.

Morphology and classification of fungi; designed as a basis for plant pathology.

^{264, 265, 266}
~~142. GENERAL FUNGI. Four credits. Second semester. Pre-~~
 requisite, Botany 141. A continuation of 141. HOTSON.

^{143, 144}
~~143. PLANT PHYSIOLOGY. Four credits. First semester. Pre-~~
 requisite, Chemistry 2; Botany 1, 2 or 10, and junior standing. RIGG. 2 lect, 2 lab.

The fundamental physical and chemical processes in plants.

~~144. PLANT PHYSIOLOGY. Four credits. Second semester.~~
 Prerequisite, Botany 143. RIGG.

The laws underlying growth and movement in plants.

~~233. RESEARCH. Either semester or both. Credit and time~~
 to be arranged. Open to qualified students after consultation. FRYE, RIGG, HOTSON.

~~250. ALGAE. Four credits. Either semester. Prerequisite,~~
 Botany 105 and 106, or 11 and 12. FRYE.

~~251. BRYOPHYTES. Four credits. Either semester. Pre-~~
 requisite, Botany 105 and 106, or 11 and 12. FRYE.

~~252. PTERIDOPHYTES. Four credits. Either semester. Pre-~~
 requisite, Botany 105 and 106, or 11 and 12. FRYE.

~~253. GYMNOSPERMS. Four credits. Either semester. Pre-~~
 requisite, Botany 105 and 106, or 11 and 12. FRYE.

~~254. ANGIOSPERMS. Four credits. Either semester. Pre-~~
 requisite, Botany 105 and 106, or 11 and 12. FRYE.

262-243 W.S.
 261. ~~PLANT PATHOLOGY. Four credits. First semester. Pre-~~
 requisite, Botany 142. HOTSON.

A study of the diseases of plants and of the fungi which produce them.

262. ~~PLANT PATHOLOGY. Four credits. Second semester.~~
 Prerequisite, Botany 142. HOTSON.

15-2 Spring
 274. ~~EXPERIMENTAL MORPHOLOGY. Four credits. First semester.~~ Prerequisite, Botany 12 or 106, 1 year chemistry, junior standing. FRYE.

15-0 Fall
 279. ~~COLLOIDAL BIOLOGY. Four credits. First semester.~~ Prerequisite, Botany 143; Chemistry 32, senior standing. RIGGS.

15-1 winter
 280. ~~MICROMETABOLISM. Four credits. Second semester.~~ Prerequisite, Botany 12 or 106, 148, senior standing. RIGG.

NOTE: Only a limited number of courses 250-280 will be given in any one semester.

CHEMISTRY

(Bagley Hall)

PROFESSORS BYERS AND BENSON, ASSOCIATE PROFESSOR DEHN, ASSISTANT
 PROFESSORS ROSE, TRUMBULL, HEATH, DR. LANGDON, MR. THOMP-
 SON, MISS JENCKS, MR. SCHWARTZ, MR. CAVE, MR.
 BRILLINGER, MRS. GLOCKLER, MISS MERLING,
 AND DEAN JOHNSON AND MISS HINDMAN
 OF THE COLLEGE OF PHARMACY.

The instruction in this department is designed to satisfy, as far as possible, the requirements of those students who desire to study chemistry as a means of culture and as a necessary complement of a liberal education. It is also realized that the subject is eminently practical; hence it is the desire of those in charge so to guide the student that he may fit himself for work in those lines in which chemistry has become an applied science.

REQUIREMENTS OF THE DEPARTMENT

For a major, a minimum of twenty-four credits selected from the courses outlined and including courses 21, 22, 31, 32, and 101, or their equivalents.

The deposit for each laboratory course is ten dollars per semester. This deposit covers the materials actually consumed in the laboratory and with care provides the student for a full semester's work. (Any portion of the deposit not used will be refunded.)

Repeated
 COURSES 5- *7. W. S.*
 3 1. ~~GENERAL CHEMISTRY.~~ *2-3* Four credits. ~~Either semester.~~
~~Two~~ lectures and six laboratory hours per week. ~~BREES, ROSE,~~
 Instructors, Assistants. *Saugdon & Jancho*

This course is designed to meet the needs of students who come from accredited schools in which chemistry is not required.

~~2. GENERAL CHEMISTRY.~~ Four credits. ~~Either semester.~~ A continuation of 1.

~~3. GENERAL CHEMISTRY.~~ Four credits. From January 1st to April 1st. Three lectures and four laboratory hours per week. BENSON.

This course is open to students who enter the University short courses, and does not demand any previous knowledge of chemistry.

Prospectors Short Course, 3 cr., Winter
 5. ~~GENERAL CHEMISTRY.~~ Four credits. ~~First semester.~~ *7. W. S.* Two lectures and six laboratory hours per week. No high school course is required as a prerequisite. Open only to women in the colleges of Liberal Arts, Fine Arts, and Science. ROSE. *Benson*

~~6. GENERAL CHEMISTRY.~~ Four credits. ~~Second semester.~~ A continuation of 5. ROSE.

~~7. GENERAL CHEMISTRY.~~ Four credits. ~~First semester.~~ HEATH.

A lecture and recitation course designed for students of the College of Pharmacy. It must be taken in conjunction with 9.

9-10
 8. ~~ORGANIC CHEMISTRY.~~ Four credits. ~~Second semester.~~ *7. W. S.* HEATH. *3 lect. & 2 lab., of 3 hrs. each*

A continuation of 7. For students in Pharmacy. Must be accompanied by 10.

~~9. GENERAL CHEMISTRY.~~ Four credits. ~~First semester.~~ A laboratory course designed to accompany 7. Twelve hours per week. HEATH.

A portion of this course, together with a portion of 10, form a continuous course in qualitative analysis.

~~10. ORGANIC CHEMISTRY. Four credits. Second semester.~~

~~HEATH.~~

~~A laboratory course in organic preparations. (See also 9.)~~

21. ^{21, 23} GENERAL CHEMISTRY. ^{For Engineers only} Four credits. First semester. Two lectures and six laboratory hours per week. This course is open to students who have had a year of chemistry in an accredited high school. BYERS, TRUMBULL, LANGDON, Assistants. ^(each reports) ~~F. W. S.~~

~~22. GENERAL CHEMISTRY. Four credits. Second semester.~~
~~A continuation of 21. BYERS, TRUMBULL, LANGDON, Assistants.~~

~~The laboratory work is an elementary course in Qualitative Analysis.~~

31, 32 33. ORGANIC CHEMISTRY. ⁵ Four credits. First semester. Prerequisite, 6. DEHN. ^(FWS each) ~~3 lect. & 2 lab.~~

A lecture and laboratory course for the women of the department of home economics, and adapted to the students of the colleges of Liberal Arts and Science who wish to make a more rapid survey of the subject than is furnished by 103 and 104.

^{35-36 organic for women - 4 hrs. (2 lect. & 2 lab) FWS}
 41. ELEMENTARY QUALITATIVE ANALYSIS. ³ Four credits. ~~Either semester.~~ ^{winter} Two lectures and six laboratory hours per week. LANGDON.

This course is designed to follow Chemistry 1 and 2, and is required of those students in the College of Engineering who have not presented high school chemistry for entrance.

43. ADVANCED QUALITATIVE ANALYSIS. ⁵ Four credits. First semester. LANGDON. ~~Fall & Sp.~~

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

51. ENGINEERING CHEMISTRY. Three credits. ~~Either semester.~~ Prerequisite, 22 or its equivalent. BENSON.

A course in the chemistry of engineering materials. Designed for sophomore engineers.

^{52. war materials - 4 cr. (2 lect. & 2 lab) Fall - Benson}
 101. QUANTITATIVE ANALYSIS. Four credits. ~~Either semester.~~ ^{7, sp.} Five laboratory hours and one recitation per week. HEATH. The technique of gravimetric and volumetric analysis.

102. QUANTITATIVE ANALYSIS. Four credits. ~~Either semester.~~ HEATH. ~~F, S.~~

A continuation of 101. Mineral analysis and special analytical processes.

adv. Quant. *7 all S.P.*
 103. ~~ORGANIC CHEMISTRY~~. Four credits. ~~First semester~~. Pre-requisite, 22, or its equivalent. ~~DEHN.~~ *1 lect & 3 labs.*

Introductory course in organic chemistry consisting of three lectures per week and four hours laboratory work, on the preparation and testing of representative compounds.

~~104. ORGANIC CHEMISTRY. Four credits. Second semester. DEHN.~~

~~A continuation of 103.~~

112, 113 - same as Pharm 104, 105, 106
 111. ~~FOOD ANALYSIS~~. Four credits. First semester. Miss HINDMAN.

2
 2 Lectures and laboratory work on the methods of analysis of food products and the federal and state laws regulating the sale of foods and drugs. Chemistry 111 is repeated in second semester for students of Home Economics.

~~112. FOOD ANALYSIS. Four credits. Second semester. A continuation of 111. Miss HINDMAN.~~

5 *7 all*
 121. ~~INDUSTRIAL CHEMISTRY~~. Four credits. ~~First semester~~. Prerequisite, 101. BENSON. *2 lect. & 3 lab*

A course designed primarily for chemical engineers, and dealing with a detailed study of chemical industries. *W. & W.S.*

W. 123 = W. 125
 122. ~~INDUSTRIAL CHEMISTRY~~. Four credits. ~~Second semester~~. A continuation of 121. *2 lect & 6-4 lab.*

~~123. ORGANIC ANALYSIS AND GLASS BLOWING. One to four credits. Either semester. DEHN.~~ ?

133. ~~SANITARY CHEMISTRY~~. Three credits. ~~First semester~~. Two lectures and one laboratory period. BENSON. *7 all*

A study of the materials and processes used in the purification of water and sewage and in sanitation.

S.P.
 135. ~~FOREST PRODUCTS~~. Three credits. ~~First semester~~. A course designed especially for students of forestry. Two lectures and one laboratory period. BENSON.

A detailed study of the chemical processes involved in the utilization of wood.

3 *S.P.*
 136. ~~ROAD MATERIALS~~. Two credits. ~~Second semester~~. One lecture and one laboratory period. BENSON. *2*

A course designed for students in civil engineering. Deals with the materials of, and methods for examination of, road binders, dust preventives, etc.

141-142-¹⁴³ PHYSIOLOGICAL CHEMISTRY. ~~Four credits per semester.~~ ⁵ ~~Prerequisite, 104. DEHN.~~ ^{7WS}

A course designed for medical, chemical and general science students. The chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes. Special attention is given to the composition and analysis of blood, milk and urine.

144. PHYSIOLOGICAL CHEMISTRY. ~~Four credits. Second semester.~~ ^{SP} Primarily for students of home economics. Essentially the same as course 141. DEHN. ~~2 lect, & 2 lab,~~

* 146. URINARY ANALYSIS. ~~Two credits. Second semester.~~ ^{arranged} ~~DEHN.~~ ^{3 pmg}

Laboratory work only, on the analysis of normal and pathological urine. Designed especially for students preparing for medical study.

²⁰²⁻²⁰³ FOR GRADUATES

201. PHYSICAL CHEMISTRY. Five credits. ~~First semester.~~ ^{7WS} Prerequisite, physics 1-2. TRUMBULL.

An elementary course dealing with the fundamental theories of chemistry based upon physical measurements. Three lectures and two laboratory periods per week.

202. ADVANCED PHYSICAL CHEMISTRY. Four credits. Second semester. Prerequisites, 201, and differential calculus. Two lectures and six laboratory hours per week. TRUMBULL.

A course in chemical statics and dynamics with physical chemical measurements.

204. ELECTRO CHEMISTRY. ~~Four credits. Second semester.~~ ⁵ ^{3 pmg} Prerequisite, 201. BYERS, TRUMBULL.

The lecture course deals with the historical development of electro chemistry and the theories of voltaic and electrolytic cells. The laboratory work deals with the practical methods of electro analysis and electro synthesis and related processes.

211. INORGANIC PREPARATIONS. ~~Four credits. First semester.~~ ^{arranged} ~~Twelve laboratory hours per week.~~ ^{7WS} BYERS.

The course deals with the methods of preparation of inorganic chemical compounds.

212. ADVANCED ORGANIC PREPARATIONS. ~~Four credits. Second semester.~~ ^{arranged} ~~Twelve laboratory hours per week.~~ DEHN.

The course deals with the synthesis of organic compounds.

* DEPARTMENTS OF INSTRUCTION

131

²²³
221-222. ^{gtr} CHEMICAL THEORY. Two credits per semester.
BYERS.

All graduate students registering in the Department of Chemistry are expected to take this course, which deals with the historical development of the fundamental laws and theories.

* ²²⁴ ^{arranged} 223. ACTINO CHEMISTRY. ^{Spring} Four credits. Second semester.
LANGDON.

A summary of the reactions producing light and produced by light. A resume of the principles and theories of actino reaction with experimental illustration.

231. ADVANCED ORGANIC CHEMISTRY. Four credits. First semester. ROSE.

A review of the theories of organic chemistry with special reference to the volatile oils, dye stuffs, alkaloids, sugars, etc. Special laboratory work to be arranged.

232. ADVANCED ORGANIC CHEMISTRY. Four credits. Second semester. A continuation of 231. ROSE.

241-242 JOURNAL COURSE. One credit per semester. LANGDON.

The course deals with the sources of information through the publications of various sorts and involves the preparations of abstracts of articles in English, French, German and other periodicals.

^{3P}
250. RESEARCH. Credit to be arranged. The work in research offered by the department consists of three types; first, thesis work for the bachelor's degree in chemical engineering. Such work may receive a maximum of six credits. Second, research work for the master's degree. This work is not necessarily laboratory investigation, although the investigation of the literature is ordinarily supplemented by more or less practical development of the subject. Maximum credit, six hours. Third, research for the doctor's degree. Maximum credit, thirty hours. Work for the doctor's degree may be carried on with any member of the staff of the department, on any topic, subject to the approval of the department.

ECONOMICS (Commerce Hall)

PROFESSORS PARKER, MILLER, ASSOCIATE PROFESSOR CUSTIS, ASSISTANT
PROFESSORS BERGLUND, MC MAHON, LILLY, MUDGETT,
TUGWELL, MR. LAUBE, MR. AKERMAN.

Freshmen will not be admitted to the work of the department save in extraordinary cases.

Owing to circumstances, over which the University has no control, the reorganization of the work in Economics and Commerce has not been completed. The following list of courses must therefore be regarded as tentative.

51 - Intro. to Econ - *T.S.* - 3 cr. - Parker
COURSES *72 cr. arranged*

~~1-2. MAN AND HIS ECONOMIC LIFE. Four credits per semester. PARKER.~~

~~An analysis of man's original nature, a description of the evolution of his economic environment and a statement of his problems of adjustment in modern life.~~

~~This course is an absolute prerequisite to all advanced economics.~~

~~5-3 - Prob. of adjustment - W. - 3 cr. Parker~~

~~3. MAN AND HIS ECONOMIC LIFE. Four credits. Either semester.~~

61 ~~5. COMMERCIAL GEOGRAPHY. Three credits. First semester. BERGLUND.~~

~~62 - Raw Mat. Res. - 2 cr. 7 - Berglund~~

81 ~~8-10. ACCOUNTING. Three credits per semester. Prerequisite, sophomore standing. LILLY. 7, Sp.~~

106. FOREIGN TRADE AND WATER TRANSPORTATION. Three credits. Second semester. Prerequisite, Economics 1-2. MILLER.

71 ~~107. ECONOMIC HISTORY OF WESTERN EUROPE. Three credits. First semester. Prerequisite, Economics 1-2. Spring - Berglund~~

72 ~~108. ECONOMIC HISTORY OF THE UNITED STATES. Three credits. Second semester. (Prerequisite, Economics 1-2. BERGLUND.~~

101 ~~109-110. ADVANCED ACCOUNTING. Three credits per semester. Prerequisite, Economics 9-10. LILLY. 7, W. -~~

* Not offered in 1917-18.

105 - Cost Acct. - Spring - 3 cr. - Lilly

DEPARTMENTS OF INSTRUCTION

133

110

Fall

~~111. CORPORATION FINANCE. Three credits. First semester. Prerequisite, Economics 1-2. LILLY.~~

~~112. INVESTMENTS. Three credits. Second semester. Prerequisite, Economics 1-2. LILLY.~~ *Winter*

~~112 - War Finance - Sp. - 3 cr - Lilly~~

~~115. RAILWAY ECONOMICS. Three credits. First semester. Prerequisite, Economics 1-2. MILLER.~~ *of Transportation - Fall.*

~~116. RAILWAY TRAFFIC AND RATE MAKING. Three credits.~~ *water transportation*

~~Second semester. Prerequisite, Economics 1-116. MILLER.~~ *Spring.*

~~117. RAILWAY & MARINE RATES - Sp. - 3 cr. - MILLER~~

~~121. INSURANCE. Three credits. First semester. Prerequisite, 1-2. MUDGETT.~~ *Introduction to) Fall.*

~~122. PRINCIPLES OF LIFE INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.~~ *3 Winter*

~~124. PRINCIPLES OF PROPERTY INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.~~ *Winter*

~~123 - Prin. of Soc. Ins. - 2 cr - Sp. - Mudgett~~

~~126. PRINCIPLES OF SOCIAL INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.~~

~~128 129. STATISTICAL METHOD. Three credits. First semester.~~ *Elements of Statistics Fall*

~~Prerequisite, 1-2: 51 MUDGETT.~~

~~129 130. BUSINESS STATISTICS. Three credits. Second semester.~~ *Winter*

~~Prerequisite, 1-2, 129/128~~

~~131. MARKETING. Three credits. First semester. Prerequisite, 1-2, TUGWELL.~~ *Fall*

~~133 132. SELLING. Three credits. Second semester. Prerequisite, 1-2, 131. TUGWELL.~~ *advanced marketing Winter*

~~132 135. PSYCHOLOGY OF THE CONSUMPTION OF GOODS AND SERVICES. Three credits. First semester. Prerequisite, 1-2, TUGWELL.~~ *Winter*

~~134 136. THE AMERICAN CONSUMER. Three credits. Second semester. Prerequisite, 1-2, 135. TUGWELL.~~ *Salesmanship + Store Mgt. Spring*

~~141 140. PUBLIC FINANCE. Three credits. Second semester. Prerequisite, 1-2. Public expenditures, financial administration, taxation, public debts.~~ *61*

~~142. TAXATION PROBLEMS OF WASHINGTON. Three credits. Second semester. Prerequisite, 1-2, 141.~~ *Sanbe*

~~Winter 51~~

~~Not offered in 1917-18~~

~~139 - Trade of Pacific - 2 cr - Winter - Bengtson~~

152 - Regulation of Industry - 3 cr - winter - CUSTIS
148 - Banking in war time - 2 cr - CUSTIS - Sp.

134 UNIVERSITY OF WASHINGTON - Source
144 - War taxation - 3 cr - Spring - 3 cr.

145. MONEY AND BANKING. Three credits. First semester.
Prerequisite, 142. CUSTIS. Fall & Spring

146. ~~FOREIGN EXCHANGE AND FOREIGN COLLECTIONS~~. Three credits. Second semester. Prerequisite, Economics 145. CUSTIS.
International Banking

147 - Federal Reserve System - 2 cr - winter - CUSTIS
151 147. TRUSTS AND MONOPOLIES. Three credits. First semester. Prerequisite, 1-2. CUSTIS. Fall

153 148. ~~LEGAL AND ILLEGAL COMBINATIONS IN BUSINESS PRACTICE~~. Three credits. Second semester. Prerequisite, Economics 147. CUSTIS.
Fair unfair competition

161 151. BUSINESS ORGANIZATION AND POLICIES. Two credits. First semester. Prerequisite, 1-2, and senior standing. PARKER.
Spring

162 152. ~~WORK, THE EFFICIENCY AND WELFARE OF THOSE ENGAGED IN ECONOMIC ACTIVITY~~. Two credits. Second semester. Prerequisite, 1-2, and senior standing. PARKER. Winter
Modern work

153 153. LABOR PROBLEMS OF THE WESTERN STATES. Two credits. First semester. Prerequisite, 1-2. _____

161. WOMEN IN BUSINESS AND INDUSTRY. Three credits. First semester. Prerequisite, 1-2. McMAHON.

162. VOCATIONAL OPPORTUNITIES FOR WOMEN IN THE PACIFIC NORTHWEST. Three credits. Second semester. Prerequisite, 1-2, 161. McMAHON.

165. LABOR ORGANIZATIONS. Three credits. First semester. Prerequisite, 1-2. McMAHON.

166. STANDARDS OF LIVING. Three credits. Second semester. Prerequisite, 1-2. McMAHON.

191. THE EVOLUTION OF ECONOMIC THOUGHT. Three credits. First semester. Prerequisite, 1-2, and senior standing. _____

192. THE FUNDAMENTALS OF ECONOMIC THEORY. Three credits. Second semester. Prerequisite, 1-2, and senior standing.

194. ECONOMICS FOR HIGH SCHOOL, NORMAL SCHOOL AND COLLEGE TEACHERS. Two credits. Second semester. _____

137 197. THE TARIFF SYSTEMS AND FOREIGN TRADE. Three credits. First semester. Prerequisite, 1-2. BERGLUND.
7 all 5/1

* Not given in 1917-18.

192 - Secretarial Training - 3 cr - Babson - Winter
193 - Business Administration - 3 cr - Babson - Spring

138

~~198. HISTORY OF COMMERCE AND COMMERCIAL POLICIES. Three credits. Second semester. Prerequisite, Economics 12. BERGLUND.~~ *winter*

Soc. 201, 202, 203 { *methods of statistics* } 2 cr. per qt.
Sept. { *Theory of statistics* } 7, W, S. *ogburn*
 RESEARCH AND SEMINAR COURSES { *social statistics* }

Permission of instructor must be obtained before enrolling.

~~209 202. RESEARCH COURSE IN ACCOUNTING AND CORPORATION FINANCE. Two credits per semester. LILLY.~~

~~215- Research in Transportation - mullen - Fall.~~
~~211-221. RESEARCH COURSE IN INSURANCE. Two credits per semester. MUDGETT. Fall & Winter~~

~~231. RESEARCH COURSE IN MARKETING. Two credits per semester. TUGWELL. Winter~~

~~237 - Research in Tariff - any qtr - Banglund~~
~~245. RESEARCH COURSE IN TRUSTS AND MONOPOLIES. Two credits per semester. CUSTIS. any qtr~~

~~261. RESEARCH COURSE ON WOMEN IN BUSINESS AND INDUSTRY. Two credits per semester.~~

~~291. ³⁰¹ SEMINAR IN ECONOMIC THEORY. Two credits per semester. (Advanced) - parker - 7 W, S,~~

~~201. SEMINAR IN RECENT ECONOMIC LITERATURE. Two credits per semester. PARKER.~~

Research course in Tariff Problems or Commerce, planned primarily for candidates for higher degrees and seniors whose record warrants their enrollment.

205- Ec. of Vahlen - 3 cr. - Parker
Fall.

EDUCATION

(Home Economics Hall)

PROFESSOR BOLTON, ASSOCIATE PROFESSORS KOOS, ANDERSON, ASSISTANT PROFESSORS JOHNSON, WOODY, MR. KRUSE.

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 social foundations of education, secondary education, or child-

hood 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 and then select enough to total 24 credits in the department.

COURSES

I. PRINCIPLES OF EDUCATION

1. INTRODUCTION TO EDUCATION. How to Study. Two credits per semester. BOLTON. *7 W S*

Required of all freshmen in the College of Education. The first semester is devoted to a consideration of how to study efficiently. During the second semester an attempt is made to help students to an appreciation of the place which education occupies in society; to introduce them to some of the specific problems in educational adjustment, and to an elementary scientific knowledge of methods of solving educational problems. Counted toward a major in education but not toward the normal diploma.

99. PRINCIPLES OF EDUCATION. ~~Three credits. Either semester.~~ BOLTON, ~~ANDERSON.~~ *7 W S 5-4-1924*

A foundation course in the study of education. An attempt is made 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. An inductive development of principles of education derived from (1) biology, (2) psychology, and (3) sociology. Representative topics: meaning of education, social and hereditary factors in the educative process; educational bearings of instinct, habit, culture epochs, individual differences; training of senses, memory, imagination, emotions, will, motor activities, moral nature; formal discipline, educational values; the foregoing in relation to the school curriculum.

105. PLAY IN EDUCATION. Two credits per semester. ———.

The psychological and biological meaning of play. The significance of play from the standpoint of education, morality, religion and civic life. Values in relation to public morals, social ideals, delinquency and crime. Relation to school, home, church, settlement work. Commercialized play and recreation. Municipal play and recreation. History, present status and outlook of the modern play movement.

207-208. PHILOSOPHY OF EDUCATION. Two credits per semester. BOLTON.

Advanced course. A critical examination of the fundamental principles which underlie a scientific theory of education. The processes and problems of education are examined from the standpoint of biology, psychology, sociology, philosophy and the history of education. An attempt to formulate a philosophical basis for educational theory and practice. Time arranged to accommodate teachers of Seattle and vicinity.

II. EDUCATIONAL SOCIOLOGY

109. SOCIAL FOUNDATIONS OF THE SCHOOL SYSTEM. Two credits. ~~Either semester.~~ JOHNSON. *7 W.S. Ayer* ³

The social origin and social function of the school system; distribution of educative functions among the various social agencies; the aims of institutional education from the social point of view; sociological factors conditioning the realization of these aims. Social aspects of the distinctively intra-mural and classroom activities; socializing the curriculum, socializing the recitation, the function of student activities, etc. Prerequisite, elementary sociology or equivalent, principles of education previously or parallel.

151. COOPERATIVE AGENCIES OF THE SCHOOL SYSTEM. Two credits. ~~Either semester.~~ *7 W.S.* Prerequisite, Education 99, 109 and three other hours in education. JOHNSON: *Ayer*

Special study of the relatively distinctive extra-mural activities of the school. Intensive study of the relations of (1) school and home, (2) school and community, (3) school and vocation, (4) school and library, and other cooperative social agencies. Students will report from time to time upon individual problems in this field.

159-160. HISTORY OF EDUCATION. Two credits per semester. KRUSE.

First semester, ancient and medieval. A study of the development of educational ideals and practices from a typical oriental civilization through Jewish, Greek, Roman, early Christian civilization and the Renaissance period. Second semester, the modern period. The educational forces that have been active since the Middle Ages; the conservative and creative elements in social and educational institutions during the modern period. American

education, emphasizing the beginnings and development of the American high school. At every point an effort will be made to trace the origin and development of present-day educational theories and practices. The relation between the civilization of a given people and their education, and the reciprocal effect of education upon national ideals.

211-212, ²¹³ ~~COMPARATIVE EDUCATION.~~ Two credits ~~per semester.~~ *FWS*

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. Relation 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.

III. EDUCATIONAL PSYCHOLOGY

155. CHILDHOOD AND ADOLESCENCE. ~~Two credits. Either se-~~
~~semester.~~ BOLTON. *FWS* 3

A study of the characteristics of the child to reveal how education is conditioned upon the successive stages of development; hygiene of the school child; child welfare agencies; value of child study for parents and teachers; educational theories and methods of some of the great leaders in child study, including Froebel, Pestalozzi, Hall, Dewey, Montessori. (As the majority of students will be high school teachers, special emphasis is placed upon adolescence or the high school period.)

203-204, ²⁰⁵ ~~EDUCATIONAL PROBLEMS OF ADOLESCENCE.~~ Two cred-
~~its per semester.~~ BOLTON. *FWS*

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. An evaluation of the content of some selected subjects of the high school curriculum to determine their adaptability to the adolescent period. Time especially arranged for teachers of Seattle and vicinity.

205-206, ²⁰⁷ ~~EXPERIMENTAL EDUCATION.~~ Two credits ~~per semes-~~
~~ter.~~ Laboratory deposit \$1.00. KAUSE. *Woody* *FWS*

(a) A summary of the literature of recent experimental studies in education. (b) Methods of investigation and interpretation of results. (c) Scales and tests. (d) Problems suit-

able for class and individual experimentation. A consideration of those problems in the teaching of reading, writing, spelling, arithmetic, etc., which lend themselves to experimental investigation. Data will be obtained from various public schools.

215-216. ²¹⁷ADVANCED EDUCATIONAL PSYCHOLOGY. Two credits ~~per semester~~. WOODY. ^{7 W S}

Lectures, readings, discussions and demonstrations. Consideration of typical experimental methods in relation to the present state of exact knowledge involved in definite educational problems.

217-218. ²¹⁹EDUCATIONAL MEASUREMENTS. Two credits ~~per semester~~. Laboratory deposit, \$1.00. WOODY, ~~Koos~~. ^{7 W S}

Lectures, discussions, reading, class experiments, and projects. Primarily for experienced teachers, principals and supervisors or those preparing for such positions. Practice given in administering all of the standard tests and scales for measuring achievements in the school subjects and in the scoring and evaluating results of such measurements.

IV. EDUCATIONAL ADMINISTRATION

119. SECONDARY EDUCATION I. ³Two credits. ~~Either semester~~. Koos. ^{7 W S}

This course is concerned with secondary-school curricula and closely related problems. It deals with the following topics: the development of the American secondary school; the aims of secondary education; relation to elementary and higher education, including some attention to the problem of admission to higher institutions; the reorganization of secondary education, with consideration of the junior high school and junior college; the high-school subjects of study (including the more common vocational subjects); types of programs of study and curricula; types of high schools; administration of the time factor; the study problem.

153. SECONDARY EDUCATION II. ³Two credits. ~~Either semester~~. Prerequisite, Education 119. Koos. ^{7 W S}

Deals with the following problems in secondary education, which are with few exceptions, largely non-curricular in character: elimination and retardation in the high school; vocational guidance and training; social organization and student activities such as athletics, debating, clubs, etc.; moral and re-

ligious education; community relations; selection, preparation, assignment, training during service, rating, and promotion of high-school teachers; grades and grading; objective standards in high-school subjects; health; building, equipment, and the high-school library; records and reports; high-school costs and support; functions of the principal.

* 156. SUPERVISION AND MANAGEMENT. Three credits. ~~Second semester.~~ Koos.

For those preparing for superintendencies, principalships, and other supervisory and teaching positions. Deals with such topics as: supervisory organization; scientific attitude in supervision, including a consideration of the use of quantitative and qualitative standards; course-making and daily programs; supervision of class instruction; classification of pupils, grading, promotion, retardation, and elimination; attendance; departmentalism; the school and home study problem; preparation, selection, certification, appointment, rating, promotion, and training of teachers during service; the teachers' viewpoint in supervision; moral responsibilities and discipline of the school; health supervision; educational and vocational guidance; the school and co-operative agencies; equipment of the supervisor. Some attention to the problem of rural-school supervision.

~~165. SCHOOL HYGIENE. Two credits. First semester. WEINZIRL.~~

~~Problems of school hygiene, including heating, lighting, and ventilation; school diseases and medical inspection of schools, hygiene of various school activities.~~

209-210, 211 ADMINISTRATION OF AMERICAN EDUCATION. ³ Two credits per semester. Koos. *FW5*

First semester: National, state and county (or other local unit) educational administration. Problems in the reorganization of state and county units of administration. Some attention to rural-school administration. Emphasis on the State of Washington. Second semester: a study of the administration of city and village school systems with attention to the following topics: school boards and their functions; the city superintendent and his duties; administrative and supervisory organization; the teaching staff; kinds of schools and courses; buildings, equipment, janitor service, text-books; coordination with other educa-

tional agencies of the community; finances; records and reports; measuring the efficiency of a school system to discover proper lines of progress; bringing the public to a consciousness of school needs.

213. FINANCIAL ASPECTS OF SCHOOL ADMINISTRATION. Two credits. First semester. Koos.

The following aspects of school support, costs and accounting will be studied: units of school support, methods of raising and apportioning funds, city school funds and expenditures, analysis of school costs on various bases, comparative costs, salary schedules, teaching and other costs, accounting systems, budgets, records, and reports.

V. TEACHER TRAINING.

157. METHODS OF TEACHING—I. Special problems in methods of teaching of high school subjects. ~~Two credits. Either semester.~~ ³ ~~WOODY.~~ ^{FW.S.}

A study of the applications of psychology to the following problems of high school instruction: specific aims for each subject and the proper methods for realizing these aims; lesson assignments, supervised study, lesson plans; use of the recitation period; individual instruction; teachers' questions; proper summaries, drills and reviews.

158. METHODS OF TEACHING—II. Foundations of Method. Two credits. Either semester. Woody.

Much attention is given in this course to those selections from Dewey's writings which are fundamental to method. From this point of view such questions as the following are examined: Relations of the doctrine of interest to education; merits of the "problem" as a factor in learning; proper habits of work. Grammatical versus the direct method of teaching languages; significance of the movement for standard tests and measures.

161. PRACTICE TEACHING. ⁵ ~~Three credits per semester.~~ ^{FW.S.} By permission may be taken a second semester as 162. ~~ANDERSON.~~ ^{Freeland}

The course includes one lecture each week, conferences with the instructor, assigned readings, and one hour each day during the semester 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.

VI. GRADUATE SEMINARS AND INDIVIDUAL RESEARCH

~~249-250.~~ SEMINAR IN MODERN EDUCATIONAL THEORIES. Two credits ~~per semester.~~ BOLTON. *Winter.*

Critical consideration of technical educational literature bearing upon modern educational theories and problems. The evolution of these theories and problems will be traced. Reports on individual topics.

251. SEMINAR IN INDUSTRIAL ARTS EDUCATION. Two credits. First semester. JOHNSON. *April - 7*

The need for a study of industry in the elementary school; typical approaches to the study of industry; relation of industrial arts to other studies of the curriculum; criteria for curriculum making in the industrial arts; problems of supervision and administration. The endpoint of this course is the development of a tentative course of study in industrial arts for the elementary school.

~~252. SEMINAR IN VOCATIONAL EDUCATION AND GUIDANCE. Two credits. Second semester. JOHNSON.~~

~~The need of adequate provision for vocational education; federal and state aid; types of schools; vocational education in relation to junior and senior high schools; the essentials of vocational guidance; the work, play, study, school. Students will report from time to time upon individual problems in these fields.~~

253-254. SEMINAR IN EDUCATIONAL SURVEYS. Two credits per semester. KOOS. *W. S. P.*

The development, functions, methods, and results of educational surveys as discovered by a critical examination of all available reports of city, rural, vocational, and state educational surveys and literature of a related character.

*255-256. SEMINAR IN THE ELEMENTARY SCHOOL CURRICULUM. Two credits per semester. ANDERSON.

The function, character, and organization of the elementary school curriculum. A consideration of what subject-matter and experiences are of greatest worth for the individual. Adaptation of the curriculum to growth periods. The curriculum from the standpoint of the immediate interests, needs, and future efficiency of the child. Minimum essentials in and possibilities for the

enrichment of the course of study. The time is especially arranged for teachers of Seattle and vicinity.

257-258. ²⁵⁷⁻²⁵⁸ SEMINAR IN ~~CRITICISM AND~~ SUPERVISION OF INSTRUCTION. Two credits per semester. ~~ANDERSON.~~ *7 W. S. Freeman*

A study of the function and methods of criticising and supervising the teaching process.

299-301. ~~INDIVIDUAL RESEARCH OR THESIS WORK.~~ Credits to be arranged. *7 W*

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 different members of the department. Consult head of the department regarding registration.

ENGLISH

(Denny Hall)

PROFESSORS PADEFORD, PARRINGTON, BENHAM, ASSOCIATE PROFESSOR MILLIMAN, ASSISTANT PROFESSORS GARRETT, COX, DARBY, JOHANSON, MR. SAWYER, MR. CHITTICK, MR. ———, MR. HARRISON, DR. GREGG.

Committee on Freshman Composition: Milliman, Chittick, Gregg.

Committee on Courses of Study: Parrington, Benham, Johanson, Chittick, Harrison.

REQUIREMENTS FOR MAJOR STUDENTS

At the conclusion of the course in their senior year, all major students will be required to pass a departmental examination covering general historical and critical questions in English. Questions set in previous examinations and further detailed information may be obtained from the members of the committee on Courses of Study.

Candidates for the teachers' certificate are required to take 183-184.

It is expected that senior major students will take 191-192, but the work is not a definite prescription.

COURSES

- I. COMPOSITION
A. ELEMENTARY.

1-2. FRESHMAN COMPOSITION. ~~Two to four~~ ³ credits per semester. Required of all freshmen in the Colleges of Liberal Arts, Science and Education. If taken later than the freshman year, only half credit will be given. MILLIMAN in charge.

The principles of English composition, with practice in writing, and conferences in theme criticism.

The work done in this course is regarded as belonging rather to the high school than to the university, and the amount prescribed varies with the preparation of the student. Those whose preliminary training has been superior will be excused from the course; others will be required to take two, three or four hours, as their needs demand; those whose training has been inadequate will be required to take 9-10 without credit. All who receive a grade of A in course 1 are excused from course 2.

Courses 1 and 2 are given each semester.

3-4 COMPOSITION FOR ENGINEERS. ~~Two credits per semester.~~ ³ First semester of freshman and second semester of sophomore year. MILLIMAN in charge. *Winters*

An adaptation of course 1-2 for students in the Colleges of Engineering and Forestry. No students will be excused from the course, but a section will be provided for those whose training has been exceptionally good.

9-10. SUB-FRESHMAN COMPOSITION. Without credit. Either semester.

A course designed to meet the needs of those whose training in composition is inadequate.

B. ADVANCED COMPOSITION

Admission subject to the approval of the instructor.

51-52. ^{3 magazine writing} Three credits per semester. MILLIMAN. *F.W.S.*

A course in magazine-writing. Articles in current magazines are studied as models for short and long themes on timely subjects.

~~55-54.~~ ⁵⁵⁻⁵⁶ Three credits ~~per semester.~~ ^{ath} PARRINGTON.

A course in informal essay writing. Material from the English essays, contemporary and earlier, is used for study.

~~55-56.~~ ⁵⁷⁻⁵⁸⁻⁵⁹ Three credits ~~per semester.~~ ^{ath} Cox. (*Criticism*)

A course in practical criticism, designed to give basis and direction to critical judgments on literature and art.

*57-58. One credit per semester. PARRINGTON.

A study of the principles of English versification, with some consideration of present-day poetry and practice in verse-writing.

101-102. SHORT STORY. (*Journalism 157-158.*) Three credits per semester. Prerequisite, junior or senior standing; open to sophomores with permission. BYMENT.

A critical appreciation of the short story and its place in literature, with practice in composition. (For further description see Department of Journalism.)

II. LANGUAGE

Primarily for juniors and seniors. *FW*

121-122. OLD ENGLISH. Three credits ~~per semester.~~ GARRETT.

In the first semester stress is laid on acquiring a knowledge of grammar as essential to an understanding of the history of the language. Easy poetical and prose texts are read. In the second semester the Beowulf is read.

* ~~123-124.~~ ⁵ MIDDLE ENGLISH. Three credits ~~per semester.~~ GARRETT.

Middle English grammar and a wide reading in middle English literature. Some of the texts read are The Owl and the Nightingale, King Horn, The Pearl, The Vision of Piers, the Plowman.

III. INTRODUCTORY COURSES IN ENGLISH LITERATURE

Primarily for freshmen and sophomores

^{101, 102, 103} ~~21-22.~~ ^{current events} FRESHMAN LITERATURE. Three credits ~~per semester.~~ *FW S*

SAWYER, GREGG, BENHAM. *see also Journ 110, 111, 112*

Literature dealing with the social, educational, scientific and religious questions of the day. Informal discussions, with papers. Intended primarily for freshmen who have been excused from all or part of the required course in composition.

73-74. CONTEMPORARY LITERATURE. ~~Three credits per semester.~~ DABBY, COX.

The reading and discussion of significant works of the past thirty years.

IV. ADVANCED COURSES IN LITERATURE

A. HISTORICAL DEVELOPMENT OF ENGLISH LITERATURE

Primarily for juniors and seniors

The several courses grouped below are to be considered merely as convenient divisions of the body of English literature. It is urged that the student should conceive of the field as a whole, and plan his selections so as to read through as large a part of the entire field as possible.

131. ENGLISH LITERATURE FROM ALFRED TO CHAUCER. Two credits. First semester. GARRETT.

Wide reading in order to gain an appreciation of medieval culture. No knowledge of old or middle English is necessary.

132. ENGLISH LITERATURE FROM CHAUCER TO SHAKESPEARE. Two credits. Second semester. GARRETT.

A study of the late medieval and early renaissance literary production.

~~*133-134. MEDIEVAL LITERATURE AND MEDIEVAL RENAISSANCE. Two credits per semester. GARRETT.~~

135, 136, 137. MAIN TENDENCIES IN ENGLISH LITERATURE FROM 1590 TO 1900. ~~Three credits per semester.~~ PARRINGTON. gth

A study in national ideals, with a consideration of significant literary figures and works.

~~*137-138. ENGLISH LITERATURE IN THE SEVENTEENTH CENTURY. Two credits per semester. BENHAM.~~

176 139-140. ENGLISH LITERATURE IN THE EIGHTEENTH CENTURY. ~~Three credits per semester.~~ DABBY. gth

A study of the literary and social movements of the period.

141-142. SOCIAL IDEALS IN ENGLISH LITERATURE. Three credits per semester. GREGG. gth

A study of model commonwealths, and of such other literature as illustrates the growth of English social and economic thought.

DEPARTMENTS OF INSTRUCTION

147

Am. Lit - 1800 - 1870

B. AMERICAN LITERATURE

162 161. ~~EARLY NINETEENTH CENTURY LITERATURE IN AMERICA.~~

Three credits. ~~First semester.~~ PARRINGTON. *per go, 7. W.*
A study in national ideals. The course will deal with the literature of the Constitution, early poetry, fiction, and essays, and the controversy over slavery.

162. ~~MIDDLE NINETEENTH CENTURY LITERATURE IN AMERICA.~~

Three credits. ~~Second semester.~~ PARRINGTON.

A study primarily in the New England school and Whitman, with some consideration of other writers.

163. AMERICAN LITERATURE FROM 1870 TO 1890. *1917 3* Two credits.

~~First semester.~~ PARRINGTON, MILLIMAN. *Spring*

An introduction to current literary ideals and tendencies in America, as exemplified particularly by Twain, Howells, Lanier and Riley.

~~164. AMERICAN LITERATURE FROM 1890 TO 1917. Two credits.~~

~~Second semester. PARRINGTON, MILLIMAN.~~

A consideration of our recent literary output, exclusive of the drama, with the emphasis laid upon tendencies of thought.

166 165. GREAT AMERICAN WRITERS. Two credits. First semester. MILLIMAN. *7. W.*

A critical study of the works of Emerson, Whitman, Hawthorne and Poe.

~~166. GREAT AMERICAN WRITERS. Three credits. Second semester. MILLIMAN.~~

A critical study of the works of Longfellow and Lowell.

C* TYPES, AUTHORS AND SPECIAL STUDIES.

172-173 171. BROWNING. *W. S.* Three credits. First semester. PADEL-

FORD. *5 Mg.*

A study of Browning as an artist, and as an intellectual and spiritual force.

171 ~~172. SHAKESPEARE. Three credits. Second semester. PAD-~~

ELFORD. *5*

An attempt primarily through the study of Shakespeare to catch the spirit of the English Renaissance.

173. THE GEORGIAN POETS. Three credits. ~~First semester~~ *gth*
DARBY. *7. W.*

A study of the English romantic movement: Wordsworth; Coleridge, Shelley, Keats and Byron.

~~174. THE VICTORIAN POETS. Three credits. Second semester.~~
DARBY.

A study of English poetry since 1830.

175. VICTORIAN ESSAYISTS. Two credits. ~~First semester.~~ *Per gth.*
7. W. S.

Studies in Carlyle and Ruskin.

~~176. VICTORIAN ESSAYISTS. Two credits. Second semester.~~
Cor. *Sawyer*

Studies in Arnold and Newman.

~~*177-178. THE NOVEL. Three credits per semester. MILLI-~~

~~MAN.~~

179-180. THE ENGLISH DRAMA. Three credits per semester. *gth*
HARRISON. *7 W S*

A study of representative examples of English drama of various periods from the beginnings to the present.

181-182. GENERAL LITERATURE. Three credits per semester. *gth*
JOHANSON. *7 W S*

Studies in representative European writers.

183-184. TEACHER'S COURSE. Two credits per semester. *gth*
Required of major students who wish the recommendation of the department for the normal diploma. GARRETT.

A consideration of methods and problems in the teaching of English in the high school.

185-186. ~~PHILOSOPHY IN CONTEMPORARY DRAMA.~~ (Philosophy 113-114.) Two credits per semester. *gth*
BENHAM.

Social and philosophical ideas in the contemporary drama.

191-192. SENIOR CONFERENCE. One-half credit per semester. *gth*
JOHANSON. *3*

Individual conferences with senior major students for the purpose of effecting a correlation of studies, and for guidance in original investigation. Each student is expected to meet the instructor in a conference of at least a half hour each week.

V. GRADUATE WORK

Department Committee on Graduate Work: Cox, BENHAM, GARRETT, DABBY.

Graduate work is usually conducted by means of seminars. The time devoted to the meetings is indicated in each case, but the number of credits a student may elect in a given seminar varies from 1 to 6 at option. In every case, however, the number elected must be indicated at the time of enrollment.

~~201-202. ENGLISH LITERARY HISTORY.~~

~~A. THE MEDIEVAL PERIOD. One to six credits per semester. From the beginnings to 1550. GARRETT.~~

~~For 1917-18 the subject matter will be Chaucer and his age.~~

201-~~B~~ ENGLISH LITERATURE FROM 1550-1660. PADELFORD.

For 1917-18 the subject matter will be the Tudor and Jacobean drama. The first semester will be given up to the study of the general history of this drama and to the reading of a large number of plays; the second semester, to the detailed study of problems connected with the drama. 2 cr. 7WS

C. ENGLISH LITERATURE FROM 1660-1830. DABBY.

The work of this seminar is conducted by means of individual conferences. Each student selects his own reading in this field. Suggested readings for 1917-18: Milton and the Puritans, the Queen Anne classicists, Dr. Samuel Johnson and his circle, the eighteenth century novel, the revolutionary period.

~~211-212. AMERICAN LITERATURE. One to six credits per semester. PARRINGTON.~~ 3

The field of this work is determined by the wishes of the class. During the past two years the period from 1890-1914 has been studied. 7WS

~~221-222. MODERN ENGLISH LITERATURE. Two to six credits per semester. BENHAM.~~ 7WS

The emphasis is placed on nineteenth century prose with a view to determining, if possible, the influence of the industrial revolution on modern English literature.

~~231-232. COMPARATIVE ENGLISH LITERATURE. One to six credits per semester.~~ 7WS Cox

A. THEORIES OF POETRY AND CRITICISM. COX.

Readings for background in esthetic, philosophic, and poetic theories from Plato and Aristotle down to the present. Special investigations in tragedy and comedy, lyric and narrative poetry and critical theories.

B. RENAISSANCE TYPES IN ENGLAND, FRANCE AND ITALY. PADEL FORD.

A review of the history of the Renaissance and the Reformation; followed by a comparative study of the more notable Renaissance literature in England, France and Italy. (Chances)

241-242. ~~THE ENGLISH LANGUAGE~~. One to six credits per semester. GARRETT. *gth* *7WS* *2*

For 1917-18 the subject will be historical English grammar. Certain far-reaching problems in modern English will be made the subject of research.

251-252. RHETORIC. Two credits per semester. MILLIMAN. *gth* *7W*
A study of the elements of style in thought, unit, rhetorical foot, tone color, suppressed predication, and sentence shortening.

261-262. THE TECHNIQUE OF THE DRAMA. Three credits per semester. HARRISON. *gth* *7WS*

A course in the practice of dramatic composition, together with the study of dramatic technique. Open to undergraduates with the permission of the instructor.

271-272. GENERAL LITERATURE. One to six credits per semester. JOHANSON. *gth* *7W*

Readings in European literatures, with conferences. Each student should be prepared to submit for approval a systematic plan of reading.

FRENCH AND ITALIAN

(Denny Hall)

PROFESSOR FREIN, ASSOCIATE PROFESSOR PATZER, ASSISTANT PROFESSORS ATKIN, RATTI, HELMLINGE, MR. WHITTLESEY, MR. GUERARD.

REQUIREMENTS OF THE DEPARTMENT

Courses 5-6, 7-8, 9, and 123-124 are required of majors and of all who wish to be recommended as teachers.

3 COURSES *gtr repeated*

1-2. ⁻³ ELEMENTARY. ~~Four credits per semester.~~ Assistant professors and instructors.

As far as possible French will be used in class from the beginning. The first semester is devoted almost exclusively to grammar and pronunciation. In course 2 several easy texts are read.

Course 1 is repeated the second semester.

~~3-3. ADVANCED FIRST YEAR. Four credits per semester. Prerequisite, one semester of French in the University, or one year in the high school. Those who have had three semesters of French in the high school should enter course 3. Assistant professors and instructors.~~

~~4-4. READING AND SYNTAX. Four credits per semester. Prerequisite 2, or three semesters in the high school. Assistant professors and instructors.~~

Review of grammar, easy composition, reading of several texts.

Course 3 is open to those who have had three semesters in the high school. Course 4 is open to those who have had four semesters in the high school; but students having a record of not lower than "B" grade for each of the four semesters in the high school may enter course 101. Course 4 is repeated in the first semester.

~~101-102. ADVANCED READING. Three credits per semester. Three sections. Prerequisite, 4. See also under 3-4. Assistant professors.~~

Reading of more advanced modern texts and a few of the best plays of Corneille, Molière and Racine.

Course 101 is repeated the second semester for those who finish course 4 in February, and for those who enter at that time with sufficient French from the high school.

Course 102 is repeated in the first semester.

~~103-104. COMPOSITION AND CONVERSATION. Three credits per semester. Prerequisite, 4. RATTI, HELMLINGE.~~

~~105-106. PHONETICS. Two credits. Either semester. Prerequisite, 1. ATKIN.~~

This course is intended to furnish the student an opportunity to acquire a reasonably accurate pronunciation, based upon rules

which will give him self-assurance in reading ordinary French. Those who have not been trained in phonetics in the high school should enter this course.

3-1452-53)*
107-108. MASTERPIECES OF FRENCH LITERATURE. Two credits per semester. No prerequisite. FREIN.

This course is planned especially for those who have been unable to study French literature in the original texts. It will be given in English and some of the masterpieces will be assigned to be read in the best English translations. This course is intended to give a general survey of French literature, with special emphasis placed upon the important works.

101-102-103- 2nd yr. Conversation & Comp. - 3 cr. RATH
121(122-123)*
109-110. THE FRENCH NOVEL. Two credits per semester. Prerequisite, 102. HELMLINGE. gtu

History of the French novel from its beginning. Some of the most representative novels will be read in class, and others assigned for outside reading.

141-142-143)*
111-112. LYRIC POETRY. Two credits per semester. Prerequisite, 102. WHITTLESLEY. Frein gtu

History of lyric poetry. Considerable attention paid to the structure of modern forms of lyric poetry. Canfield's French Lyrics.

137-138-139
113-114. THE FRENCH DRAMA. Two credits per semester. Prerequisite, 102. PATZER. 3 gtu

History of the drama from its origin. Some of the masterpieces are read in class, and some are assigned for individual reading and report.

131-132(133)*
115-116. THE SHORT STORY. Two credits per semester. Prerequisite, 102. ATKIN. gtu

History of the development of the French short story. Reading of some of the best short stories, both in class and for individual assignments.

161, 163, 163
117-118. HISTORY OF THE FRENCH LITERATURE OF THE NINETEENTH CENTURY. Two credits per semester. Prerequisite, 102. RATH. 3 gtu

Lectures in French. Some of the masterpieces assigned for individual reading and report.

DEPARTMENTS OF INSTRUCTION

153

119-120. HISTORY OF THE FRENCH LITERATURE OF THE EIGHTEENTH CENTURY. Two credits per semester. Prerequisite, 102.

Lectures in French; assigned reading.

*121-122. HISTORY OF THE FRENCH LITERATURE OF THE SEVENTEENTH CENTURY. Two credits per semester. Prerequisite, 102.

Lectures in French; assigned reading.

191-192-193
123-124. TEACHERS' COURSE. Two credits per semester. Prerequisite, 102 and 104. FREIN.

Special emphasis on the methods of teaching French pronunciation. Oral and written exercises. Review of grammar, with students conducting the recitations.

FOR GRADUATES

201-202. HISTORY OF THE FRENCH LITERATURE OF THE SIXTEENTH CENTURY. Two credits per semester. Prerequisite, 102. PATZER.

Lectures in French. Some texts of the sixteenth century will be assigned for outside reading, and some will be read in class. The French Renaissance will be compared with that of other countries.

211-212-213
203-204. MIDDLE FRENCH. Two credits per semester. FREIN.

Lectures on the history of the fourteenth and fifteenth centuries will be given in French. Some texts will be read in class, and others will be assigned to be read out of class and reports made to the class. Course conducted in French.

221-222-223
205-206. OLD FRENCH READINGS. Four credits per semester. FREIN.

Elements of Old French grammar, and translation from Old French into modern French of texts in Bartsch, Chrestomathie de l'Ancien Francais, and a few of the old texts will be read in complete editions.

231-232-233
207-208. HISTORY OF OLD FRENCH LITERATURE. Two credits per semester. FREIN.

Open only to those who have a reading knowledge of Old French. Those who have had course 203-204 will ordinarily be prepared to follow the work. Course given in French.

* Not offered in 1917-18.

* - Military French - W. S. - 3 cr.
P. gty. *whitmore*

3 II. ITALIAN *gtr*

1-2. ELEMENTARY. ~~Four~~ credits per semester. No student will be allowed to begin Italian and French (or Spanish) the same year. _____

Grammar and reading. *goggio*

3-4. ~~READING AND SYNTAX~~ Two credits per semester.

~~Modern texts will be read. Constant practice in conversation.~~

GEOLOGY

(Science Hall)

PROFESSOR LANDES, ASSISTANT PROFESSORS SAUNDERS, WEAVER, CULVER, MR. SALISBURY.

REQUIREMENTS OF THE DEPARTMENT

(a) For the required 8 credits in biological science in the Colleges of Liberal Arts and Science: Courses 1-2, or 11-12, or 12 and 2.

(b) For a teacher's certificate: The same as for a major, or the teacher's course in Science. It is recommended that those preparing to teach physical geography in the high school, or those entering the second semester, should take courses 11-12 instead of 1-2.

Structural Geol COURSES

12 *7 all, Sp.* GENERAL. ~~Four~~ credits per semester. Three lectures and ~~one~~ laboratory period per week, with occasional half day field trips. Laboratory deposit, \$1.00. SAUNDERS, CULVER.

The fundamental principles of structural, dynamic and historical geology.

2 *Physical Geol* ~~4~~ GEOLOGY FOR ENGINEERING AND MINING STUDENTS. ~~Four~~ credits. ~~Either semester~~ Elective for freshmen. Required for ~~seniors~~. Three class periods and one laboratory period per week, with occasional half day field trips. Laboratory deposit, \$1.00. CULVER.

A general course emphasizing those phases which are of special application in engineering and mining work.

3 *Historical Geol - 5 cr. - W. Sp. Saunders* ~~5~~ GEOLOGY FOR FORESTRY STUDENTS. Four credits. Second semester. Laboratory deposit, \$1.00. CULVER.

7, W. Sp.

11. CLIMATOLOGY. ⁵⁻ ~~Four~~ credits. ^W ~~First semester.~~ Three recitations and one laboratory period. Laboratory deposit, \$1.00. SAUNDERS, SALISBURY.

A general consideration of the climatic elements of the atmosphere, and a study of the climate of Washington and of the United States.

12. PHYSIOGRAPHY. ⁵⁻ ~~Four~~ credits. ^{SP, 1} ~~Second semester.~~ Three recitations and one laboratory period. Field trips. Laboratory deposit, \$1.00. SAUNDERS.

A study of the surface features of the earth with special reference to their origin, development, classification, and relation to geologic structure.

* 16. ECONOMIC GEOGRAPHY OF WASHINGTON. ³ ~~Two~~ credits. ~~Second semester.~~ Two lectures, with quiz on required reading. LANDES. ^{3P,}

A study of economic and industrial Washington based on geological and climatic conditions.

18. GEOGRAPHY OF SOUTH AMERICA. Two credits. ^{winter} ~~Second semester.~~ Lectures, readings and quiz. SAUNDERS.

A study of industrial and commercial relations in the different countries of South America based on physiographic and climatic conditions.

¹²⁰ ~~22.~~ COMMON MINERALS AND ROCKS. ⁵⁻ ~~Three~~ credits. ^{Fall} ~~First semester.~~ Two lectures and one laboratory period. Laboratory deposit, \$1.00. CULVER. ²

An examination and study of the physical properties of the more common minerals and rocks with field trips to local outcrops.

³ ^{W, SP, 1} 124-122. MINERALOGY. ~~Four~~ credits. ~~Second semester.~~ Two lectures and two laboratory periods. For engineering and mining students. Laboratory deposit, \$2.00. Prerequisite, one year of college chemistry. CULVER.

A descriptive and determinative study of the minerals, with blowpipe analysis.

⁵ ^{SP, 1} 32. GENERAL PALEONTOLOGY. ~~Two or three~~ credits. ~~Second semester.~~ Two lectures with one laboratory period (optional for credit). Prerequisite, some knowledge of general geology. WEAVER.

A brief survey of the prehistoric animal and plant life of the earth in relation to existing forms.

102-103-104. ADVANCED HISTORICAL GEOLOGY. Two credits per ~~semester~~^{year}. Two lectures with assigned reading and laboratory study. May be taken as a semester course or year course. Prerequisite, geology 1-2, or 12, or equivalent work. WEAVER.

Study of continental evolution, including history of sedimentation, vulcanism, earth movements, and geographic changes in North America (first semester); Eurasia (second semester).

* 105. GLACIAL GEOLOGY. ~~Two~~³ credits. ~~First semester~~^{SP}. ~~Two~~³ lectures and laboratory study of different regions. Prerequisite, geology 1 or 12, or equivalent work.

The characteristics of glaciers and the geological work they accomplish, and a study of continental glaciation.

107. GEOLOGY OF WASHINGTON. ~~Two~~³ credits. ~~First semester~~^{Fall}. Two lectures with assigned readings and laboratory study. Prerequisite, some knowledge of general geology or physiography. LANDES.

A history of the geological development of the state and its different physiographic regions.

^{Fall} 111. PHYSIOGRAPHY OF THE UNITED STATES. Three credits. ~~First semester~~. Three lectures with assigned laboratory study. Laboratory deposit, \$1.00. Prerequisite, geology 1 or 12, or equivalent course. SAUNDERS.

The development of the physiographic features of the United States and the influence these features have exerted on the history and commercial growth of the country.

113. PHYSIOGRAPHY OF EUROPE. Three credits. First semester. Three lectures with assigned laboratory study. Laboratory deposit, \$1.00. Prerequisite, geology 1 or 12, or equivalent work. SAUNDERS.

The development of the physiographic regions of Europe and the influence the larger features have exerted on the development and history of the country.

121. PETROLOGY. Three credits. First semester. A special course for coal mining men in the College of Mines. Laboratory deposit, \$2.00. Prerequisite, geology 3 and 22. WEAVER or CULVER.

123. OPTICAL CRYSTALLOGRAPHY. Four credits. ~~First semester~~. Two lectures and two laboratory periods. Prerequisite, geol-

ogy 1-2, or 3, or 12, college physics and college chemistry. Laboratory deposit, \$2.00. WEAVER.

Practice in the microscopic determination of crystals and artificial products by optical methods.

124. PETROGRAPHY. Four credits. ~~Second semester~~ ^{Winter S.P.} Two lectures and two laboratory periods. Prerequisite, geology 22 and 123. Laboratory deposit, \$2.00. WEAVER.

A study of the distinguishing characteristics of the different groups and species of rocks, with practice in their determination by modern petrographical methods.

125-128. FIELD WORK FOR MINING STUDENTS. Credits to be arranged up to three. One credit for eight field days with written report. Prerequisite, 2 or 3 and 21 or 22 (124 also preferred). WEAVER. ^{7.W}

127-128. ECONOMIC GEOLOGY. Three credits ~~per semester~~. ^{Fall & 5 cr. in winter} ~~Three lectures and discussion of papers.~~ Prerequisite, for 128, geology 2, 22, 124. LANDES.

A study of the origin and extent of economic deposits of non-metals (first semester), and metals (second semester). Their production and use.

131. ^{(132)*} PALEONTOLOGY. ~~Four~~ ³ credits. ~~First semester~~ ^{W. & 3 for S.P.}. Three lectures and ~~one laboratory period~~. Prerequisite, 2 or 3. WEAVER.

A laboratory study of fossil invertebrates with their geologic and geographic distribution.

133. PALEOGEOGRAPHY OF THE TERTIARY PERIOD. ~~Two~~ ³ credits. ^{Fall} First semester. Prerequisite, Geology 2. WEAVER.

A comparative study of the geological history of the continents and the development of life during the Tertiary in its world-wide application.

201-202. FIELD WORK OR ADVANCED WORK IN GENERAL GEOLOGY. Credits and hours to be arranged. LANDES, SAUNDERS, CULVER. ^{7.W}

211-212. RESEARCH OR ADVANCED WORK IN PHYSIOGRAPHY. Credits and hours to be arranged. SAUNDERS. ^{7.}

221-222. RESEARCH OR ADVANCED WORK IN PETROGRAPHY, OR ECONOMIC GEOLOGY. Credits and hours to be arranged. WEAVER. ^{7.W.}

231-232. RESEARCH OR ADVANCED WORK IN PALEONTOLOGY. ^{7.W.} Credits and hours to be arranged. WEAVER.

S.C.I. - geol - 4 cr. - 2 lab + 2 lab - Winter
- Culver
see next page

SPECIAL SHORT COURSES

S. C. 1. **FOREST GEOLOGY.** A course of twenty lectures on general geology given in January, February and March, to the students in the short course in the College of Forestry. SAUNDERS.

S. C. 2. **MINERALOGY.** Instruction and practice in blow-pipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week. Laboratory deposit, \$2.00. CULVER.

S. C. 3. **ELEMENTS OF GEOLOGY.** Lectures on the elements of geology, the common varieties of rock, metalliferous veins and ore deposits, etc. Twice a week. CULVER.

GERMAN

(Home Economics Hall)

PROFESSOR MEISNEST, ASSISTANT PROFESSORS BOETZKES, HOFF,*

ECKELMAN, ACTING ASSISTANT PROFESSOR SKINNER,

MR. ERNST, DR. TRESSMANN, DR. ROLOFF,

MR. WESTERBERG.

REQUIREMENTS OF THE DEPARTMENT

For a major: 24 to 40 credits, including at least 20 credits in course above 100.

For the normal diploma: the same as for a major including course 125-126.

Students desiring the recommendation of the department to teach German must pass a special oral and written examination in pronunciation, grammar, conversation and composition. They are advised to take courses 105-106, 111, 125-126.

Credit is allowed for either semester in any course except 1-2.

All courses are conducted in German unless otherwise specified.

COURSES

1-2. ³ **FIRST YEAR.** Four credits per semester. *get (repeated)* For beginners.

Stage pronunciation, grammar, reading of easy prose and verse and conversation. Students entering the second semester with one year of German in the high school may take course 2. Two semesters must be completed before credit is allowed.

* Absent on leave, 1916-17.

1. FIRST YEAR. ~~Four~~ ⁵ credits. ~~Second semester.~~ ^{fall} For beginners.

2-3. ADVANCED FIRST YEAR. ~~Four~~ ⁵ credits ~~per semester.~~ ^{W. Sp.} Prerequisite, one semester or one year high school.

Continuation of grammar, reading of modern prose, conversation.

3-4. ~~SECOND YEAR.~~ ^{adv. 1st} ~~Four~~ ⁵ credits ~~per semester.~~ ^{W. Sp.} Prerequisite, 2 or two years high school.

Pronunciation, review of grammar, modern prose and at least one drama by Schiller, Goethe or Lessing during the second semester, conversation and composition. Special sections for students in science, engineering and forestry.

4-5. ~~ADVANCED SECOND YEAR.~~ ^{adv. 2nd yr.} ~~Four~~ ⁵ credits ~~per semester.~~ ^{T.W.S. (repeated each yr.)} Prerequisite, 3 or three years high school. TRESSMAN, SKINNER.

Schiller's Jungfrau von Orleans, Scheffel's Trompeter von Saekkingen, modern prose and drama.

Students should consult the instructor or head of the department before registering for the advanced courses.

100-101. ¹⁰⁰ SCHILLER. ^{Goethe} Three credits. ~~First semester.~~ ^{T.W.S.} Prerequisite, 4 or four years high school. BOETZKES, TRESSMAN.

Life and works. Kabale und Liebe, Wallenstein and Braut von Messina.

102. GOETHE. Three credits. ~~Second semester.~~ Prerequisite, 4 or four years high school. BOETZKES, TRESSMANN.

Life and works. Goetz von Berlichingen, Esmond, Tasso and Iphigenie.

103-104. ¹⁰³ RECENT WRITERS. Three credits ~~per semester.~~ ^{T.W.S.} Prerequisite, 4 or four years high school. ERNST.

Social problems as represented in the works of Hauptmann, Sudermann, Fulda, Wolzogen, Lienhard, Schnitzler, Paul Ernst.

105-106. ¹⁰⁵⁻¹⁰⁶ CONVERSATION AND COMPOSITION. Three credits ~~per semester.~~ ^{T.W.S.} Prerequisite, 4. BOETZKES, TRESSMANN.

Review of grammar and syntax in German, oral and written reproductions, rules for punctuation and syllabication, letter writing and themes.

~~113, 114, 115~~ 7WS
~~107-108. SCIENTIFIC GERMAN. Two credits per semester.~~
 Prerequisite, 4. ROLOFF.

Scientific essays, monographs and technical periodicals. Each student does private reading in his own special field under the guidance of the instructor and the major professor.

~~116, 117, 118~~ 7WS
~~109-110. GERMAN PROSE. Two credits per semester.~~ Prerequisite, 4. ERNST.

First semester: Rapid reading of descriptive, biographical and historical texts and monographs. Second semester: Pedagogical and philosophical writings. This course is primarily intended for students majoring in other departments who need German as a tool for their work. Each student pursues some private reading in his special field under the direction of his instructor and major professor.

~~120~~ cv 7WS
~~111. PHONETICS. Two hours a week. One credit. Either semester.~~ Prerequisite, 2. MEISNEST.

A study of the organs of speech; general differences between German and English pronunciation; a systematic study of the nature, production and classification of the German speech-sounds; practice in the stage pronunciation and expressive reading. Mostly class work.

~~130 (131-132)*~~ 7WS
~~112-113. GERMAN INSTITUTIONS. Two credits per semester.~~ Prerequisite, 4. BOETZKES.

A study of the main cultural movements and institutions in Germany.

~~*115-116. MODERN NOVELS. Two credits per semester.~~ Prerequisite, 4. ROLOFF.

Sudermann, Keller, C. F. Meyer, Freytag, Hauff, Ludwig.

~~136, 137, 138~~ 7WS
~~117-119. MODERN DRAMA. Two credits per semester.~~ Prerequisite, 4. ROLOFF.

Kleist, Grillparzer, Hebbel, Sudermann, Hauptmann, Fulda, Lienhard.

~~140, 141~~ 7WS
~~119. HISTORY OF GERMAN LITERATURE. Three credits. First semester.~~ ECKELMAN.

A general survey for students specializing in German.

142
~~120.~~ LYRICS AND BALLADS. Three credits. ~~Second semester.~~ *Sp.*

ECKELMAN.

Characteristic lyrics and ballads of Goethe, Schiller, Uhland, Geibel, Moerike, Heine.

143, 144, 145
~~121-122.~~ CLASSIC PERIOD. Two credits ~~per semester.~~ *7WS* ERNST.

A study of the origin and development of German humanism from 1766 to 1832 as represented by Lessing, Herder, Wieland, Goethe, Schiller and the romantic writers.

15-0
~~123.~~ LESSING. Three credits. ~~First semester.~~ *Full* MEISNEST.

Life and works. Early dramas, Emilia Galotti, Nathan der Weise, Hamburgische, Dramaturgie or Laokoon.

157, 158
~~124.~~ GOETHE'S FAUST, PARTS I AND II. Three credits. ~~See~~ *W. Sp.*
~~and semester.~~ MEISNEST.

Interpretation, genesis, plan and purpose of the drama. Faust legend and Faust theme in literature.

160, 161, 162
~~125-126.~~ TEACHERS' COURSE. Two credits ~~per semester.~~ *7WS*
 MEISNEST.

First Semester: Review of German grammar and syntax from the standpoint of teaching; coaching of underclassmen in elementary classes.

Second Semester: Aims and methods of teaching German; lesson plans, courses of study for high schools, text-books and aids in teaching, observation and some practice teaching in the University and city high schools.

COURSES IN ENGLISH TRANSLATION

* 164
~~128.~~ WAGNER. Two credits. ~~Second semester.~~ *Winter* No prerequisite. Conducted in English. ERNST.

Life and selected works; esthetic theory and the musical drama; musical illustrations.

1206, 171, 172
~~129-130.~~ GERMAN CLASSICS. Two credits ~~per semester.~~ *7WS* No prerequisite. Not open to majors in German. Conducted in English. MEISNEST.

General survey of the life and most important works of the foremost writers in German literature from the classical period to the present day.

FOR GRADUATES

*201-202. ~~GOETHE'S LYRICS AND LETTERS. Two to four credits per semester. MEISNESH~~

An interpretative study and analysis of Goethe's lyrics and letters, a study of verse-forms, rhythm and meter.

203-204. ~~STORM AND STRESS PERIOD. Two to four credits per semester. MEISNEST.~~ *(204)* FWS*

~~*205-206. ROMANTIC SCHOOL. Two to four credits per semester. MEISNEST.~~ *ga*

~~207-208. NINETEENTH CENTURY. Two to four credits per semester. ECKELMAN.~~ *210, 211, 212 FWS*

Study of the drama and novel. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer.

*209-210. ~~INTER-RELATIONS OF GERMAN AND ENGLISH LITERATURE. Two to four credits per semester. MEISNEST.~~

~~First semester: Shakespeare in Germany and his influence on German literature. Second semester: The influence on German literature of Milton, Young, Addison, Ossian, Pope, Thomson, Swift, Richardson, Fielding, Sterne and Goldsmith.~~

250 ~~251-252. HISTORY OF THE GERMAN LANGUAGE. Two credits per semester. THESMANN.~~ *ga FWS*

A study of the origin and development of the German language, historical German grammar, formation and derivation of words.

~~253-254. MIDDLE HIGH GERMAN. Three credits per semester. HOFF. THESMANN~~ *2 ga FWS*

*255-256. ~~OLD HIGH GERMAN. Two credits per semester. HOFF.~~

257-258. ~~GOthic. Two credits per semester. Hoff.~~

GREEK

(Denny Hall)

PROFESSOR HAGGETT, ASSOCIATE PROFESSOR SIDEX, -ASSISTANT
PROFESSOR DENSMORE

REQUIREMENTS OF THE DEPARTMENT

For a major, at least 24 credits chosen from courses 3 to 108.

COURSES

⁻³ 1-2. ^{9th} ELEMENTARY GREEK. ^{7WS} Four credits per semester. DENSMORE.

A new course based on the elements of grammar and the early practice in translation from easy passages in Plato, Herodotus, Menander, the Anacreontics, Aristophanes. Designed especially for those who do not expect to major in the classics.

⁴⁻⁵⁻⁶ 3-4. ^{7WS} PLATO-HOMER. Three credits per semester. Prerequisite, 1-2. HAGGETT.

Plato's Apology, Crito, and parts of the Phaedo, selections from the Odyssey.

⁵ 11-5. ^{7WS 9th} GREEK CIVILIZATION. Three credits. Either semester. Primarily for freshmen and sophomores. A knowledge of the Greek language is not required. To be followed by Greek 6 or Latin 11. DENSMORE.

Part of the time will be devoted to the history of the Greek peoples, the remainder to their life and art, under such topics as (a) mythology and religion, (b) public and private life, (c) art and archaeology. Lectures (illustrated by photographs and slides) and collateral reading.

⁵ 13 & ^{7WS 9th} HISTORY OF GREEK LITERATURE. Three credits. Either semester. HAGGETT, SIDEX.

Text-book, lectures, and readings from English translations, with assignments of selected work for special study and periodic written tests. Prerequisite, Greek 5 or at least two years of ancient language. A knowledge of the Greek language is not required. This course is intended to be followed by Latin 13.

7. ~~GREEK HISTORY~~. ~~Three credits~~. First semester. See history 17.

⁵ 12 & ^{7WS} ADVANCED GREEK CIVILIZATION. ~~Three credits~~. Second semester. A continuation, largely in discussion groups and con-

Sp.

ferences, of the problems raised in Greek 5, with particular attention to their present day bearings. Prerequisite, Greek 5. DENSMORE.

* 9. GREEK ART. Two credits. First semester. Knowledge of the Greek language is not required. HAGGETT.

After a brief survey of the results of archaeological discoveries up to the present time, the main work of the course will be devoted to a discussion of some of the best examples of Greek architecture, sculpture and vase painting. The discussions will be illustrated by photographs and lantern slides.

101-102. DRAMATIC POETRY. Two credits per semester. Prerequisite, 3-4. DENSMORE.

Selected plays from Euripides, Sophocles, and Aristophanes.

*103. LYRIC POETRY. Two credits. First semester. Prerequisite, 3-4. HAGGETT.

Selections from the elegaic, iambic, and melic poets.

*104. ORATORY. Two credits. Second semester. Prerequisite, 3-4. HAGGETT.

Selections from Lysias and Demosthenes.

105. EPIC POETRY. Two credits. First semester. Prerequisite, 3-4. HAGGETT.

Rapid readings of selections from Homer and Hesiod.

101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-1519-1520-1521-1522-1523-1524-1525-1526-1527-1528-1529-1530-1531-1532-1533-1534-1535-1536-1537-1538-1539-1540-1541-1542-1543-1544-1545-1546-1547-1548-1549-1550-1551-1552-1553-1554-1555-1556-1557-1558-1559-1560-1561-1562-1563-1564-1565-1566-1567-1568-1569-1570-1571-1572-1573-1574-1575-1576-1577-1578-1579-1580-1581-1582-1583-1584-1585-1586-1587-1588-1589-1590-1591-1592-1593-1594-1595-1596-1597-1598-1599-1600-1601-1602-1603-1604-1605-1606-1607-1608-1609-1610-1611-1612-1613-1614-1615-1616-1617-1618-1619-1620-1621-1622-1623-1624-1625-1626-1627-1628-1629-1630-1631-1632-1633-1634-1635-1636-1637-1638-1639-1640-1641-1642-1643-1644-1645-1646-1647-1648-1649-1650-1651-1652-1653-1654-1655-1656-1657-1658-1659-1660-1661-1662-1663-1664-1665-1666-1667-1668-1669-1670-1671-1672-1673-1674-1675-1676-1677-1678-1679-1680-1681-1682-1683-1684-1685-1686-1687-1688-1689-1690-1691-1692-1693-1694-1695-1696-1697-1698-1699-1700-1701-1702-1703-1704-1705-1706-1707-1708-1709-1710-1711-1712-1713-1714-1715-1716-1717-1718-1719-1720-1721-1722-1723-1724-1725-1726-1727-1728-1729-1730-1731-1732-1733-1734-1735-1736-1737-1738-1739-1740-1741-1742-1743-1744-1745-1746-1747-1748-1749-1750-1751-1752-1753-1754-1755-1756-1757-1758-1759-1760-1761-1762-1763-1764-1765-1766-1767-1768-1769-1770-1771-1772-1773-1774-1775-1776-1777-1778-1779-1780-1781-1782-1783-1784-1785-1786-1787-1788-1789-1790-1791-1792-1793-1794-1795-1796-1797-1798-1799-1800-1801-1802-1803-1804-1805-1806-1807-1808-1809-1810-1811-1812-1813-1814-1815-1816-1817-1818-1819-1820-1821-1822-1823-1824-1825-1826-1827-1828-1829-1830-1831-1832-1833-1834-1835-1836-1837-1838-1839-1840-1841-1842-1843-1844-1845-1846-1847-1848-1849-1850-1851-1852-1853-1854-1855-1856-1857-1858-1859-1860-1861-1862-1863-1864-1865-1866-1867-1868-1869-1870-1871-1872-1873-1874-1875-1876-1877-1878-1879-1880-1881-1882-1883-1884-1885-1886-1887-1888-1889-1890-1891-1892-1893-1894-1895-1896-1897-1898-1899-1900-1901-1902-1903-1904-1905-1906-1907-1908-1909-1910-1911-1912-1913-1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-

HISTORY

(Denny Hall)

PROFESSORS MEANY AND RICHARDSON, ASSOCIATE PROFESSORS
MC MAHON AND BOWMAN, ASSISTANT PROFESSOR LUTZ,
MR. DAVID.

REQUIREMENTS OF THE DEPARTMENT

The eight-hour requirement in History may be satisfied by one of the following courses:

MEDIEVAL AND MODERN EUROPEAN HISTORY (1-2). It is desirable that this course be selected in fulfillment of the history requirement and that it be taken in the freshman year. Students who enter the University in the second semester may enter this course in the second section provided (4), with the understanding that they will take the first semester's work in the following year (3).

HISTORY OF THE UNITED STATES (7-8). Primarily for sophomores; not open to freshmen except in the case of students in the Law School, or students who are taking work in the College of Liberal Arts to satisfy requirements for entrance to the Law School.

ENGLISH POLITICAL HISTORY (5-6). Primarily for sophomores and juniors; not open to freshmen except those specified in (b) below. To this course, however, course 1-2 is a prerequisite except in the case of (a) students admitted to advanced standing from other colleges and universities; (b) students in the Law School or students who are taking work in the colleges of Liberal Arts and Sciences to satisfy requirements for entrance to the Law School; (c) majors in English literature and in political science; (d) students who receive the special permission of the instructor in charge of the course.

FOR A MAJOR at least eight credits shall be obtained in the most advanced undergraduate courses. Course 1-2 is required of all history majors.

It is recommended that all history majors shall take, in excess of the 24 history credits and of the credits formally required in various other departments for graduation, additional work in history, political and social science, philosophy, modern

languages, and English literature. Medieval Latin is desirable for those who intend to study history for advanced professional purposes.

PROSPECTIVE TEACHERS of history as a major subject in high schools who desire the recommendation of the department of history, as a department, must show to the satisfaction of the department that they are acquainted with the elementary facts requisite for the teaching of all courses in history and in civil government taught in the high schools of the state, and that they have specialized knowledge in their chosen field.

Courses 17 and 18 are open to all, without prerequisite; courses 7-8 and 29-30 are open, without prerequisite, to sophomores, juniors and seniors. Courses 105-164 inclusive are open to juniors, seniors and graduate students; but for prerequisites to some of these, see statement of the course. Courses 185-190 inclusive are open to sophomores, juniors, seniors and graduate students, without prerequisites. Seniors are admitted, by permission, to courses 205-228 inclusive.

COURSES

1-2. ^{7.5} ~~MEDIEVAL AND MODERN EUROPEAN HISTORY.~~ ⁵ ~~Four credits~~ ^{7.5} per semester. ~~BOWMAN, LUTZ, DAVID.~~

A general survey of the political, economic and social development of the principal medieval and modern European peoples down to the present time.

3-4. ⁵ ~~MEDIEVAL AND MODERN EUROPEAN HISTORY.~~ ⁵ ~~Four credits~~ ^{7.5} per semester. ^{7.5} An adaptation of 1-2 for students who enter the University in the second semester. LUTZ.

5-6. ^{7.5} ~~ENGLISH POLITICAL HISTORY.~~ ^{7.5} ~~Four credits per semester.~~ Open to sophomores, juniors, seniors, and certain classes of freshmen. See requirements. RICHARDSON.

A study of the political, social and intellectual development of the English people from the Saxon conquest to the end of the nineteenth century. Economic developments also receive attention.

7-8. ^{7.5} ~~HISTORY OF THE UNITED STATES.~~ ^{7.5} ~~Four credits per semester.~~ Open to sophomores, juniors, seniors, and certain classes of freshmen. See requirements. McMAHON.

A general survey with emphasis upon political history. Lectures, text-book, collateral reading and topics.

DEPARTMENTS OF INSTRUCTION

167

17. ANCIENT HISTORY: GREECE. ³Three credits. ^WFirst ~~semes-~~
~~ter~~. DAVID.

A general survey of ancient history from earliest times to the death of Alexander the Great, with especial emphasis upon Greece.

* 18. ANCIENT HISTORY: ROME. ³Three credits. ^{SP}Second ~~se-~~
~~mester~~. DAVID.

A general survey of ancient history from the death of Alexander the Great to the Germanic migrations, with especial emphasis upon the Roman Republic and Empire.

Courses 17 and 18 are especially designed to meet the needs of teachers of ancient history in high schools.

³⁻⁷⁻⁶⁰⁻⁶¹ 19. MAKERS OF THE NATION. Two credits per semester. ^{gla.}
^{7WS}MEANY.

Lectures on the lives of leading Americans with relation to the historic development of their times.

Students must have had at least one year of history to elect any of the following courses.

105-106. ¹⁰⁷ENGLISH CONSTITUTIONAL HISTORY. Three credits ^{7WS}per ~~semester~~. Open to juniors and seniors who have taken or are taking 5-6, and to pre-law students with consent of the instructor. RICHARDSON.

The development of the legal and governmental institutions of the English people to the present time.

109. ¹¹⁰HISTORY OF THE MIDDLE AGES. Three credits. ^{7WS}First ~~semester~~. Prerequisite, 1-2. BOWMAN.

An advanced course dealing with economic and social developments.

¹¹¹ 112. MEDIEVAL CIVILIZATION. ³Three credits. ^{SP}Second ~~semes-~~
~~ter~~. Prerequisite, 1-2. BOWMAN.

A study of the medieval civilization and culture down to the thirteenth century.

114. MEDIEVAL FRENCH INSTITUTIONS. ²Two credits. ^{SP}Second ~~semester~~. Prerequisite, 1-2. Open to seniors, and to others with the consent of the instructor. DAVID.

The development of the legal and governmental institutions of medieval France.

*115. THE RENAISSANCE. Three credits. First semester.
Prerequisite, 1-2. BOWMAN.

A study of the origin and development of the Renaissance and its spread among the European peoples.

*116. THE REFORMATION. ~~Three~~^{SP} credits. Second semester.
Prerequisite, 1-2. BOWMAN.

A study of the origin and development of the Reformation, and of its spread among the European peoples.

121-122: ¹²³ PRUSSIA AND NORTHERN EUROPE. Two credits per semester. Prerequisite, 1-2. RICHARDSON. ^{2VS}

This course deals with Sweden as a great power, its rise, progress, and decline; the rise of Russia and Prussia; the partition of Poland; and the beginnings of the Eastern question. Special attention is paid to the economic, political and military development of the Prussian state from its foundation to the acquisition of world-power by Frederick the Great.

* ~~123-124~~¹²⁹ HISTORY OF FRANCE FROM THE REFORMATION TO THE FRENCH REVOLUTION. ~~Two credits per semester~~. Prerequisite, 1-2. RICHARDSON. ^{SP}

An advanced course, which deals not only with the internal history of France, but also with its relations to the larger problems of European history.

*127-128. HISTORY OF ENGLAND SINCE THE ACCESSION OF GEORGE III. Two credits per semester. Prerequisite, 1-2 or 5-6. LUTZ.

A study of the development of recent English institutions, and of social reform, foreign relations and imperialism from 1760 to the present day.

* 129. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. ~~Three~~⁵ credits. ~~First semester~~. Prerequisite, 1-2. LUTZ.

Among the principal topics considered are the following: The material conditions out of which, in France, the Revolution emerged, and the nature of the ideals which inspired it; contemporary conditions in the European states system which facilitated the extension of the Revolution over Europe; the epoch of International Wars, with especial reference to the territorial redistribution of Europe, the beginnings of modern liberalism, and the career of Napoleon.

DEPARTMENTS OF INSTRUCTION

169

130. EUROPE SINCE 1814. ~~Three~~ ^S credits. ~~Second semester.~~ ^{Sp}
Prerequisite, 1-2. LUTZ.

Mainly political, introductory to European politics of the present time. The course deals with the fundamental principles and policies of the Era of Reaction under Metternich and the subsequent triumph of liberalism. The chief emphasis is laid upon the establishment of constitutional government and national unity in Germany, Italy and the other states of Western Europe, and upon the careers of great leaders, notably Bismarck and Cavour. The world war is included in the course.

~~*135-136. THE DEVELOPMENT OF INTERNATIONAL ARBITRATION AND CONCILIATION. Two credits per semester. LUTZ.~~

~~*139-140. ECONOMIC AND SOCIAL HISTORY OF THE AMERICAN COLONIES. McMAHON.~~

143. HISTORY OF THE UNITED STATES, 1787-1828. Three credits. ~~First semester.~~ ^{Sp} McMAHON.

144. HISTORY OF THE UNITED STATES, 1828-1860. Three credits. ~~Second semester.~~ ^{Sp} McMAHON.

147. CIVIL WAR AND RECONSTRUCTION. Three credits. ~~First semester.~~ ^{Fall} McMAHON.

A general study of the Civil war and the period of reconstruction.

~~149. THE HISTORY OF NATIONAL DEVELOPMENT. Three credits.~~ ^{Sp}
~~Second semester.~~ McMAHON.

A continuation of course 147, in which the development of the American nation will be traced from the close of the reconstruction period to the present time.

153. SPAIN IN AMERICA. Three credits. ~~First semester.~~ ^{Fall} MEANY.

A study of the rise and fall of Spanish power in the new world, and an outline of the history of the Spanish-American republics.

154. DEVELOPMENT OF THE PACIFIC. Three credits. ~~Second semester.~~ ^W MEANY.

History of the countries bordering upon the Pacific ocean, with special reference to the changes now in progress of development.

157-158. ¹⁵⁹ ~~HISTORY OF AMERICAN DIPLOMACY.~~ Two credits per semester. MEANY. *7WS*

gtr A study of the treaties and foreign policy of the United States. Open to those who have taken a narrative course in American history.

163-164. NORTHWESTERN HISTORY. Two credits per semester. MEANY. *gtr W, SP*

From the earliest voyages to the settlement and organization of the territories.

~~185. THE HISTORY AND LITERATURE OF CHINA. Two credits. First semester. GOWEN.~~

~~190. THE HISTORY AND LITERATURE OF JAPAN. Two credits. Second semester. GOWEN.~~

¹⁹⁶ 195. METHODS OF TEACHING HISTORY. Two credits. *7W* Required of advanced students who expect to teach history. McMAHON.

Text-books, assigned readings, courses of study and methods of presentation will be considered.

GRADUATE COURSES

~~*205-206. HISTORIOGRAPHY. One credit per semester. Open to graduate students and to seniors by permission. BOWMAN. A study of the general history of the writing of history.~~

~~*209-210. METHODS OF HISTORICAL RESEARCH AND CRITICISM. One credit per semester. RICHARDSON.~~

212 ~~213(214)* SEMINAR IN EUROPEAN HISTORY. Two credits per semester. BOWMAN.~~ *gtr*

217-218. SEMINAR IN ENGLISH HISTORY. Two to four credits per semester. Open to graduates and a few seniors by permission. RICHARDSON.

A graduate course which lays more stress upon the constitutional than upon the political side of the subject. The course will deal with topics in the Tudor and Stuart period, and with the antecedents of the Puritan Revolution.

DEPARTMENTS OF INSTRUCTION

7WS 171

221-222. ²²³ SEMINAR IN AMERICAN HISTORY. Two credits per semester. McMAHON. *gln*

This course is primarily for graduates or other advanced students who may be admitted by permission.

227-228. JOINT SEMINAR. Two credits per semester. Open to graduate students and to a limited number of seniors on recommendation of their major professors. MEANY, SMITH, CONDON.

Designed for study and reports upon the problems in the historical, political, and legal developments of the State of Washington and the Pacific Northwest.

227-228-229 - Seminar in State Hist - 2 cr.

HOME ECONOMICS (Home Economics Hall)

7u P. gln
S

PROFESSOR RAITT, ASSISTANT PROFESSORS DENNY AND JUDY,
MISS ELLIOTT, MISS HEVERLO, MISS MARTINDALE.

(For curricula in Home Economics see pages 89-93.)

COURSES

FOR UNDERGRADUATES

7u
W
3-sp
12. GENERAL COURSE. Three credits per semester. (May be taken as a semester or a year course.) No prerequisites. Laboratory deposit, \$3.00. HEVERLO. *gln*

This course is planned for those students who will elect no other work in this department. It will include consideration of the selection, decoration and furnishing of the house. The organization of the household. The principles of food selection and preparation. Elements of nutrition. A study of textiles and clothing. Home care of the sick.

4. FOODS—PRINCIPLES AND PRACTICE OF FOOD PREPARATION. Two credits. Either semester. *gln* Prerequisite or parallel, chemistry 5. Laboratory deposit, \$4.00. MARTINDALE, HEVERLO. *7WS*

Nature and use of food. Changes produced by heat, cold and fermentation upon typical food materials. Practice in fundamental cooking processes.

⁻⁷
5-6. FOODS—SELECTION AND PREPARATION. Three credits per semester. Prerequisite, home economics 4, or two years high *gln* *7WS*

school domestic science. Prerequisite or parallel, chemistry 5-6, zoology 7. Laboratory deposit, \$4.00. MARTINDALE, HEVERLO.

Continuation of course 4. Economic aspect of, selection and preparation of food. Production and manufacture of food, its nutritive value.

~~8~~ ~~7~~ CLOTHING—PRINCIPLES OF HAND AND MACHINE SEWING. Two credits. ~~First semester~~. Laboratory deposit, \$1.00. DENNY, HEVERLO. ~~7. Sp~~

Use and care of machines. Study of materials and design. Principles of construction. Comparison of home-made and commercial clothing. Problem, garment making.

* ~~11~~ NEEDLEWORK. Two credits ~~per semester~~. May be taken as a semester or year course. Prerequisite, 7 and Fine Arts (Painting—Design) 3. DENNY.

Application of art principles to decorative needlework. Revival of needlecrafts and weaving. History of lace. Study of modern lace.

20. LAUNDERING AND DYEING. Two credits. First semester. Prerequisite, chemistry 5-6. Laboratory deposit, \$2.00. HEVERLO.

Principles and processes of laundering and dyeing.

~~25~~ ~~26~~ TEXTILES. ~~Two~~ credits ~~per semester~~. Prerequisite, chemistry 5. Laboratory deposit, \$1.00. DENNY.

Identification of fabrics. Microscopic study of fibers. Physical and chemical tests. Economic phases of textile industry.

27. NON-TEXTILE MERCHANDISE. Four credits per semester.

A study of merchandise from non-textile sources such as leather, rubber, paper and metals. Raw materials, sources of supply, manufacture, methods of judging. A classification of departmental stock.

29. SALESMANSHIP I. Three credits per semester. ———.

Organization of store, productive and non-productive elements of the department store, the departments, the sales check and its function, types of customers, the selling process, care of stock.

32. ~~ECONOMICS OF CLOTHING.~~ Three credits. First semester. Elective. ~~DENNY.~~

The evolution of dress, its economic and psychological importance. Hygienic and artistic consideration of clothing. Comparative study of factory made, modiste and home-made clothing. Clothing budgets for various classes and incomes. Economic and sociological phases of the clothing industry. Three lectures per week.

61-62. ~~CLOTHING—SELECTION AND CONSTRUCTION.~~ ^{7WS} Three credits per semester. ^{7WS} Prerequisite, home economics 7 or two years high school, Fine Arts (Painting—Design) 3. Laboratory deposit, \$1.50. ~~DENNY, JUDY.~~

This course includes instruction in elementary free-hand drafting, the use of the pattern, fitting, simple tailoring, the construction of dresses of wool, silk and fine cotton.

101. GENERAL SURVEY. ~~Two~~ ³ credits. ~~First semester.~~ ^W RAITT.

The social, economic and educational function of the household, traced from primitive ages to modern times. Modern movements that affect the home. The functions and ideals of the home. The home economics movement. Two lectures per week.

103. FOODS—COMPARATIVE STUDIES OF FOOD MATERIALS AND COOKING PROCESSES. ~~Two~~ ³ credits. ~~Either semester.~~ ^W Prerequisite, home economics 5-6. Laboratory deposit, \$4.00. ~~MARTINDALE.~~ ^{Sp}

Consideration of possible variations in fuels, utensils, methods and materials with reference to economy of time and labor and to nutritive value and cost.

106. NUTRITION—ELEMENTARY DIETETICS. ~~Four~~ ³ credits. ~~Second semester.~~ ^W Prerequisite or parallel, chemistry 5-6, zoology 7, home economics 4. Laboratory deposit, \$3.00. RAITT.

Functions and nutritive value of food. The fate of the food stuffs in the body. Dietary standards. Computing of dietaries. Infant feeding. Two lectures and two laboratory periods per week. The course is designed for those students who wish to obtain a practical knowledge of nutrition as part of a liberal education, but who are not preparing to teach the subject.

107. NUTRITION—DIETETICS. ~~Four~~ ⁶ credits. ~~First semester.~~ ^{fall} Prerequisites, home economics 5-6, chemistry 5, chemistry 144, zoology 7. Laboratory deposit, \$3.00. RAITT.

Principles of human nutrition. Application to needs of individuals and groups under varying conditions. Dietary standards. Methods of computing dietaries. Two lectures and two laboratory periods per week.

108. HOME NURSING. ~~Two~~³ credits. ~~First~~^{For W} semester. Prerequisites, home economics 4 and 106 or 107. Laboratory deposit, \$2.00. MARTINDALE.

Emergencies, first aid, and simple procedure in home care of the sick. Planning and serving meals adapted to the needs of the sick and convalescent. One lecture and one laboratory period per week.

109. SPECIAL FOOD PROBLEMS. Three credits. ~~First~~^{7.} semester. Prerequisite, home economics 106 or 107. Laboratory deposit, \$1.00. RAITT.

Marketing, cold storage, dietaries, adulterations, preservatives. A consideration of food habits. Three lectures.

110. NUTRITION. ~~Two~~³ credits. ~~Second~~^{SP} semester. Prerequisite, home economics 107. RAITT.

Study of the development of the science of nutrition. Review of present status. Original sources. Library research. Two lectures per week.

121. LARGE QUANTITY COOKERY. ~~Two~~³ credits the ~~semester~~^{W.}. Two laboratory periods of two hours each. ELLIOTT.

Preparation of food in large quantities for cafeterias, tea rooms, dormitories, hospitals and camps. Laboratory practice.

122. BUYING AND DIETARIES. ~~Two~~³ credits the semester. ~~Two~~^{SP} lectures. ELLIOTT.

Marketing, buying, institution equipment and supplies. Planning menus for dormitories, hospitals, cafeterias and tea rooms.

123. INSTITUTIONAL MANAGEMENT. Three credits the ~~semester~~^{SP}. Three lectures. RAITT.

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.

124. PRACTICE WORK I. Three credits the semester. One lecture and conferences. ELLIOTT.

At least nine hours per week spent in the different departments of the University Commons, under supervision of the instructor in charge.

DEPARTMENTS OF INSTRUCTION

175

125. PRACTICE WORK II. Three credits the semester, conferences, services in food preparation. ELLIOTT.

Eight hours' work of the campus among the following: Tea room, cafeteria, school lunch room, hospital.

130-131. ~~CLOTHING~~. Three credits per semester. Prerequisite, 61, Fine Arts (Painting—Design) 167-168. Laboratory deposit, \$1.00. JUDY.

This course includes designing and draping on the form, extensive practice in dress construction and a study of trade conditions.

~~132. COSTUME DESIGN~~. Two credits. ~~First semester~~. Prerequisite, Fine Arts (Painting—Design) 3. Laboratory deposit, \$1.50. JUDY.

Development of fashion from ancient times to the present with emphasis upon the best art periods. Study of historic textiles. Designing of costumes based upon this historic study and the principles of design and color harmony.

~~134. ADVANCED COSTUME DESIGN~~. Continuation of course 133. Two credits. Second semester. Prerequisite, Fine Arts (Painting—Design) 3, Home Economics 133. Laboratory deposit, \$1.50. JUDY.

This course includes the sketching of costumes, the designing of patterns, the study of the proportion of the human figure, and a study of line, color and fabrics as applied to dress design.

~~130-131. CLOTHING—MILLINERY~~. Two credits. ~~Either semester~~. Prerequisite, 7, Fine Arts (Painting—Design) 3. Laboratory deposit, \$1.00. JUDY.

A course including the making and covering of frames, fitting and trimming of hats and a study of trade methods and materials.

136. SALESMANSHIP II. Three credits the semester. Continuation of course I.

138. STORE PRACTICE I. Three credits.

Students will work in department stores or specialty shops part time, the work being so arranged that it will not interfere with the remainder of their schedule. Reports and discussion of the work.

140. ~~STORE PRACTICE~~ II. Three credits. Continuation of course I.

143. HOME DECORATION. Three credits. ~~Second semester.~~ ^{7, S.} Prerequisite, Fine Arts (Painting—Design) 3. Three laboratory periods per week. Laboratory deposit, \$2.00. DENNY.

Application of structural art principles to choice and arrangement of household furnishings. Color and texture studies. Relative costs.

144. ⁻¹⁴⁵ HOUSEHOLD MANAGEMENT. Three credits. ~~Second semester.~~ ^{W.S.} Prerequisite, home economics 106 or 107 and economics 4. RAITT.

Organization of the household. The budget and its apportionment. Houswifery. Application of the principles of scientific management to the household.

¹⁴⁶ 146. ^{(147, 148) W.S.} TEACHERS' COURSE. Two credits per semester. ^{gts} Prerequisite, 5-6, 107, 61-62, 143, 144. RAITT, DENNY.

Curricula, methods of teaching, and equipment. Organization of courses of study in foods, nutrition, textiles, clothing, and the home. Adaptation to different grades and types of schools. Practice teaching.

FOR GRADUATES

200. SPECIAL FOOD PROBLEMS. Three credits. ~~Second semester.~~ ^W Prerequisite, home economics ~~5-6, 103, 107, 109,~~ chemistry 33 and 113. RAITT.

Investigation of local food products.

202. SEMINAR. ³ Four credits. ~~Either semester.~~ ² Prerequisite, 30 credits in home economics, including 145-146. RAITT.

A study of the present status of home economics education with special attention to the work in the elementary and high schools of the State of Washington.

203. RESEARCH. ³ Credits ~~to be arranged.~~ ^{SP.} ~~Either semester.~~ MARTINDALE.

Investigations of recent discoveries in the biological or physical sciences of immediate value to the housewife and consideration of methods for their utilization.

HYGIENE

(See Physical Education)

ITALIAN

(See French)

JOURNALISM

(Commerce Hall)

PROFESSOR DYMENT, ASSISTANT PROFESSORS WHITE,* KENNEDY,
TROXELL, GOSS, DEAN JOHN T. CONDON, OF THE SCHOOL
OF LAW, AND DR. LESTER.

For admission to the department of journalism, students must hereafter present not fewer than 60 hours of college credit from the University of Washington, or from some other college or university of accredited standing, plus credit for physical education or military training. The 60 hours must be approved by the department before entrance will be granted.

The requirements in certain subjects demanded of all candidates for the degree of bachelor of arts in the University of Washington should all have been completed before journalism is begun. Journalism studies will thus not begin until the third year, after which the work for a major will be mostly journalism.

For graduation from the department of journalism 128 credits are required, plus eight credits in physical education or military science. Of these 136 credits, 40 must be in journalism.

Students who have not completed the 60 hours prerequisite work may under certain circumstances be admitted to journalism courses as special or unclassified students.

The final two years of work, in combination with many prescribed courses in other departments of the Colleges of Liberal Arts and Science, are intended to equip the student for practical journalism:

1. By giving him training on (a) the editorial side of publishing, with its several occupations; on (b) the business and administrative side; in (c) the mechanics of publishing.

2. By developing the broader scholarship that is almost indispensable in modern journalism in addition to mere technical knowledge.

* Resigned, February 1, 1917.

3. By building up character for journalism.

The journalism curriculum follows to a great extent the demands of a newspaper office. Certain courses are required of all majors because a knowledge of them is desirable in all branches of journalism; other courses may be elected as the student desires to specialize. Thus, a student who purposes entering daily newspaper work, beginning as a reporter, will take principally the editorial route through the department. The student who wants to enter a newspaper business office, or advertising specialty work, will take principally the advertising and business administration route. The student who contemplates country weekly employment or country ownership will take a combination of courses, with emphasis on the business and mechanical sides.

Students who contemplate any phase of newspaper or magazine work, or commercial advertising, commonly major in journalism. Journalism majors may take all the journalism courses if they wish, but not more than 40 credits in such courses will be counted toward the A. B. degree. The major may not present fewer than 40 credits of journalism for a degree, however. After this minimum requirement of the department has been met, journalism courses may be taken without credit.

Students in editorial courses compete for places on the staff of the University of Washington Daily, which is printed in the department but is under student control. They utilize for practice in copyreading, headwriting, and rewriting, and for general editorial discussion, the full daily telegraph report of the United Press Association, and a specimen report that is provided once weekly by the Associated Press. Juniors and seniors get opportunities to cover live assignments on city papers. The leading dailies and weeklies of Washington maintain University correspondents, most of whom are chosen from the department of journalism; and a volunteer corps of journalism students covers the news of the University for other state and northwest papers that are unable to maintain regular representatives. Much other work of reportorial nature is carried on through newswriting assignments to classes. The ability to gather news accurately and to write it well is one of the three R's of journalism, and at least reasonable proficiency is demanded of every journalism major. In all, 34 hours are at present offered in courses pertaining to the editorial side, including short story.

Students who take the business and administration route, in preparation for employment or for ownership, are offered, in addition to required work on the editorial and mechanics side, 26 hours of specialized courses: 14 in advertising, six in newspaper administration and six in business administration.

The following four courses in the department of journalism are open to any student in any department of the University as elective courses: Journalism 107-108, 157-158, 161-162 and 167-168.

Upon written request from the head of the department, students who are not journalism majors and who appear qualified may be admitted to other single courses for special uses.

COURSES

¹⁰³ 101-102. ELEMENTS OF JOURNALISM. Three credits per semester. ^{7ws, gtr} Laboratory deposit, \$2.00. DYMENT.

A course in practical reporting in all its phases, with assignments and readings; survey of newspaper field.

^{105, 106} ³ 103-104. MECHANICS OF PUBLISHING. ^{gtr} One credit per semester. ^{7ws} One lecture and two laboratory hours a week. Laboratory deposit, \$2.00. KENNEDY.

Head styles as they reflect the news value; head construction as it affects the sale of the paper; head harmony as it affects both; practice in the journalism laboratory; proofreading; application of paper, presswork, bindings, engravings; problems that deal with the productive side of printing and publishing; study of modern appliances in printing and publishing; history of printing, with thesis.

^{general} ^{7all} 107-108. PRINCIPLES OF ADVERTISING. Three credits per semester. ^{Reasonable} Laboratory deposit, \$2.00. TRAXELL.

Definition; place of advertising in merchandising; the merchandising factors that determine the advertising possibilities of a product and the effectiveness of an advertising campaign; analysis of the product, the market, the mediums for reaching the market; planning the campaign; the psychological factors; preparation of newspaper copy. The course is designed especially for the newspaper man planning to publish a paper of his own or to work in the smaller towns.

108 - Adv. Small. Paris - 3 cr. W. - Russell
109 - " Large " - 3 cr. S. - "

~~107-108.~~ ¹¹⁰⁻¹¹¹⁻¹¹² CURRENT EVENTS. One credit per semester. No laboratory deposit. DYMENT. *gtr*

A study of the principal news happenings, state, domestic, and foreign: a general information course on world movements. Newspaper, periodical, magazine, and occasionally recent book readings. Open to any sophomore, junior or senior.

FOURTH YEAR COURSES

¹⁵³
~~151-152.~~ EDITING AND ADVANCED NEWSWRITING. Three credits per semester. Laboratory deposit, \$2.00. DYMENT. *gtr*

A course in copyreading, headwriting, and other desk work, with a study of types of newswriting and practice in getting and writing stories involving difficulties.

¹⁵⁶ ¹⁵⁵ ³
~~153-154.~~ FEATURE WRITING, EXCHANGES, SYNDICATES. Two credits per semester. Laboratory deposit, \$2.00. Goss. *gtr*

Study of the writing, illustrating, and arranging of advanced feature stories, with special reference to Sunday sections; study of contemporary newspapers; handling of exchanges; syndicated stories. Writing assignments; research among newspapers; readings. *W F S*

¹⁵⁸ ¹⁵⁷ ¹⁵⁹ ³
~~155-156.~~ EDITORIAL, HISTORY, POLICY, JURISPRUDENCE. Four credits per semester. Laboratory deposit, \$2.00. Goss, CONDON. *gtr*

FW S A course that covers the allied fields of editorial writing (with practice); the history of journalism with especial reference to newspapers that have been made or unmade by their editorial policies; a general study of newspaper policy, with emphasis on the ethics of journalism, and the history of newspaper ethics; newspaper campaigns; a study of current tendencies through the editorial page; newspaper law and libel with copyright, postal, advertising, circulation, and other state and federal statutes.

¹⁶⁰⁻¹⁶¹⁻¹⁶²
~~157-158.~~ SHORT STORY. Three credits per semester. No laboratory deposit. Open to all students above sophomore rank. DYMENT. *gtr*

¹⁶³⁻¹⁶⁴⁻¹⁶⁵ ^{office} ³
~~159-160.~~ BUSINESS ADMINISTRATION. Two credits per semester. Two lectures and one laboratory hour a week. Laboratory deposit, \$2.00. KENNEDY. *gtr*

Costfinding, estimating. Simplified accounting. Office management. Buying and selling. Efficiency. This course is intend-

ed primarily for students who contemplate entering the newspaper field with the view to becoming ultimately owners or managers. Open also to students in commerce who have had prerequisite training.

161-162. GENERAL ADVERTISING. Two credits per semester. No laboratory deposit. Open to all students above freshman rank. TROXELL.

An informational course for the student who expects to be a buyer and user of advertising rather than a producer or space seller. It includes the study of elementary merchandising, the place of advertising in merchandising, the organization and work of the advertising department, the advertising agent, and the service departments of newspapers and magazines, the kinds of advertising, the use and value of each kind, and enough practice in the preparation of copy to enable the student to discriminate between good and bad advertising.

166-167-168
~~163-164.~~ ADVANCED ADVERTISING. Two credits per semester. Laboratory deposit, \$2.00. TROXELL. *gtr*
7 W S

This is a course in copy preparation. The student prepares campaigns, makes lay-outs and "dummies," and writes copy for magazine, newspaper, class paper, trade and technical magazine advertisements, car cards, bill boards, cards, folders, circulars, booklets and letters. The work parallels the plan and production departments of an agency insofar as it is possible and practical.

169-170-171
~~165-166.~~ NEWSPAPER ADMINISTRATION. Three credits per semester. Laboratory deposit, \$2.00. TROXELL. *gtr*
7 W S

A study of the organization and management of the newspaper. The student is first acquainted with the various kinds of business organization and the various systems of management, the advantages and the disadvantages of each kind and system, methods used to determine the opportunities in any given field, business policy, barometers for forecasting business conditions. The organization and management of each department of a newspaper is then studied. Special emphasis is given to circulation and circulation methods, and to the advertising and service or promotion departments.

172 - aduer, S. N. P. - (W) - 2 - Russell
173 - aduer, City P - SP - 2 - Russell

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UNIVERSITY OF WASHINGTON

~~167-168. NEWSPAPER PHOTOGRAPHY. Two credits. Second semester. Laboratory deposit, \$2.50. LESTER.~~

~~The course aims to give a familiarity with the construction and use of cameras, with the technique of picture-taking for still and moving objects, and with methods of developing and printing. Some attention will be given to the making of halftones, three color work, and newspaper reproduction. Class limit, 16.~~

LATIN

(Denny Hall)

PROFESSOR THOMSON, ASSOCIATE PROFESSOR SIDEY, ASSISTANT
PROFESSOR CLARK.

REQUIREMENTS FOR A MAJOR

1. Four years of preparatory Latin.
2. One year of Greek. Students are strongly urged to present at least two.
3. Courses 3, 4, 5, 6, 106, 107-108 and others to the amount of at least four credits.

For the normal diploma, with Latin as a major, courses 3, 4, 5, 6, 103-104, 106, 107-108 must be taken.

The requirement of one year's work in ancient language and literature may be satisfied by:

(a) Any two of the following:

Greek literature (Gr. 6),

Greek civilization (Gr. 5),

Roman literature (Lat. 13),

Roman civilization (Lat. 11); or

(b) Latin 1, 2, or 3, 4; or

(c) Greek 1, 2, or 3, 4; or

(d) Oriental literature—Persian and Indian.

COURSES

⁻²⁻³
1. INTERMEDIATE READING. Three credits. ^{3 WS} First semester. Open to students who have had two (or three) years of high school Latin. CLARK.

Rapid review of forms and syntax; reading of a considerable amount of simple Latin prose. This course is intended, (1) to meet the needs of students who wish a reading knowledge of easy Latin as an aid to work in other subjects, e. g., history; (2) to

give such a knowledge of forms and vocabulary as shall prove serviceable to students of English and the modern foreign languages, particularly French and Spanish.

~~2. A continuation of 1. Three credits. Second semester.~~

CLARK.

These two courses together will satisfy the requirement of one year's work in ancient language and literature.

4 - 3. CICERO, De Amicitia. SALLUST, Jugurtha. ⁵ Four credits. First-semester. CLARK. *Fall*

5 - 4. CATULLUS, OVID. ^W Four credits. ~~Second semester.~~ CLARK. *3*

6 - 5. HORACE, TIBULLUS. Three credits. First-semester. Prerequisite, 3, 4. SIDEY. *3- 7*

7 - 6. LIVY. Three credits. ~~Second semester.~~ Prerequisite, 3, 4. SIDEY. *5*

8 - Roman Comedy ^W 3 - Sp. - Thompson, *qth*
OPEN TO ALL STUDENTS

11. ROMAN CIVILIZATION. ~~Three credits. Either semester.~~ CLARK. *3- 7 W S*

This course is designed to give a clear notion of the part played in history by the Romans and to set forth their contributions to civilization in general. A general survey of Roman history will serve as a basis for the discussion of the religious, political and legal systems of the Romans, their literature and art, and their family life. Lectures (illustrated, when possible, by slides) and collateral reading.

13. HISTORY OF ROMAN LITERATURE. ~~Three credits. Either semester.~~ THOMSON, SIDEY. *qth*

Fowler's Latin Literature, supplemented by lectures and collateral reading. Illustrative selections from English versions of the more important authors. *7 W S*

16. ROMAN HISTORY. See History 18.

17-18. ROMAN LAW. Four credits per semester. (Law Latin and selections from Roman Law.) Primarily for prospective law students. Prerequisite, two years of preparatory Latin. THOMSON. *101 - Seneca - 2 cr. Fall - Sidey*

102 - Tac, Annals - 2 cr. W. - "

27. ROMAN ART. Two credits. Second semester. To follow Greek 9. SIDEY.

A study of the more important remains of Roman architecture and sculpture, together with lectures on Pompeii, Roman numismatics and the minor arts. This course is intended especially for students in fine arts.

108-109-110

107-108. LATIN PROSE COMPOSITION. Two credits per semester. Required of Latin majors and those who intend to teach Latin. Prerequisite, four years of preparatory Latin. CLARK.

JUNIORS, SENIORS, GRADUATES

101. ROMAN DRAMA. Two credits. First semester. Prerequisite, 5, 6. THOMSON.

102. ROMAN DRAMA (continued). Two credits. Second semester. Prerequisite, 5, 6. THOMSON.

* 103. ROMAN ANTIQUITIES. Two credits. Second semester. For classical majors. SIDEY.

TEACHERS' COURSE

104-105-106
103-4. TEACHERS' COURSE. Three credits per semester. Prerequisite or concurrent, 5-6. SIDEY.

Selected portions of Caesar, Bell. Gall. V-VII and Bell. Civile; Cicero's Orations and Letters; Vergil, Bucolics and Georgics; Ancient Lives of Vergil. Review of the Caesar, Cicero and Vergil usually read in high schools. Methods of teaching Latin and discussion of the problems likely to arise in the classroom. Teaching by members of the class, under the supervision of the instructor. Visits to schools where Latin is taught and reports on the teaching observed.

FOR GRADUATES

* 103
201. LUCRETIIUS, Books I and III. CICERO, De Finibus I and II. Two credits. First semester. THOMSON. 5 p.

202. VERGIL, Georgics and Aeneid VII-XII. Two credits. Second semester. THOMSON.

203. MEDIEVAL LATIN. Einhard's Life of Charlemagne, Bede's History of England. Two credits. First semester. SIDEY.

DEPARTMENTS OF INSTRUCTION

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~~204. TACITUS, Histories I, II. Two credits. Second semester. SIDEX.~~

205. LATIN OF THE EMPIRE. Gudeman's Selections. ~~Two credits. First semester.~~ THOMSON. 3

~~206. TACITUS, Dialogus. QUINTILIAN, Book I. Two credits. Second semester. THOMSON.~~

LAW

(Law Building)

(No Law School credit is given for these courses.)

53-54. BUSINESS LAW. Three credits per semester. Bay's cases on commercial law. AYER.

104. NEWSPAPER JURISPRUDENCE. Two credits. Second semester. Prerequisite, journalism 101-102, 103-104, 151-152, or journalism 101-102, 103-104-105-106. CONDON.

180. ENGINEERING CONTRACTS. Two credits. Second semester. Senior and graduate C.E. AYER.

LIBRARY ECONOMY

(The Library)

PROFESSOR HENRY, ASSOCIATE PROFESSOR SMITH, MISS HUBBARD,
MISS ASHLEY, MISS ANDRUS.

(For curriculum in Library Economy see pages 113-116.)

MATHEMATICS

(Science Hall)

PROFESSOR MORITZ, ASSOCIATE PROFESSOR MORRISON,* ASSISTANT PROFESSORS GAVETT, CARPENTER AND NEIKIRK, DRS. BELL,
SMALL, WEAR AND KUSCHKE.

REQUIREMENTS OF THE DEPARTMENT

For a major in mathematics, 24 credits, including 15-16 (or 18), 34, and one of the courses 111-112 to 121-122, inclusive.

Candidates for the normal diploma must complete 124 in addition to the courses required for a major in mathematics.

* Absent on leave, 1916-17.

The mathematics requirement for students offering $2\frac{1}{2}$ units of mathematics for entrance may be satisfied by any of the following courses, 11-12, 13, 15-16, 18, 19-20, 21-22, 28; students offering 2 units of mathematics for entrance may satisfy the mathematics requirement by any one of the courses 7-8, 9, 19-20, 21-22, provided, however, that the combined number of credits which any one student may earn in all of the above courses may not exceed eight. The department reserves the right to withdraw any of the above courses should there be an inadequate number of registrations.

COURSES FOR UNDERGRADUATES

FOR STUDENTS IN LIBERAL ARTS, SCIENCE, PHARMACY, EDUCATION

1 - Adv. Alg. AND LAW. 3 cr. 7WS - Ruschke
 12. SOLID GEOMETRY. *Two credits per semester. Prerequisite, plane geometry. 5 7WS - Small*

4. SOLID GEOMETRY. Three credits. Second semester. Prerequisite, plane geometry.

7-8. ALGEBRA AND TRIGONOMETRY I. Two credits per semester. Prerequisite, one year of plane geometry, one year of elementary algebra.

This is a combination course of algebra and trigonometry to satisfy the mathematics requirement for students who offer two units of mathematics for entrance. Students who offer two and one-half units of mathematics for entrance should register for courses 11-12, or 13.

9. ALGEBRA AND TRIGONOMETRY I. Four credits. First semester. Same as 7-8.

10. ALGEBRA AND TRIGONOMETRY II. Four credits. Second semester. Prerequisite, 7-8, or 9.

For students who, having completed 7-8 or 9, wish to continue their work in mathematics. The completion of this course admits students to 31.

11-12. PLANE TRIGONOMETRY. Two credits per semester. Prerequisites, one year plane geometry, one and one-half years elementary algebra.

This course offers on the one hand a review of many of the essential principles and methods of arithmetic, algebra and geom-

etry, and on the other introduces the student to a variety of new concepts and processes which are indispensable to a scientific study of a large number of arts and sciences, such as surveying, engineering, navigation, architecture, physics, astronomy and all the higher branches of mathematics.

~~13. PLANE TRIGONOMETRY. Four credits. Either semester.~~
 Same as 11-12. *5 7 W S*
Beal, Nettie, Carpenter

~~14-16. COLLEGE ALGEBRA. Two credits per semester. Pre-~~
 requisite, same as 11-12. *5 7 W S*
Beal, Smith

Designed either for those who wish to continue their mathematical work, or for those who wish a more complete view of elementary algebra. A continuation of high school algebra; including mathematical induction, permutations, combinations, and the elements of probabilities, infinite series, determinants, indeterminate coefficients and elements of the theory of equations.

~~18. COLLEGE ALGEBRA. Four credits. Second semester. Same~~
 as 15-16.

~~19-20. COLLEGE MATHEMATICS. Three credits per semester.~~
 Prerequisites, same as 7-8.

This course is designed for students who wish to become acquainted with the concepts, methods and purposes of modern mathematics through the calculus, but are unable to devote to it the time necessary to master the technique of this vast science. The last three weeks of the course are given to lectures on nineteenth century problems, such as the squaring of the circle, higher dimensions, the fourth dimension, non-euclidean geometrics, systems of postulates.

~~21-22. MATHEMATICAL THEORY OF INVESTMENT. Four credits~~
 per semester. Prerequisites, same as 7-8. Primarily for stu-
 dents in commerce. *5*
Garrett, Smith, W. S.

The first semester is devoted to a study of preliminary processes of algebra, including progressions, limits, series, logarithms and graphs. The main part of the course deals with the application of this preliminary work to problems of compound interest, annuities, amortization, bonds, sinking funds, depreciation, and building and loan associations. Some of the simpler problems in life insurance are studied.

12 - (Answer) - W. S. - Garrett, Smith
3 cr.

28. ELEMENTS OF STATISTICAL METHODS. Four credits. Second semester. Prerequisites, same as 7-8. *Gavett*

A study is made of data obtained by observation, enumeration or estimate, and their application to interpreting social or natural phenomena. The course deals with the methods of gathering material, analysis of the material collected, and comparison of variables; tabulation, diagrams, dispersion, skewness and correlation; calculating devices, use of logarithms and tables. The course will be valuable to students of economics, sociology and biology or any other subject requiring the scientific handling of data.

29. ANALYTICAL GEOMETRY. Three credits. First semester. Two sections. Prerequisite, 11-12 or 10. *7.5, Bell*

A thorough study of the elements.

32. ~~DIFFERENTIAL AND INTEGRAL CALCULUS~~. Three credits. Second semester. Two sections. Prerequisite, 31. *W. C. Carpenter*
This is only a half course and should be followed by 33.

33. ~~DIFFERENTIAL AND INTEGRAL CALCULUS~~. Three credits. First semester. Continuation of 32. *MORITZ, Fall & Sp.*

34. ~~DIFFERENTIAL AND INTEGRAL CALCULUS~~. Three credits. Second semester. Continuation of 33. *MORITZ, W. Bell*

101-102. SPHERICAL TRIGONOMETRY AND SOLID ANALYTICAL GEOMETRY. Two credits. The year. Prerequisite, Math. 1-2, 31 and 32. *WEAR, 7 WS*

About two months of the time will be devoted to trigonometry and the remainder of the year to geometry.

FOR STUDENTS IN THE COLLEGES OF ENGINEERING, MINES, FORESTRY AND FINE ARTS (ARCH).

1-2. SOLID GEOMETRY. Two credits per semester. Prerequisite, plane geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

4. SOLID GEOMETRY. Three credits. Second semester. Same as 1-2.

51. TRIGONOMETRY AND ALGEBRA. Four credits. First semester. Laboratory deposit, \$1.00. Prerequisite, same as 11-12. *3, 7 WS*

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of plane trigonometry and supplementary work in algebra equivalent to one hour per week.

DEPARTMENTS OF INSTRUCTION

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5'3

3.-7, SP.

~~52. ANALYTICAL GEOMETRY AND ALGEBRA. Four credits.~~

~~Either semester. Laboratory deposit, \$1.00. Prerequisite, 51.~~

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of analytical geometry and supplemental work in algebra equivalent to one hour per week.

~~55-56. FORESTER'S COURSE. Four credits per semester. Prerequisite, same as 11-12. GAVETT.~~

A year's course in numerical and graphic methods, solution of plane triangles, the elements of coordinate geometry, and derivatives and integrals with applications to problems involving maxima and minima, rectifications, quadratures and cubatures.

~~57-58. ARCHITECTS' COURSE. Four credits per semester. Prerequisite, one year plane geometry, one and one-half years elementary algebra. Wear Gavett.~~

A year's course in plane trigonometry, solid and projective geometry, spherical trigonometry and elementary analytical geometry.

61. CALCULUS FOR ENGINEERS. Four credits. Either semester. Prerequisite, 52. Wear, Kuschke, Neikirk.

62. CALCULUS FOR ENGINEERS. Four credits. Either semester. Continuation of 61. Wear, Kuschke, Neikirk.

~~151. APPLICATIONS OF THE CALCULUS FOR ENGINEERS. Two credits. Either semester. Prerequisite, 62.~~

63, Calc. 3 cr - W.S., Kuschke

FOR UPPERCLASSMEN AND GRADUATES

~~111-112. APPLICATIONS OF MATHEMATICS TO PHYSICS AND CHEMISTRY. Two credits per semester. Prerequisite, 34 or 62.~~

KUSCHKE.

~~113-114. ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS. Two credits per semester. Prerequisite, 34 or 62. NEIKIRK.~~

Introductory course. Solutions of the equations of the first and second order. Determination of constants of integration from initial conditions. Application to physics, chemistry, astronomy, and engineering.

~~115-116. VECTOR ANALYSIS. Four credits per semester.~~

117-118. PROJECTIVE GEOMETRY. Two credits per semester.

Prerequisite, two years of college mathematics. CARPENTER.

~~119-120. NON-EUCLIDEAN GEOMETRY. Two credits per semester. Prerequisite, two years of college mathematics. GAVETT.~~

* Not offered in 1917-18.

57- Military Math - 5 cr. SP. Small

This course will include a study of the geometries built on the three hypotheses that may be made if Euclid's "axiom of parallels" is omitted. The possibility of geometries built on other sets of axioms will be considered and discussed. The history of the subject will be reviewed. The building up of a Four-Dimensional Geometry from actual axioms and definitions will receive considerable study. The course should be of value in broadening the student's conception of a consistent geometry and thus clarify the processes and methods of the ordinary Euclidean Geometry.

~~121-122. THEORY OF FUNCTIONS OF A REAL VARIABLE. Two credits per semester. Prerequisite, 34 or 62. SMALL. 745~~

Rational and irrational numbers, the general function concept, continuity, integrability, and differentiability of functions, discontinuous functions, infinite series and products, series of functions, uniform convergence, multiple series, definite integrals, curvilinear integrals.

~~124. 127. TEACHER'S COURSE. Four credits. Second semester. Prerequisite, 34. Required of those who make mathematics their major study and who are applicants for the teacher's certificate. BELL.~~

FOR GRADUATES

~~201-202. 203. ELLIPTIC AND THETA FUNCTIONS WITH APPLICATIONS. Two to four credits. Two lectures per week and seminar. Prerequisite, one year of graduate work. BELL. 745~~

The theory will be developed in the lectures and amplified in the seminar by a study of the classical memoirs in the subject. The seminar will aim to develop the applications of the theory to research in the theory of numbers. Credit for seminar to be determined in each case.

~~203-204. DIFFERENTIAL GEOMETRY. Three credits per semester. Prerequisite, 34 or 64.~~

~~205. THEORY OF EQUATIONS. Three credits. First semester. Prerequisite, 34 or 64. MORITZ.~~

~~204 206. MODERN ALGEBRA. Three credits. Second semester. Prerequisite, 205. MORITZ.~~

~~*207-208. INFINITE SERIES. Three credits per semester. Prerequisite, 15-16, and 34. MORITZ.~~

~~Convergence of infinite series and infinite products. The binomial, exponential, logarithmic, and trigonometric series for~~

~~complex values of the variable. Summation and transformation of series. Power series, hyper-geometric series and Fourier series.~~

207, 208, 209

~~200-210. ALGEBRAIC INVARIANTS AND COVARIANTS. Two credits per semester. Prerequisite, 34. WEAR. FWS~~

~~*211-212. FOUNDATIONS OF MATHEMATICS. Two credits per semester. Prerequisite, 34. WEAR.~~

~~*213-214. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. Two credits per semester. Prerequisite, 33 and 34. SMALL.~~

~~251-252. MATHEMATICAL JOURNAL AND RESEARCH CLUB. Meets on the second Tuesday of each month in Science Hall, room 2, at 8 p. m. The club consists of advanced students and teachers in the department of mathematics. The purpose of the club is primarily to discuss the research work carried on by members of the club, and secondarily to review important recent mathematical literature.~~

MILITARY SCIENCE AND TACTICS

(The Armory)

WILLIAM T. PATTEN, CAPTAIN U. S. A., RETIRED, COMMANDANT; WILLIAM D. FRAZER, FIRST LIEUTENANT, COAST ARTILLERY CORPS, U. S. A.; MICHAEL J. OASHION, FIRST SERGEANT, U. S. A., RETIRED; LEE BARKER, SERGEANT, INFANTRY, U. S. A.; JOHN C. BRANTH, SERGEANT, COAST ARTILLERY CORPS, U. S. A.

In accordance with the National Defense Act, June 3, 1916, the War Department has established and maintains at this University an Infantry unit of the Senior Division of the Reserve Officers' Training Corps. Provision has also been made for the probable establishment in the near future of Coast Artillery and Engineer units. The primary object of these units is to qualify, by systematic and standard methods of training, students for reserve commissioned officers in the military forces of the United States.

The system of instruction prescribed presents to the student a standardized measure of that military training which is necessary in order to prepare him to perform intelligently the duties of a commissioned officer, and it enables him to be thus

trained with the least practicable interference with his civil career.

All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take two years' work in military training, which by regulation of the University is required during the first and second years. During this time three hours a week are devoted to military training, for which two credits are given each semester.

Students desiring to continue in the Reserve Officers' Training Corps during their junior and senior years are required to take five hours a week of military training and to attend two student training camps during two summer vacations; one prior to, and one subsequent to graduation. During service in the Reserve Officers' Training Corps in their junior and senior years, students are paid by the Federal Government, and the successful completion of this course entitles a graduate to commission as a temporary second lieutenant in the Regular Army, and to a commission in the Officers' Reserve Corps.

Under regulations prescribed by the Secretary of War, members of the Reserve Officers' Training Corps are furnished uniforms, arms and equipment without cost to themselves.

COURSE OF TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION OF THE RESERVE OFFICERS' TRAINING CORPS

FRESHMAN YEAR

FIRST SEMESTER

Practical:

Physical drill.
Infantry drill to include school of the company, close and extended order.
Nomenclature and care of the rifle and equipment.
Preliminary instruction in sighting, position and aiming drills, gallery practice.

Theoretical:

Theory of target practice, individual and collective.
Military organization.
Map reading.
Service of security.
Personal hygiene.

SECOND SEMESTER

Practical:

Physical drill.
Infantry drill to include fire control and direction, ceremonies, manuals.
Bayonet combat.
Intrenchments.
First aid instructions.
Range and gallery practice.

Theoretical:

Lectures on
Military policy.
Service of information.
Combat.
Infantry drill regulations.
Camp sanitation.

SOPHOMORE YEAR

THIRD SEMESTER

- Practical:**
Same as second semester (practical), and combat and collective firing.
- Theoretical:**
Infantry drill regulations, to include school of battalion and combat.
Small-arms firing regulations.
Lectures—Same as second semester (theoretical), also
Map reading.
Camp sanitation and camping expedients.

FOURTH SEMESTER.

- Practical:**
Same as second semester (practical), and signaling. Sand Table work.
- Theoretical:**
Lectures on
Military history.
Service of information and security.
Marches and camps.

JUNIOR YEAR

FIFTH SEMESTER

- Practical:**
Duties of cadet officers and non-commissioned officers.
Military sketching.
- Theoretical:**
Minor tactics.
Map maneuvers.
Company administration.
Military history.

SIXTH SEMESTER

- Practical:**
Same as practical, fifth semester.
Advanced military sketching.
- Theoretical:**
International law.
Property accountability.

SENIOR YEAR

SEVENTH SEMESTER

- Practical:**
Same as practical, fifth semester.
- Theoretical:**
Minor tactics.
Manual of Courts-martial.
International relations.
International law.
Lectures on
Psychology of war.
General principles of strategy.

EIGHTH SEMESTER

- Practical:**
Same as practical, fifth semester.
- Theoretical:**
Tactical problems.
Map maneuvers.
Lectures on
Military history.
Military policy.

It is presumed that each member of the Reserve Officers' Training Corps during his academic course has taken one course or equivalent credit in either French, German or Spanish.

ORIENTAL HISTORY, LITERATURE AND LANGUAGES

(Denny Hall)

PROFESSOR GOWEN, ASSISTANT PROFESSOR SKINNER, MISS SIMEON.

The requirement of one year's work in ancient languages and literature may be satisfied by courses 101 and 102. Courses 1 and 2 count for credits in the department of history, and 3-4 in the department of philosophy. Courses 103-104 and 105-106 are for juniors, seniors and graduates.

COURSES

7 1. THE HISTORY AND LITERATURE OF CHINA. ~~Two credits.~~
~~First semester. The same as History 105.~~ *Given, 3*

W 2. THE HISTORY AND LITERATURE OF JAPAN. ~~Two credits.~~
~~Second semester. The same as History 106.~~ *Given*

34 3. HISTORY OF RELIGION. ~~Two credits per semester.~~ *3 Fall*
 First semester, primitive religious ideas, ghost worship, nature worship, divination, the religions of the Euphrates Valley, China, Japan, India, and Persia. Second semester, Judaism, Mohammedanism, and Christianity. *Given*

102 4. THE LITERATURE OF INDIA. ~~Three credits.~~ *F & W.*
~~First semester.~~ *3*

102 5. THE LITERATURE OF PERSIA. ~~Three credits.~~ *Spring*
~~Second semester.~~ *5*

105 6. SANSKRIT. ~~Four credits per semester.~~ *2 cr. F & W.*
~~Hours to be arranged.~~

105 106. ~~SEMITIC LANGUAGES.~~ ~~Four credits per semester.~~ *Hebrew 2 cr. F & W.*
~~Hours to be arranged.~~ *2 F & W*

Section 1. HEBREW (for beginners).

Section 2. HEBREW (advanced) or ARABIC.

7WS 107. ~~THE LITERATURE OF THE HEBREW PEOPLE.~~ *Semitic Literature*
~~First semester.~~ *One credit.*

The formation of the Old Testament canon, summary of Hebrew history, the Torah, the prophetic order and literature, the poetry of Israel, the Wisdom books, post-exilic reorganization, apocryphal and apocalyptic books.

CHINESE

109-110. ~~THE CHINESE LANGUAGE.~~ *Chinese*
 (KUAN-HUA, official or Pekinese dialect.) ~~Two credits per semester.~~ *Hours to be arranged. SKINNER.*

Reading of Chinese texts, analysis and writing of characters, composition and oral work. *Advanced F & W*

111-112. ~~THE CHINESE LANGUAGE.~~
~~Two credits per semester.~~
 Hours to be arranged. Continuation of 109-110. SKINNER.

7.5
- W

~~RUSSIAN~~

1-2. **ELEMENTARY.** ~~Four credits per semester.~~ Elements of grammar, pronunciation and reading. SIMEON.

Bondar's Simplified Russian Method is the text-book used.

A section of this course is offered in the evening, for the benefit of business men and women. The four regular recitations may, if the majority of the class desire it, be reduced to two or three, and the time of recitations correspondingly lengthened.

3-4. ~~Reading and Grammar.~~ *adv. Russian*

~~Three credits per semester.~~ SIMEON. **3-**

Continuation of course 2. Open only to those who have had 2, or an equivalent. Reading, grammar, composition and conversation.

An evening section in this course will be offered, if there is sufficient demand for it.

PHYSICAL EDUCATION AND HYGIENE

(The Gymnasium)

DR. HALL, DIRECTOR FOR MEN, MISS MERRICK, DIRECTOR FOR WOMEN,
MISS RAITT, MISS HARRINGTON, MISS PRAY, MR. CONIBEAR,
MRS. BLOOM, MR. SKARTVEDT.

REQUIREMENTS FOR GRADUATION

Men: All men are required to participate in some form of healthful exercise during their college course.

Freshmen: One hour a week courses 1 and 2.

Sophomores: One hour a week courses 51 and 52.

Juniors: Two hours a week courses 115 and 116.

Seniors: Two hours a week courses 155 and 156.

Women: All women are required to participate in some form of healthful exercise during the first two years of their college course.

Freshmen: Three hours a week, one hour hygiene, two hours practice courses 1 and 2.

Sophomores: Three hours a week, one hour food and nutrition, two hours practice, courses 51 and 52.

The requirements in physical education for all able-bodied men are satisfied by an equal number of credits in the department of military science and tactics.

REQUIREMENTS FOR A MAJOR

The completion of twenty-four hours, exclusive of courses 1-2, 51-52.

Courses 1-2 and 51-52 are prerequisite for all advanced courses except 103.

Zoology 3-4 and 5-6 are prerequisite for courses 151-152, 153 and 154 and should be completed during the first two years.

Students wishing to major in physical education should begin the work in their freshman year. It is quite difficult to begin later on account of the prerequisite courses in the first two years.

I. HYGIENE

All freshmen are required to complete a given amount of hygiene during their freshman year. This is carried out as a part of physical education and military science and tactics.

1, 2, 3 *gymnastics*
MEN

7005

~~1. HYGIENE. First semester. Director HALL.~~

+ 2 each

WOMEN

2. HYGIENE. First semester. Director HALL.

1. HYGIENE. Second semester. Director HALL.

II. PHYSICAL EDUCATION

Courses 1 and 51 for men are divided into two periods by the Thanksgiving recess. During the first period the work is carried on out-of-doors and consists of gymnastic games and athletic sports. The second period is devoted to in-door training.

Courses 2 and 52 are similarly divided by March 15th. The second period is devoted to out-of-door work.

After a physical examination given to each student entering college, the gymnasium work is assigned to meet the needs of the individual. There are special corrective classes for those who are not able to do the general work.

Upon approval by the director training on athletic teams may be substituted by a limited number, for required courses.

Courses 1 to 54, inclusive, must be taken during the freshman and sophomore years unless deferred by the director and dean.

To be eligible to compete in the various athletic contests all men students must pass a satisfactory physical examination and have practiced at least thirty days.

A uniform suit for women is required for which the fee of \$7.50 is to be paid upon registration. It consists of: 2 white middle blouses, \$3.00; black serge bloomers, \$3.00; black gymnasium shoes, \$1.50. Do not purchase any part of suit before entering college.

COURSES

1-2. CALISTHENICS AND ATHLETICS. One credit per semester. Introductory course for first year men. HALL, SKARTVEDT.

3-4. GYMNASTICS. Two credits per semester. Introductory course for first year women. MERRICK, PRAY, BLOOM.

51-52. GYMNASTICS AND ATHLETICS. One credit per semester. For second year men. HALL, SKARTVEDT.

53-54. GYMNASTICS, ATHLETICS, DANCING. Two credits per semester. For second year women. Registration according to physical fitness. MERRICK, PRAY, BLOOM.

101, 102. ¹⁰³ METHODS AND PRACTICE TEACHING. ^{2 TWS} Three credits per semester. ~~MERRICK, PRAY, HARRINGTON.~~

A study of the various methods and phases of physical training; their application and adaptability to different ages and conditions.

^{1, 2, 3 & gym TWS} 104. HYGIENE: ~~EMERGENCIES~~. One credit. ~~Second semester.~~

~~HALL~~ ^{Pray Merrick Bloom}

Especial accidents that may arise on athletic fields, on public playgrounds or in the gymnasium.

^{51, 52, 53 - food F.W.S. Raitt} 107. ~~PRAY AND GAMES~~. Two credits. First semester. Open to women. Prerequisite, Educ. 105. HARRINGTON.

^{ground 3 TWS} 107 108. ~~PLAYS AND GAMES~~. Two credits. Second semester. A continuation of 107. Open to women. HARRINGTON.

^{109, 110, 111 3 TWS} 109. ~~FOLK AND ESTHETIC DANCING~~. Two credits. First semester. Open to women. HARRINGTON.

~~110~~ 110. FOLK AND ESTHETIC DANCING. Two credits. Second semester. A continuation of 109. Open to women. HARRINGTON.

~~*111-112. ADVANCED GYMNASIIC EXERCISES. WITH APPARATUS. Two credits per semester. Six laboratory hours per week. For majors only.~~

113, ¹¹⁴ ~~CORRECTIVE GYMNASIICS AND PRESCRIPTION OF EXERCISE~~
Two credits. ~~Here Bloom~~ 3 u. Sp

115-116. ~~INTRAMURAL ATHLETICS. Two hours per week. Required of junior men. Corrective gymnastics. Systematic exercise in class.~~

~~121-122. RECREATION. One credit per semester. Two hours per week. Healthful exercises and games. Required of all junior men.~~

~~151-152. KINESIOLOGY AND ORGANIZATION. Two credits per semester. Prerequisites, zoology 3-4. SKARTVEDT, Instructors.~~

^{normal diagnosis}
~~153. PHYSICAL EXAMINATIONS AND ANTHROPOMETRY. Three credits. First semester. HALL. Iron.~~

^{an} 154. ~~GAMES OF SKILL AND SUPERVISION OF ATHLETICS. Two credits per semester. Theory and practice. HALL, SKARTVEDT, GONNIBER, PRAY, HARRINGTON.~~

155-156. ~~INTRAMURAL ATHLETICS. Two hours per week. Required of senior men. A continuation of 115-116.~~ W.S. an.

157-158. ~~CORRECTIVE GYMNASIICS. Two credits per semester. For majors only. A practical application of 113. BLOOM.~~

~~161-162. RECREATION. One credit per semester. Two hours per week. A continuation of 121-122. Required of all senior men.~~

PHILOSOPHY

(Denny Hall)

PROFESSOR SAVERY, ASSISTANT PROFESSOR DUCASSE, DR. GUTHRIE.

The Liberal Arts requirements are a total of eight credits in the Departments of Philosophy and of Psychology.

The College of Science requirements are four credits in Philosophy.

The above requirements may be satisfied from the following courses: Philosophy 1, 2, 3, 101-102, 121-122, and 123-124.

Philosophy 1, 2 and 3 are suited to Arts-Law students.

Psychology 1 is required of majors in Philosophy and will satisfy a part of the major requirement.

COURSES

1. INTRODUCTION TO PHILOSOPHY. ~~Four~~ credits. First semester. SAVERY, GUTHRIE. 5 7 5

An elementary study of the main problems of philosophy.

2. ELEMENTS OF ETHICS. ~~Four~~ credits. ~~Either semester.~~ 5 W 5
SAVERY, GUTHRIE.

Study of value, the good, duty, virtue. Application of ethical principles to problems of economic life, government, law, art and religion. Three lectures, two discussion hours.

3. ELEMENTS OF LOGIC. ~~Four~~ credits. ~~Either semester.~~ 5 7 W
Primarily for arts-law students. DUCASSE.

The logical structure of an action at law. The ways of logically establishing or invalidating any statement illustrated at length, considerable drill being given in the various processes of proof and disproof. The logic of testimony, circumstantial evidence, pleas of guilty with extenuating circumstances, special pleading, etc. Stress will be laid throughout on the practical rather than the theoretical side of logic.

- 101-102, ¹⁰³ HISTORY OF PHILOSOPHY. ~~Four~~ credits per semester. 5 7 W 5
GUTHRIE.

Ancient, medieval and modern. The views of the classical philosophers on the nature of the universe and man, the values of life, the ideal form of society, the origin and limits of knowledge, the relation of the individual to the world, etc. Portions of the most important works of the greater philosophers will be read. Some of the more recent philosophical movements, such as pragmatism and neo-realism will be very briefly touched upon at the end of the course.

- ¹⁰⁴ 103-104. METAPHYSICS. Three credits ~~per semester.~~ 7 W
Prerequisite, 8 credits in philosophy and psychology. SAVERY.

A course in systematic philosophy. (1) The meaning and tests of truth, with special reference to pragmatism. (2) The construction of a theory of the universe, including an account of the nature of the human self, its relation to the body, the nature of matter, the problem of the freedom of the will. Study of idealism. (3) The foundation of morality, pessimism and optimism, the evolution and destiny of man.

~~105-106~~ ^{107, 108, 109} PHILOSOPHY OF SCIENCE. Two credits ~~per semester~~. Prerequisite, 1 or 101-102. SAVERY.

An account of scientific method; and of the fundamental laws and concepts of the sciences—mathematical, physical and biological. Interpretation of the scientific view of the world and its place in the human economy. Primarily for majors in science.

~~107-108~~ ¹⁰⁷ HISTORY OF RELIGION. Two credits per semester. Same as Oriental Literature 3-4. GOWEN.

First semester, primitive religious ideas, ghost worship, nature worship, divination, the religions of the Euphrates Valley, China, Japan, India, and Persia. Second semester, Judaism, Mohammedanism, and Christianity. ⁵ ^S

¹¹² ~~109-110~~ PHILOSOPHY OF RELIGION. Two credits ~~per semester~~. Prerequisite, one course. SAVERY.

(1) The religious experience: the origin, nature and types of religion, and its effect on individual happiness and morality. The social aspect of religion and the religion of democracy. Study of mystical experiences. (2) The truth of religion: the proofs of the existence of God, the basis of faith, pessimism, optimism and meliorism, immortality. Discussion of agnosticism.

*~~111-112~~ PHILOSOPHY IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY. Two credits per semester. Prerequisite, one course previous or concurrent. Alternates with 113-114 as requirement for seniors in library training course. SAVERY.

Conceptions of the universe, evolution, the destiny of man, the individual and social ideal in Wordsworth, Shelley, Emerson, Browning, Tennyson, Fitzgerald's Omar Khayyam, James Thompson, Arnold, Swinburne, Meredith and Whitman. An account of the social ideals of Carlyle, Ruskin, Morris, Shaw, Dickinson, Wells and Chesterton. ^{Contemporary} ⁵

¹¹³ ~~113-114~~ PHILOSOPHY IN THE MODERN DRAMA. Two credits ~~per semester~~. Prerequisite, one course previous or concurrent. Alternates with 111-112 as requirement for seniors in library training course. BENHAM.

Philosophical, ethical and social ideals in Ibsen, Strindberg, Hauptmann, Sudermann, Maeterlinck, Brieux, Bernard Shaw, Galsworthy and other recent dramatists. Introductory study of similar ideas in the Greek drama, the book of Job and Shakspeare.

~~115-116. ESTHETICS. Two credits per semester. Required for seniors in music. DUCASSE.~~

The origin and motives of art, and the esthetic principles of architecture, sculpture, painting, music, poetry, the drama, and the decorative arts. The nature of beauty, the sublime, the comic, the tragic. Standards of criticism. Social and democratic theories of art.

~~120 118. ADVANCED LOGIC. Two credits. Second semester. Prerequisite, 3 or calculus. GUTHRIE.~~

The development of symbolic logic and the logic of mathematics, with a discussion of logical theory.

~~121-122. PLATO AND ARISTOTLE. Two credits per semester. Prerequisite, 1 or 101-102. GUTHRIE.~~

A study of the philosophical works of Plato and Aristotle with a brief account of Greek philosophy before Plato.

~~123-124. CONTEMPORARY PHILOSOPHY. Two credits per semester. Prerequisite, 1 or 101-102. GUTHRIE.~~

Readings from authors representing the main tendencies in contemporary philosophy, including Haeckel, Mach, Bradley, Royce, Bergson, James, Dewey, Poincare, Russell, and the American neo-realists.

~~125-126. SEMINARY. HUME AND KANT. Two or three credits per semester. Open to students upon approval of instructor. One two-hour period each week. DUCASSE.~~

Hume's Treatise of Human Nature and Kant's Critique of Pure Reason will be read and discussed.

~~*131-132. SEMINAR IN LOGIC. Two or three credits per semester. Prerequisite, 3. DUCASSE.~~

The course is a direct continuation of the elements of logic.

PHYSICS (Denny Hall)

PROFESSOR OSBORN, ASSISTANT PROFESSORS BRAKEL AND ANDERSON,
MR. GILBREATH, DR. LESTER, TEACHING FELLOWS

The following order of election of courses for Arts and Science students is suggested: 1, 2, 113, 116, 101, 102, 104, 109.

COURSES

(a) PRIMARILY FOR STUDENTS IN ARTS AND SCIENCE

1-2. ³ GENERAL PHYSICS. ⁵ Four credits, ^{WS} per semester. Two lectures, one quiz and one laboratory period. Prerequisite, high school physics. OSBORN.

48, 49
49-50. ELEMENTARY PHYSICS. ⁵ Four credits ^{WS} per semester. Three class periods and one laboratory period. GILBREATH.

A beginning course in physics for students who have not had high school physics.

92 ^{Mechanics} 101. HEAT. ³ Three or four credits. First semester. Prerequisites, 1 and 2, mathematics, 8 hours. Three class periods and one laboratory period. May be taken without laboratory work for three credits. ^{WS} LESTER. ^{gilbreath}

An experimental and theoretical treatment of the subject.

93 ^{Electricity} 102. LIGHT. ⁵ Four credits. Second semester. Three class periods and one laboratory period. Prerequisite 113. ^{gilbreath} OSBORN.

An elementary discussion of reflection, refraction, interference and spectroscopy with the emphasis on the physical interpretation and the historical development of the wave theory.

104 VIBRATORY PHENOMENA AND SOUND. Four credits. Second semester. Prerequisite 113 and calculus. OSBORN.

The course takes up the development and discussion of the mathematical expressions for wave motions, and various types of vibrations.

*105. HIGH TEMPERATURE THERMOMETRY. Two credits. First semester. Prerequisite, 101. One class and one laboratory period. LESTER.

*107-108. ILLUMINATION. Two credits per semester. Prerequisite, 102. OSBORN.

*109. PHYSICS OF A. C. AND D. C. CIRCUITS. Four credits. First semester. Prerequisite 114 or 116. Three class periods and one laboratory period. BRAKEL.

A study of the fundamental principles of direct and alternating currents and the development of methods for the solution of practical problems.

~~111-112. TEACHER'S PHYSICS. Two credits per semester. Open only to seniors. Prerequisite, not less than 18 hours of physics and 24 hours of other science. OSBORN.~~

~~NOTE: Laboratory deposit is \$2.50 per semester for laboratory courses.~~

~~113. THEORETICAL MECHANICS. Three credits. First semester. Prerequisite, 1-2 and trigonometry. ANDERSON.~~

~~An elementary mathematical discussion of the subject with special emphasis on the physical interpretation.~~

~~115. HISTORY OF MECHANICS. One credit. First semester. To accompany 113. ANDERSON.~~

~~A course taking up the biography of some of the great physicists and the historical development of some of the chief concepts in mechanics.~~

~~204 3 W, 116. ELECTRICITY AND MAGNETISM. Four credits. Second semester. Three class periods and one laboratory period. Prerequisite, physics, 1-2, mathematics, 4 hours. BRAKEL.~~

~~This course is planned with a view to familiarize the student with the more important experimental and theoretical aspects of the subject.~~

~~117. 169 an S 117. SPECIAL PROBLEMS. One credit. First semester. Three-hour laboratory period. To accompany 113. ANDERSON. Osborn~~

~~Selected problems in mechanics will be assigned.~~

Brakel,

SPECIAL COURSES

~~50-81 51-52 MECHANICS, SOUND AND MUSIC. Four credits per semester. Three recitations and one laboratory period. For Fine Arts students. ANDERSON.~~

~~54. PHOTOGRAPHY FOR AMATEURS. Two credits. Second semester. One class and one laboratory period. Prerequisite, a year of elementary physics or chemistry. LESTER.~~

FOR GRADUATES

~~201-202 DYNAMICS. Two credits per semester. Prerequisite, 113 and calculus. ANDERSON.~~

~~A rigorous mathematical treatment of the fundamentals.~~

~~203-204. THEORETICAL ELECTRICITY AND MAGNETISM. Two credits per semester. Prerequisite, 116 and calculus. BRAKEL.~~

~~A rigorous mathematical treatment of the fundamentals.~~

*206. ADVANCED OPTICS. Two credits. Second semester. Prerequisite, 102 and calculus. OSBORN.

Polarization phenomena and modern theories of light.

*207-208. THERMODYNAMICS AND KINETIC THEORY OF GASES. Two credits per semester. Two class periods. Prerequisite, 101, 113 and calculus. LESTER.

*209. ELECTRON THEORY. Two credits. First semester. Prerequisite, 116. ANDERSON.

The important researches leading to the electron theory are presented, and the application of the theory in explaining the facts of electrostatics, electrical and thermal conduction, magnetism, and chemical valency is considered.

*210. ELECTRON THEORY. Two credits. Second semester. Prerequisite, 209, and calculus. ANDERSON.

A mathematical treatment of the electron theory of conduction, thermal and electrical, optical phenomena, atomic structure, etc.

211-212. SEMINAR. Credits to be arranged. For senior majors and graduate students.

213-214. INVESTIGATION. Credits to be arranged. Any student who can show that he is qualified may undertake original investigation under the direction of one of the instructors.

NOTE: Laboratory deposit is \$2.50 per semester for laboratory courses.

(b) PRIMARILY FOR STUDENTS IN APPLIED SCIENCE

87. ACOUSTICS AND ILLUMINATION. Four credits. First semester. Prerequisite, college physics, 8 hours. OSBORN, ANDERSON.

For students in architecture.

89. ⁹⁰PHYSICS OF THE HOME. Four credits. ~~Either semester~~ ^{WS} Three class periods and one three-hour laboratory. OSBORN.

A course for students in home economics.

~~93-94. GENERAL PHYSICS. Four credits per semester. Prerequisites, high school physics and trigonometry. LESTER.~~

This course is an abridgment of 97 and 98 and is open only to students in forestry, pharmacy and medicine. Three class periods and ~~one laboratory period.~~

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95. ~~PHYSICS MEASUREMENTS. Two credits. Either semester.~~
Taking 97. ~~GILBREATH.~~

96. ~~PHYSICS MEASUREMENTS. One credit. Either semester.~~
Taking 98. ~~GILBREATH.~~

97. MECHANICS, WAVE MOTION AND ~~LIGHT~~ ^{5 fws} Four credits.
Either semester. Prerequisite, high school physics and mathematics, 8 hours. BRAKEL, ANDERSON.

98. ~~ELECTRICITY AND HEAT~~ ^{7 W} Four credits. ~~Either semester.~~ ^{Brakel}
Prerequisite, 97. BRAKEL, ANDERSON.

114. ~~ELECTRICAL MEASUREMENTS. Two credits. Either semester.~~ ^{99 - Heat and Light, - W, S & - Brakel}
Prerequisite, 98. ~~Two laboratory periods.~~ BRAKEL. ^{Spring}

NOTE.—The laboratory deposit is \$6.00 per year for courses 95, 96, 114, and \$2.50 per semester for 87, 89, 93-94.

POLITICAL SCIENCE

(Denny Hall)

PROFESSOR J. ALLEN SMITH

Course I or its equivalent is prerequisite to all other courses in the department. Courses in sociology may be counted toward a major in political science.

COURSES

FOR FRESHMEN, SOPHOMORES, JUNIORS AND SENIORS

1. THE ELEMENTS OF POLITICAL SCIENCE. ~~Four credits.~~ ^{7 W}
Either semester. SMITH.

The origin and development of the state; forms of government and the political ideas which they represent; the functions of government; the development of democratic political institutions. This course is designed with special reference to the United States.

FOR JUNIORS, SENIORS AND GRADUATES

~~*101. AMERICAN GOVERNMENT. Three credits. First semester. SMITH.~~

The origin and development of the governmental system of the United States.

American
 *102. STATE GOVERNMENT IN THE UNITED STATES. Three credits. ~~Second semester.~~ SMITH. *Sp*

The making and amendment of constitutions; the extension of the suffrage; apportionment of representation; conflict between rural and urban interests; recent democratic changes.

*103. MUNICIPAL GOVERNMENT. Three credits. ~~First semester.~~ *Saube* *Fall*

A comparative study of the modern city as a governmental institution; types of city government; state interference in municipal affairs.

109 *104. COLONIAL GOVERNMENT. ~~Two credits.~~ ~~Second semester.~~ *Saube* *Sp*

Systems of colonial government and administration.

~~*105. THE GOVERNMENT OF ENGLAND. Two credits. First semester.~~

*106. PUBLIC INTERNATIONAL LAW. ~~Two credits.~~ ~~Second semester.~~ *Fall*

*107-108. POLITICAL THEORIES. Two credits per semester. SMITH.

A study of the political ideas that have influenced constitutional development and legislation in England and the United States.

107 - International Relations - W - 3cr
 PRIMARILY FOR GRADUATES *Saube*

~~201-202. SEMINAR IN POLITICAL SCIENCE. Two to four credits per semester. SMITH.~~

~~Open to graduate students and to seniors by permission.~~

108 - Municipal Problems - 3cr
 PSYCHOLOGY *Saube*

110 - Oriental Science, Hall, Attic)
~~PROFESSOR SMITH, MR. WILCOX, MISS WILKINSON~~ *W. Saube*

The Liberal Arts requirements are a total of eight credits in the Departments of Philosophy and of Psychology.

The College of Science requirements are four credits in Psychology.

The above requirements may be satisfied from the following courses: Psychology 1, 101, 102, 103-104.

Psychology 1 is suited to Arts-Law students.

For Psychology as prerequisite to Education, see page 47.

Philosophy 1 or 101, 102 is required of majors in psychology and will satisfy a part of a major requirement.

COURSES

1. GENERAL PSYCHOLOGY. ~~Four~~ ⁵ credits. ~~Either semester.~~ ^{7 W}
Required for all courses in education. Laboratory deposit, \$2.00.

The facts and laws of consciousness and behavior and their connection with the nervous system. Three lectures, one recitation, one laboratory period. *Willbank*

2. PRACTICAL PSYCHOLOGY. Three credits. ~~Second semester.~~ ⁷
No prerequisite. Required of sophomores in two-year commerce course.

An elementary course in general psychology with practical applications.

101. PHYSIOLOGICAL PSYCHOLOGY. ~~Four~~ ⁵ credits. ~~First semester.~~ ^W
Prerequisite, 1. One lecture, one recitation, two laboratory periods. Laboratory deposit, \$1.00. ~~Wheeler.~~ *Somig*

The structure and function of the nervous system in relation to consciousness and behavior. Dissection and microscopic study of the human brain, spinal cord, and sense organs.

102. EXPERIMENTAL PSYCHOLOGY. ~~Four~~ ⁵ credits. ~~Second semester.~~ ^{Sp}
Prerequisite, 1. One lecture, one quiz, and six laboratory hours. Laboratory deposit, \$1.00. *Somig*

Students taking this course receive training in laboratory methods, are made familiar with all the more important kinds of psychological apparatus and perform many of the classical experiments in psychology.

~~103-104.~~ ¹⁰³⁻¹⁰⁴ PRINCIPLES OF PSYCHOLOGY. ~~Three credits per semester.~~ ⁵ ~~Prerequisite, 1.~~ ^{W S}

An advanced course in general psychology. James' Principles of Psychology will be used as a text. Some account of the history of psychology will be given. Students are advised to precede this by physiological or experimental psychology. *Willbank*

~~*105. ANIMAL BEHAVIOR. Three credits. First semester.~~
Prerequisite, 1. SMITH.

This course is an analytic study of the behavior of lower animals. The principles of experimentation in this field will be

determined. The various conceptions of mechanism and vitalism will be considered in their relation to genetic psychology.

112 ~~107.~~ APPLIED PSYCHOLOGY. ~~Two~~ credits. ~~First~~ semester. Prerequisite, 1. For seniors in commerce *Withdraw, Sp*

The application of the principles of psychology to problems of personal efficiency in business. The student will select and develop a problem of permanent interest to himself.

111 ~~108.~~ EDUCATIONAL PSYCHOLOGY. ~~Three~~ credits. ~~Second~~ semester. Prerequisite, 1. *Withdraw 2*

The psychological basis of education. Perception, the learning process, memory, judgment, attention, motor functions, practice and fatigue with reference to age, sex, race, and individual differences.

108 ~~110.~~ ABNORMAL PSYCHOLOGY. ~~Three~~ credits. ~~Second~~ semester. Prerequisite, 1. For pre-medical students, and others by permission of instructor. *Spring*

Sleep, dreams, hypnotism, possessions, insanity, motor automatisms, multiple personality, the subconscious, and psycho-analysis.

109 ~~112.~~ CHILD PSYCHOLOGY. ~~Three~~ credits. ~~Second~~ semester. Prerequisite, 1. SMITH. *Sp*

A study of mental development from infancy to adult age. The course will include the following subjects: The starting point of mental life, the behavior of the newborn, the nature and occurrence of instincts throughout childhood, individual differences, the analysis of temperament, the psychology of learning, heredity. The mind of the child will be examined in the light of systematic psychology with the purpose of giving the student some scientific understanding of childhood.

110 ~~113.~~ PSYCHOLOGY OF EXCEPTIONAL CHILDREN. ~~Three~~ credits. ~~First~~ semester. Prerequisite, 1. SMITH. *Fall*

The nature and cause of mental defects and peculiarities of children, with special reference to methods of diagnosis and to physical pathology.

115 ~~114.~~ METHODS OF MENTAL AND PHYSICAL TESTS AND METHODS OF MEASUREMENT. ~~Two~~ credits. ~~Second~~ semester. Prerequisite, 1. Laboratory fee, \$1.00. SMITH, WILKINSON. *Sp*

Laboratory course with conferences. Students will be given extensive training in applying tests for general intelligence and

for mental analysis. The principles of experimental procedure, methods of measurement, and statistical treatment of results form a major part of this course. The course is essential to work in clinical psychology and is advised as preparatory to all other laboratory research in this department.

~~201-202. RESEARCH.~~ Either semester. ^{cr. av.} Prerequisite, 102, 114. SMITH. 117, 118 - Smith
Opportunity for original investigation.

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PUBLIC SPEAKING AND DEBATE

(Denny Hall)

PROFESSORS GORSUCH AND PRIEST.

For a major, 24 credits, 8 of which must be taken in freshman composition. Not more than 16 credits in this department may be counted toward the degree of bachelor of arts.

COURSES

~~102. PRACTICAL PUBLIC SPEAKING. Three credits per semester.~~ GORSUCH. 5' 7W

An introductory course. Two sections are offered the first semester; one section the second semester. Principles of public speaking are studied and short, original talks are prepared and delivered. The aim of the course is to accustom students to think while standing before the audience and to use definite means for definite purposes. Clear statement, sound argument, effective presentation, and development of will and personality are sought.

~~2. PRACTICAL PUBLIC SPEAKING. Three credits. Second semester.~~ GORSUCH. 5' 7 SP

~~34. ARGUMENTATION. Three credits per semester.~~ PRIEST. 5' 7

~~5-6. DRAMATIC READING. Two credits per semester.~~ GORSUCH. 5' 7 SP

Several plays, classical and modern, are studied and read aloud. Debating Priest

~~103-104. ADVANCED ARGUMENTATION AND DEBATING. Two credits per semester. Prerequisites, participation in inter-collegiate debate as principal or alternate, course 3-4, or consultation with the instructor.~~ PRIEST.

8 - Dramatic Reading - 7 W - 5'
9 - " " - SP - 5' - ground

Intended for those who wish to take part in inter-collegiate debating. A laboratory course in the preparation and delivery of formal debates.

105. ADVANCED READING. Two credits. Either semester. GORSUCH.

Required of English majors who expect to teach, unless excused. Principles of vocal interpretation and practice in oral reading.

SCANDINAVIAN

(Denny Hall)

PROFESSOR VICKNER

COURSES

1-2. SWEDISH LANGUAGE. ~~Four~~ ⁵ credits per semester. 7W

Grammar and reading. Composition and oral exercises.

3-4. NORWEGIAN-DANISH LANGUAGE. ~~Four~~ ⁵ credits per semester. 7W

Grammar and reading. Composition and oral exercises.

5-6, 7 NORWEGIAN-DANISH LITERATURE. Two credits per semester. SP.

Representative authors are read in connection with a general survey of the Norwegian-Danish literature. 7W

8, 9, 10 7-8. SWEDISH LITERATURE. Two credits per semester. 7W

Representative authors are read in connection with a general survey of the Swedish literature.

11, 12, 13, 14 9-10. READING COURSE IN NORWEGIAN AND SWEDISH. One credit per semester. 7W

Especially adapted for students in the Library School. Special emphasis is laid on the acquisition of reading knowledge. Knowledge of the Scandinavian languages is not required.

11. SCANDINAVIAN CULTURE AND INSTITUTIONS. One credit. Either semester. 7W

A lecture course dealing with the literature and art, political, social and industrial development of Scandinavia. One lecture a week, collateral reading, slides. Knowledge of the Scandinavian languages is not required. This course might profitably be combined with 107.

¹⁰⁵ 103-104. MODERN SWEDISH LITERATURE. Two credits ~~per semester~~. *7WS*

Representative writers of the nineteenth and twentieth centuries are read, including Selma, Lagerlöf, Strindberg, Fröding. Study of the culture and history of Sweden.

^{107, 108} ~~105-106.~~ MODERN NORWEGIAN-DANISH LITERATURE. Two credits ~~per semester~~. *7WS*

Representative writers of the nineteenth and twentieth centuries are read, including Ibsen, Björnson, Kielland, Jacobsen, Drachmann. Study of the culture and history of Denmark and Norway.

¹⁰⁹ ~~107-108.~~ STUDY OF MODERN SCANDINAVIAN AUTHORS IN ENGLISH TRANSLATION. One credit ~~per semester~~. *WSP*

A study of Ibsen and Strindberg the main feature of the course. Brief survey of Scandinavian culture and history.

^{an} 201-~~202~~. OLD ICELANDIC. ~~Two credits per semester~~. *Sp,*

Grammar, prose selections, poems from the Edda, lectures on Scandinavian mythology and antiquities, Scandinavian philology.

~~*203-204. HISTORY OF THE SWEDISH LANGUAGE. Two credits per semester.~~

FOR GRADUATES

205-206. SCANDINAVIAN LITERATURE IN THE NINETEENTH CENTURY. ~~Two credits per semester~~ *W S - an, er,*

~~*207-208. SCANDINAVIAN LYRIC POETRY. One credit per semester.~~

^{an} ~~209-210. HISTORY OF SCANDINAVIAN LITERATURE. One credit per semester.~~ *Sp,*

Lectures in Scandinavian. Some of the masterpieces assigned for outside reading and report.

Other graduate work with the consent of the head of the department.

SOCIOLOGY

(Denny Hall)

PROFESSOR ~~BEACH~~, MR. MASON

Students majoring in sociology may count courses from the department of political science in making up the number of credits required in the major department.

COURSES

OPEN TO FRESHMEN, SOPHOMORES, JUNIORS AND SENIORS

51 1. ~~INTRODUCTION TO THE STUDY OF SOCIETY~~ *Sociology* Four credits. *F.S.*
~~Either semester. BEACH.~~

The course analyzes briefly the nature of society and the chief factors in its organization, followed by a somewhat fuller consideration of a number of the more important social problems.

OPEN TO JUNIORS, SENIORS AND GRADUATES

~~101-102. PRINCIPLES OF SOCIOLOGY. Two credits per semester.~~
~~Prerequisite, 4 hours in sociology or political science. BEACH, MASON.~~

A study of the principles underlying the organization and development of society.

151 ~~103-104. SOCIAL AMELIORATION.~~ *Evolution* Three credits per semester. *Fall*
~~Prerequisite, 4 hours in sociology or political science. MASON.~~

A study of the attempt of society to effect improvement in the life of the less fortunate classes. The work of the first semester centers in the problem of poverty. That of the second semester centers in the problem of crime.

152 ~~105. THE FAMILY. Three credits. First semester. Pre-~~
~~requisite, 4 hours in sociology. BEACH.~~

153 ~~*106. SOCIAL PSYCHOLOGY. Three credits. Second semester.~~
~~Prerequisite, 4 hours in sociology. BEACH.~~ *Spring*

The growth and nature of custom and convention and the formation of public opinion. It is desirable that the student should have had a course in general psychology.

*107. IMMIGRATION. Two credits. First semester. Pre-requisite, 1 or political science 1. BEACH.

A study of migration as a social phenomenon, followed by an analysis of the American immigration problem, including

201 - *Measurement of Statistics* - 2 cr. Fall
 202 - *Theory of Statistics* - 2 cr. W.
 203 - *Social Statistics* - 2 cr. Sp.

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questions of race, economic condition and conflicting social standards and leading up to a consideration of Oriental immigration and the social and political questions arising from the meeting of Eastern and Western civilizations bordering the Pacific.

209, 210, 211 *Special* 7 W S
 109-110. ~~SOCIAL RESEARCH. Two or three credits per semester.~~ Time to be arranged. BEACH.

This course is intended to afford opportunity for investigation of special social problems. It is open only to graduate or advanced students, and in each case consent of the instructor is necessary. The topic for 1917-18 will be Social Legislation.

The following courses given in other departments are closely related to the field of sociology.

All courses in Political Science.

ECONOMICS 4. STANDARDS OF LIVING. Two or three credits. Second semester. McMAHON.

A study of the consumption of wealth.

ORIENTAL HISTORY 3-4. HISTORY OF RELIGION. Two credits per semester. GOWEN.

EDUCATION 109 AND 151. SOCIAL FOUNDATIONS OF THE SCHOOL SYSTEM. Two credits. Either semester. JOHNSON.

ZOOLOGY 15. ETHNOLOGY. Two credits. First semester. KINCAID.

ZOOLOGY 16. EVOLUTION AND EUGENICS. Two credits. Second semester. KINCAID.

ENGLISH 141-142. SOCIAL IDEALS IN ENGLISH LITERATURE. Three credits per semester. BENHAM.

SPANISH

(Denny Hall)

PROFESSORS OBER, OYARZUN,* ASSOCIATE PROFESSOR UMPHREY,
 ASSISTANT PROFESSORS STRONG,† SANTANDER,
 MR. PHILBRICK

For a major, 24 to 40 credits, including 55-56 and at least one year course of the second division. Course 151 is required of all those recommended as teachers.

* Sanfuentes lecturer, from Chile, 1917-18.

† Exchange professor with Chile, 1917-18.

For prerequisites, one year in high school is generally considered the equivalent of one semester in the University.

Students will please notice that either 51 or 61 is open to those who have completed 31-32, or its equivalent, and that 61 is prerequisite to all the advanced courses.

5 COURSES *and 7 WS*

1-2. ELEMENTARY. ~~Four~~ credits per semester.

Course 1 is repeated in the second semester, and followed by course 2 which is repeated in the first semester. *7 WS*

B 31-32. INTERMEDIATE. ~~Three~~ credits per semester. Prerequisite, 2.

Grammar review, composition and conversation. Readings from Spanish newspapers, plays and novels. There will be sections for those wishing to specialize in commercial Spanish.

4 - Reading 2 - Grammar 51-52. COMMERCIAL SPANISH. Three credits per semester. Prerequisite, 32. ~~Ques~~ SANTANDER. *P. S*

Commercial terms. Business correspondence. Linguistic peculiarities of the different Spanish-American countries.

55-56. ADVANCED COMPOSITION AND CONVERSATION. Two credits per semester. Prerequisite, 32. SANTANDER. *7 W*

~~61. OUTLINE HISTORY OF SPANISH LITERATURE. Three credits. First semester. Prerequisite, 32. UMPHREY.~~

7 S Selected texts, ~~consistent~~ reading, lectures.

53, 54 - W ~~62. SPANISH LITERATURE OF THE NINETEENTH CENTURY. Three credits. Second semester. Prerequisite, 32. UMPHREY.~~

101 ~~85, 86. CONFERENCIAS EN ESPAÑOL ACERCA DE LAS REPÚBLICAS LATINO-AMERICANAS. One credit per semester. SANTANDER. *S B*~~

One lecture a week will be given Saturday morning and will be open to auditors as well as to regular students. *2*

87, ~~88~~ THE LITERATURE AND ART OF SPAIN. ~~One~~ credit per semester. UMPHREY. *W*

One lecture a week, in English. Open to auditors as well as to regular students.

89, ~~90~~ LATIN-AMERICAN CIVILIZATION, with special attention to art and literature. ~~One~~ credit per semester. UMPHREY. *7-200*

One lecture a week, in English. Open to auditors as well as to regular students.

*5 - grammar & Comp. - 2 - 7 WS.
8 - Adv. Comp. - 2 - 7 WS.
Santander & Santander*

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91-92. ~~LATIN-AMERICAN INSTITUTIONS.~~ One-credit per semester. OYARZUN.

Lectures in Spanish on government, education, industries, commerce, transportation and national ideals of Latin-American countries, especially of Chile.

131-132. SPANISH LITERATURE OF THE "SIGLO DE ORO." ³ Two credits per semester. Prerequisite, 61. OBER. *7 W*

Selected texts, collateral reading, lectures. First semester, Cervantes. Second semester, Lope de Vega, Calderon, etc.

151. TEACHERS' COURSE. ³ Two credits. First semester. ^{Sp} OBER.

161-162. THE NOVEL. Three credits per semester. Prerequisite, 61. *PHILBRICK.* *W S*

The origins of the Spanish novel and its development. Reading of selected texts; collateral reading and reports.

* ¹⁶³ 163-164. THE DRAMA. Three credits per semester. Prerequisite, 61. UMPHREY. *Sp*

* 171. LYRIC POETRY. Two credits. First semester. Prerequisite, 61. UMPHREY. *Sp*

* 172. THE SPANISH POPULAR BALLAD. Two credits. Second semester. Prerequisite, 61. UMPHREY.

181(182) SPANISH-AMERICAN LITERATURE. ³ Two credits per semester. Prerequisite, 61. UMPHREY. *W S*

Representative writings of Spanish-American authors. Collateral reading and reports. Lectures.

149 - Survey of Spain, Lit - 2 - Umpf.
FOR GRADUATES *W S* *7 200*

209(210) OLD SPANISH. Two credits per semester. UMPHREY.

History of Spanish literature to the sixteenth century. Reading of the Poema del Cid and selections from other early Spanish writings. Reports on special topics.

* Not offered in 1917-18.

121 - Survey - Sp. - 2 cr - Umpf.

ZOOLOGY

(Science Hall)

PROFESSOR KINCAID, ASSISTANT PROFESSOR E. VICTOR SMITH,
MR. OSTERUD, DR. FASTEN, MISS GILMAN,
MISS GILLE, ASSISTANTS.

COURSES

1-2. ELEMENTS OF ZOOLOGY. ~~Four credits per semester.~~ KINCAID, ~~OSTERUD, FASTEN, GILLE, ASSISTANTS.~~ *Each given 7 WS*

A general review of zoological science, including a series of lectures on the principles of evolution and eugenics. 1 is repeated in the second semester. *5 7 WS*

3, 4. PRE-MEDICAL ZOOLOGY. ~~Four credits.~~ First semester. For students entering upon a medical course. FASTEN.

~~4. VERTEBRATE ZOOLOGY. Four credits. Second semester. FASTEN.~~

~~A discussion of the fundamental structure of the vertebrates, with especial emphasis on mammalian organization. This course is designed for students in physical culture and in medicine. Prerequisite, 3.~~

8, 9. 5-6. GENERAL PHYSIOLOGY. ~~Four credits per semester.~~ SMITH, GILMAN. *7, W.*

A general course adapted to meet the needs of students expecting to teach the subject in high school. This course is required of students majoring in physical culture and is recommended for those taking home economics who desire more extended training than is offered in 7. *5 7 WS*

7. ELEMENTARY PHYSIOLOGY. ~~Four credits.~~ ~~Either semester.~~ SMITH, GILMAN.

A general survey of the structure and functions of the human body, designed especially for students in home economics, but open to others.

11-12. ICHTHYOLOGY. Two credits per semester. Prerequisite, 1-2. KINCAID.

The classification and habits of food and game fishes.

14. FOREST ZOOLOGY. Two credits. Second semester. KINCAID.

Habits and economic relations of typical forest animals. Especially for forestry students, but open to others.

16 ~~15.~~ ETHNOLOGY. Two credits. ~~First semester.~~ KINCAID. 7, S

Origin, migration, distribution and customs of the races of man. Illustrated by lantern slides.

15 ~~16.~~ EVOLUTION ~~AND~~ EUGENICS. Two credits. ~~Second semester.~~ KINCAID. 7, S,

Lectures upon important biological problems related to organic evolution, including variation, selection, heredity and eugenics. Illustrated by stereopticon views.

101, 102 ~~NORMAL HISTOLOGY.~~ Four credits. First semester. Prerequisite, 1-2. ~~OSTERUD.~~ Worcester 7, W

Mammalian histology, especially for pre-medical students, but open to others.

103 ~~102.~~ EMBRYOLOGY. Four credits. Second semester. Prerequisite, 1-2. ~~OSTERUD.~~ Worcester 5

Comparative developmental history of vertebrates. Especially for pre-medical students.

103, 104, 107 ~~103-104.~~ ADVANCED PHYSIOLOGY. Four credits per semester. Prerequisite, one year each of college chemistry, physics, and zoology. SMITH. 5, 7, W, S

Adapted to meet the needs of medical students.

109 ~~105.~~ NEUROLOGY. Four credits. First semester. Prerequisite, 101, 102, 103. SMITH. 5

Comparative structure and genesis of sense organs and central nervous system.

~~107-108. PISCICULTURE. Two credits per semester. Prerequisite, 1-2 and 11-12. SMITH.~~

~~The developmental history and artificial propagation of economic fishes.~~

111, 112 ~~109-110.~~ GENERAL ENTOMOLOGY. Four credits per semester. Prerequisite, 2. KINCAID. 5, 7, W, S

The structure, classification, and economic relations of insects.

113, 114 ~~111-112.~~ VERTEBRATE ANATOMY. Four credits per semester. Prerequisite, 1-2 or 5-6. ~~OSTERUD.~~ Worcester 5, 7, W, S

Comparative structure of vertebrates.

113. CYTOLOGY. Four credits. First semester. Prerequisite, 1-2. FASTEN.

A study of the anatomical, physical and chemical properties of the animal cell. The germ cell will be discussed with special reference to the problems of development and inheritance.

114. PARASITOLOGY. Four credits. Second semester. Prerequisite, 1-2. FASTEN.

A study of animal parasites. This course is designed to meet the needs of students in medicine, fisheries, and those interested in problems of public health.

201, 202, ²⁰³ MUSEUM AND FIELD WORK. ~~Four~~ ^{*} credits per semester. Prerequisite, at least two years of zoology. KINCAID. ^{7 W.S.}

Systematic investigation of the local fauna, including studies based upon material in the state museum.

^{205, 206} ~~203-204~~ RESEARCH. Credits to be arranged. ^{7 W.S. gr.} Either semester. Students capable of carrying on independent research will be allowed to do so under the direction of the instructors in charge.

116, ¹¹⁷ Human anatomy - Worcester
Winter, 5 P, 6 cr. per gr.

? - anatomy, military - Worcester
Winter, 6 cr.

? - physiology, military - Smith
Winter, 5 cr.

10 - Hygiene, 2 cr. Smith
Spring

COLLEGE OF ENGINEERING

FACULTY

- HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.
- ALMON HOMER FULLER, M. S., C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering; DEAN.
- CARL EDWARD MAGNUSSON, PH. D. (Wisconsin), E. E. (Minnesota), Professor of Electrical Engineering.
- 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.
- HORACE JAMES MACINTIRE, S. B. (Massachusetts Institute of Technology), M. M. E. (Harvard), Assistant Professor of Mechanical Engineering.
- JOHN WILLIAM MILLER, B. S. (C. E.), (Nebraska), Assistant Professor of Civil Engineering.
- CHARLES EDWARD NEWTON, B. S., E. M. (Michigan College of Mines), Assistant Professor of Civil Engineering.
- FRANK MELVILLE WARNER, B. S. (M. E.), (Wisconsin), Assistant Professor of Engineering Drawing.
- FREDERICH KURT KIRSTEN, B. S., E. E. (Washington), Assistant Professor of Electrical Engineering.
- SAMUEL THOMAS BEATTIE, Instructor in Woodwork.
- SANDY MORROW KANE, Instructor in Metalwork.
- LESLIE FORREST CURTIS, B. S. (Tufts), M. S. (E. E.) (Washington), Instructor in Electrical Engineering.
- WILLIAM ELMHIRST DUCKERING, A. B., C. E. (Washington), Instructor in Civil Engineering.
- HARRY KELLEY RUBEY, B. S. (C. E.), (Illinois), Instructor in Civil Engineering.
- CHAUNCEY WERNECKE, B. S. (C. E.), (Washington), Instructor in Civil Engineering.
- HARRY STANLEY ROGERS, B. S. (C. E.), (Wyoming), Instructor in Civil Engineering.

- HORACE G. BYERS, PH. D. (Johns Hopkins), Professor of Chemistry.
FREDERICK MORGAN PADELFORD, PH. D. (Yale), Professor of English.
FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics and Director of the Physics Laboratories.
ROBERT EDOUARD MORITZ, PH. D. (Nebraska), PH. N. D. (Strassburg), Professor of Mathematics and Astronomy.
HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry and Director of the Bureau of Industrial Research.
JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
WILLIAM TAYLOR PATTEN, Captain, U. S. A., Retired, Professor of Military Science and Tactics.
SAMUEL LATIMER BOOTHROYD, M. S. (Colorado Agricultural College), Associate Professor of Astronomy and Mathematics.
GEORGE IRVING GAVETT, B. S. (C. E.), (Michigan), Assistant Professor of Mathematics.
JOSEPH DANIELS, S. B. (Massachusetts Institute of Technology), M. S. (Lehigh), Assistant Professor of Mining Engineering and Metallurgy.
ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.
LEWIS IRVING NEIKIRK, PH. D. (Pennsylvania), Assistant Professor of Mathematics.
HARLAN LEO TRUMBULL, PH. D. (Chicago), Assistant Professor of Chemistry.
SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Assistant Professor of Physics.
*THOMAS WITHERS, C. E. (Virginia), Instructor in English.
CHARLES GUSTAVE KUSCHKE, PH. D. (California), Instructor in Mathematics.
LESLIE JAMES AYER, B. S. (Upper Iowa), J. D. (Chicago), Professor of Law.

CURRICULA

The College of Engineering offers two four-year curricula in each of the departments of chemical, civil, electrical and mechanical engineering. One of these leads to the degree of bachelor of science in the respective branches of engineering, as B. S. in civil engineering. The other is offered to meet the need for a broader foundation of general training than is possible in the regular four-year curricula. This curriculum in each department leads to the degree of bachelor of science (B. S.), and is followed by a year of graduate work which, under the University regulations for advanced degrees, leads to the degree of master of science in the respective lines.

Thus in five years it will be possible to cover all of the subjects in a regular engineering curriculum and add nearly a year's

* Resigned, January 1. 1917.

work in general training and a certain amount of advanced engineering work. This should insure greater efficiency in all of the work, as well as broaden the general education.

The freshman work in the several departments is identical, thus making it possible for a student to delay the definite choice until the beginning of the sophomore year.

All freshman and much sophomore work will be repeated each semester. Additional courses will be repeated whenever practicable, provided the demand is sufficient to warrant full sections, but not for less than six students. Thus freshmen may enter in February with the assurance of continuity of work for at least two years. This plan provides a possibility for taking some desirable elective courses for a semester, or for engaging in practical work for a semester and a summer consecutively before completing the curriculum.

DEGREE WITH HONORS

A degree with honors in engineering may be conferred upon any student of the College of Engineering who, upon recommendation of the engineering faculty, of the honors committee and upon vote of the University faculty, may be declared worthy of unusual distinction.

ADVANCED DEGREES

The degree of master of science in civil engineering (M. S. in C. E.), master of science in electrical engineering (M. S. in E. E.), master of science in mechanical engineering (M. S. in M. E.), and master of science in chemical engineering (M. S. in Ch. E.), respectively, will be conferred upon those who complete the year of graduate work following the respective curriculum leading to the degree of bachelor of science and maintain a grade of A, B, or C in all subjects, pass a formal examination open to all members of the faculty, and submit a satisfactory thesis.

The degree of master of science in the various departments of engineering, as indicated in the preceding paragraph, will be conferred upon graduates of this college, or other engineering colleges of recognized standing, who complete a year (32 credit hours) of graduate work, including a satisfactory thesis, with the grade of A, B or C. The candidate must also pass a formal examination open to all members of the faculty. The selection of

work for this degree must, in each case, be approved by the head of the department in which the student majors.

The professional degrees, civil engineer (C. E.), electrical engineer (E. E.), and mechanical engineer (M. E.), will be conferred in two years on graduates of this college holding the degree (M. S.) and in three years on those with (B. S.) in their respective lines, who give evidence of having been engaged continuously in acceptable engineering work and who present satisfactory theses.

THESIS

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

GOVERNMENT TIMBER TESTING SERVICE

The United States government through its forest service has located at the University of Washington a government timber testing station. Three timber testing engineers of the forest service are stationed here, and actual work in the investigation of the mechanical properties of Northwest timber is regularly carried on. The structural materials testing laboratory is used jointly for this work and for University instruction and investigation.

*ADMISSION TO FRESHMAN STANDING

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

3 units of English.

2 units of mathematics (1 unit algebra, 1 unit plane geometry).

3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented).

(a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).

* More detailed information concerning admission is furnished on pages 44-49.

- (b) Modern foreign language (at least 2 units in *one* language; not less than one unit will be counted in any language).
 - (c) History, civics, economics (at least one unit to form a year of consecutive work in history).
 - (d) 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).
- 2 units in subjects represented in the above groups (a)-(d).
5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

In addition to the three units of English and the two units of mathematics required for admission to all colleges of the University, it is recommended that a student expecting to enter the College of Engineering should elect his work from the groups (a) to (d), so as to offer the following subjects:

Advanced algebra	$\frac{1}{2}$ unit
Solid geometry	$\frac{1}{2}$ unit
Physics	1 unit

If he shall not have included these subjects in his high school elections, it will be necessary for him to take them in the University in addition to the prescribed curriculum, except that, as far as practicable, they may be taken in lieu of the three hours freshman elective.

Students entering the college of engineering must have a *working knowledge* of the fundamentals of arithmetic, algebra and geometry. It is therefore desirable for the student to review his preparatory mathematics *just before entering college*. By such a step much time will be saved and the work of the college will be rendered far more valuable to him.

CURRICULUM IN CHEMICAL ENGINEERING

Leading to the degree of Bachelor of Science in Chemical Engineering.

(For description of each subject, see page 232, and following.)

FRESHMAN YEAR

FIRST SEMESTER Credits		SECOND SEMESTER Credits	
Math. 51 (trigonometry and algebra)	4	Math. 52 (analytical geometry)	4
Chem. 1 or 21 (general)	4	Chem. 2 or 22 (general)	4
C. E. 1 (drawing)	2	C. E. 6 (drawing)	4
English 3	2	C. E. 20 (surveying)	4
Elective (restricted)	3	M. E. 2 (shop)	2
M. E. 1 (Shop)	2	Mil. Sci.	1
Mil. Sci.	1		
	15+3		16+3

Freshman Electives:

Continuation of the foreign language studied in the high school, 4 credits; Economics 3, 4 credits; History, 4 credits; Sociology 1, 4 credits; Geology 3, 4 credits; or any course approved by the head of the department.

SOPHOMORE YEAR

Math. 61 (calculus)	4	Math. 62 (calculus)	4
Physics 95, 97	6	Physics 96, 98	5
Chem. 43 (qualitative)	4	M. E. 82 (steam)	2
C. E. 11 (drawing)	2	Chem. 101 (quantitative)	4
M. E. 53 (shop)	2	English 4	2
Mil. Sci.	1	M. E. 54 (shop)	2
	16+3	Mil. Sci.	1
			17+3

JUNIOR YEAR

C. E. 131 (mechanics)	4	M. E. 90 (machine design) ..	3
Chem. 31 (organic)	4	Chem. 32 (organic)	4
Chem. 121 (industrial)	4	Chem. 122 (industrial)	4
E. E. 105	4	M. E. 140 (experimental) ..	2
Phys. Ed.	1	Elective	4
	16+1	Phys. Ed.	1
			17+1

SENIOR YEAR

Chem. 201 (physical)	5	Chem. 204 (electro)	4
Metallurgy 101	4	Thesis	4
M. E. 115 (chemical machinery)	2	Elective	8
Elective	5	Phys. Ed.	1
Phys. Ed.	1		
	16+1		16+1

Junior and Senior Electives:

Chemistry 133 (sanitary chemistry), 3 credits; Geology 3, 22, 8 credits; Bacteriology 103, 104, 8 credits; Civil Engineering 142 (hydraulics), 4 credits; Economics 1-2, 8 credits; Civil Engineering 167 (structural materials), 3 credits; Civil Engineering 154, 3 credits; Chemistry 202 (advanced physical), 4 credits; Chemistry 102 (advanced quant.), 4 credits; Chemistry 231 and 232 (advanced organic), 8 credits; Chemistry 221 and 222 (theory), 4 credits; Foreign Language, 4 credits; Law, 2 credits; Sociology 1 or 101-102, 6 credits; Mathematics 151, 2 credits.

CURRICULUM IN CHEMICAL ENGINEERING

Leading to the Degree of Bachelor of Science and to the Degree of Master of Science in Chemical Engineering.

Requirements for the B. S. Degree:

	Credits
Mathematics 51, 52, 61, 62.....	16
Civil Engineering 1, 6, 11.....	8
English 51, 52.....	4
Physics 95, 96, 97, 98.....	11
Civil Engineering 20, 131.....	8
Chemistry 1, 2, 43 (or 21, 22, 43).....	12
Mechanical Engineering 1, 2, 53, 54, 82, 90.....	5+ 8
Mil. Sci. and Phys. Ed.	+ 8

Electives:

Prescribed from junior and senior electives....	24
From the department of chemistry.....	20
General	20

 128+16

NOTE—A maximum of 48 credits from the department of chemistry will be allowed for the B. S. degree.

Requirements for M. S. in Ch. E. degree:

- (a) The degree of B. S. in chemical engineering or the degree of B. S. as above.
- (b) The completion of the following supplemental work:

	Credits
Chemistry 221 and 222.....	4
Thesis	8
Elective	20

CURRICULUM IN CIVIL ENGINEERING

Leading to the Degree of Bachelor of Science in Civil Engineering.

(For description of each subject, see page 232, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
Math. 51 (trigonometry and algebra)	4 ✓	Math. 52 (analytical geometry)	4 ✓
Chem. 1 or 21 (general)....	4 ✓	Chem. 2 or 22 (general)....	4 ✓
English 3	2 ✓	C. E. 6 (drawing).....	4 ✓
C. E. 1 (drawing).....	2 ✓	C. E. 20 (surveying).....	4 ✓
Elective (restricted).....	3	M. E. 2 (shop).....	2 ✓
M. E. 1 (shop).....	2 ✓	Mil. Sci.	1 ✓
Mil. Sci.	1 ✓		
	15+3		16+3

Freshman Electives:

Continuation of the foreign language studied in high school, 4 credits; Economics 3, 4 credits; History, 4 credits; Sociology 1, 4 credits; Geology 3, 4 credits; or any course approved by the head of the department.

SOPHOMORE YEAR

Math. 61 (calculus).....	4 ✓	Math. 62 (calculus).....	4 ✓
Physics 95, 97.....	6 ✓	Physics 96, 98.....	5 ✓
Geology 3.....	4 ✓	Chem. 51 (engineering).....	3 ✓
C. E. 11 (drawing).....	2 ✓	English 4.....	2 ✓
Mil. Sci.	1	C. E. 14 (drawing).....	1 ✓
	16+1	C. E. 22 (surveying).....	2 ✓
		Mil. Sci.	1
			17+1

Surveying in summer camp between the sophomore and junior years 6 weeks, 6 credits.

JUNIOR YEAR

Math. 151 (calculus).....	2 ✓	C. E. 112 (railway construction).....	2 ✓
C. E. 15 (drawing).....	1 ✓	C. E. 132 (mechanics).....	3 ✓
C. E. 105 (office work).....	2 ✓	C. E. 138 (masonry construction).....	5 ✓
C. E. 111 (railway operation).....	2 ✓	C. E. 142 (hydraulics).....	4 ✓
C. E. 131 (mechanics).....	4 ✓	*Elective	3
C. E. 122 (highways).....	2 ✓	Phys. Ed.	1
E. E. 105	4 ✓		17+1
Phys. Ed.	1		
	17+1		

SENIOR YEAR

C. E. 147 (hydraulic power).....	3 ✓	C. E. 154 (sanitary).....	3 ✓
C. E. 153 (water supply and irrigation).....	3 ✓	C. E. 162 (bridges).....	3 ✓
C. E. 161 (bridges).....	4 ✓	Law, 180	2 ✓
C. E. 167 (structural materials).....	3 ✓	Thesis or elective.....	3
Elective	4	Elective	4
Phys. Ed.	1	Phys. Ed.	1
	17+1		15+1

The senior electives will be chosen with the consent of the class adviser from the following groups:

GROUP 1

FIRST SEMESTER Credits
Astronomy 101 (geodetic astronomy) 4

SECOND SEMESTER Credits
Astronomy 102 (geodesy).... 4

GROUP 2

Civil Engineering 125 (highway construction)..... 4

Civil Engineering 126 (city streets and pavements)... 2
Chemistry 136 (road materials) 2

GROUP 3

Civil Engineering 135 (advanced mechanics)..... 4

Civil Engineering 164 (high-er structures) 4

* The electives in the junior year are restricted in the consideration of the head of the department. The following subjects are suggested: Economics, political science, sociology, general bacteriology, a continuation of language, philosophy, logic, ethics.

GROUP 4

Civil Eng. 157 (water supply and irrigation design).....	2	Civil Engineering 158 (sanitary engineering design)....	3
Chemistry 133 (sanitary chemistry)	3		

GROUP 5

Civil Engineering 115 (railway transportation)	2	Civil Engineering 116 (tunneling and track elevation) 2	
Electrical Engineering 170 (electric railways)	3	Civil Engineering 118 (yards and terminals)	2

GROUP 6

Eight credits of advanced work in any department in the University approved by the head of the department of civil engineering.

CURRICULUM IN CIVIL ENGINEERING

Leading to the Degree of Bachelor of Science and to the Degree of Master of Science in Civil Engineering.

<i>Requirements for the B. S. degree:</i>	Credits
Math. 51, 52, 61, 62, 151.....	18
Chemistry 1, 2, 41, 51 (or 21, 22, 51, plus elective) ..	15
Physics 95, 96, 97, 98.....	11
Geology 1, 2.....	8
Political Science	6
English 3, 4	4
Electrical Engineering 105, 122.....	8
Mechanical Engineering 1, 2, 82, 90.....	5+ 4
Civil Engineering 1, 6, 11, 20, 22, 105, 111, 112, 122, 131-132, 138, 142	38
*Surveying in summer camp 6 weeks.....	+ 6
Elective Group A.....	17
Mil. Sci. and Phys. Ed.....	+ 8
	<hr/> 130+18

<i>Requirements for the M. S. in C. E. degree:</i>	Credits
Civil Engineering 147, 153, 154, 161-162, 167.....	19
Law 180	2
Thesis	3
Elective Group B.....	8
	<hr/> 32

GROUP A—ELECTIVES

Continuation of a foreign language—8, 12 or 16 credits; bacteriology, chemistry, geology, history, mathematics, philosophy, physics, economics, political science and sociology, mechanical and electrical engineering.

GROUP B—ELECTIVES

Same as arranged for degree of B. S. in C. E.

* To follow Course 22 and to precede Course 105.

CURRICULUM IN ELECTRICAL ENGINEERING

Leading to the Degree of Bachelor of Science in Electrical Engineering.

(For description of each subject, see page 232, and following.)

FRESHMAN YEAR

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Math. 51 (trigonometry and algebra)	4		Math. 52 (analytical geometry)	4	
Chem. 1 or 21 (general)	4		Chem. 2 or 22 (general)	4	
C. E. 1 (drawing)	2		C. E. 6 (drawing)	4	
English 3	2		C. E. 20 (surveying)	4	
*Elective (restricted)	3		M. E. 2 (shop)	2	
M. E. 1 (shop)		2	Mil. Sci.		1
Mil. Sci.		1			
		<hr/> 15+3			<hr/> 16+3

*Freshman Electives:

Continuation of the foreign language studied in the high school, 4 credits; Economics 3, 4 credits; History, 4 credits; Sociology 1, 4 credits; Geology 3, 4 credits; or any course approved by the head of the department.

SOPHOMORE YEAR

Math. 61 (calculus)	4		Math. 62 (calculus)	4	
Physics 95, 97	6		Physics 96, 98	5	
C. E. 11 (drawing)	2		M. E. 90 (machine design) ..	3	
M. E. 81 (mechanism)	2		English 4	2	
Chem. 51 (engineering)	3		M. E. 82 (steam)	2	
M. E. 53 (shop)		2	M. E. 54 (shop)		2
Mil. Sci.		1	Mil. Sci.		1
		<hr/> 17+3			<hr/> 16+3

JUNIOR YEAR

E. E. 101	3		E. E. 103	3	
E. E. 102 (dynamo laboratory) ..	2		E. E. 104 (dynamo laboratory) ..	3	
C. E. 131 (mechanics)	4		C. E. 132 (mechanics)	3	
M. E. 91 (machine design) ..	2		C. E. 142 (hydraulics)	4	
Math. 151 (calculus)	2		M. E. 140 (experimental) ..	2	
Political Science 3	3		Physics 92	2	
Phys. Ed.		1	Phys. Ed.		1
		<hr/> 16+1			<hr/> 17+1

SENIOR YEAR

E. E. 161 (alternating currents)	4		E. E. 164 (alternating currents)	4	
E. E. 163 (alternating currents laboratory)	3		E. E. 166 (alternating currents laboratory)	3	
E. E. 151 (dynamo design) ..	2		E. E. 196 (thesis)	3	
E. E. 195 (thesis)	1		Elective (restricted)	6	
Elective (restricted)	6		Phys. Ed.		1
Phys. Ed.		1			
		<hr/> 16+1			<hr/> 16+1

GROUP A

Mathematics 113-114; E. E. 131, 132, 141, 152, 170, 174, 176, 195, 196, 201, 202, 211, 212; C. E. 22, 145, 167; M. E. 141, 179, 188, 188.

GROUP B

Economics, political science, sociology, law, history, and advanced courses in English and foreign languages.

CURRICULUM IN ELECTRICAL ENGINEERING

Leading to the Degree of Bachelor of Science, and to the Degree of Master of Science in Electrical Engineering.

(For description of each subject, see page 19, and following.)

<i>Requirements for the B. S. degree:</i>	<i>Credits</i>
Mathematics 51, 52, 61, 62, 151.....	16
Chemistry 1, 2, 41 (or 21, 22, 51).....	12
Physics 95, 96, 97, 98.....	11
English 3, 4.....	4
Political Science 3.....	3
Mechanical Engineering 1, 2, 53, 54, 81, 82, 90, 91... 163.....	9+ 8
Electrical Engineering 101, 102, 103, 104, 151, 161, 163.....	22
Civil Engineering 1, 6, 11, 20, 131-132, 142.....	23
Mil. Sci. and Phys. Ed.....	+ 8
From Group A.....	12
Elective.....	16
	<hr/> 128+16

<i>Requirements for the M. S. in E. E. degree:</i>	<i>Credits</i>
(a) For students having completed the B. S. course:	
E. E. 164, 166, 201, 202.....	10
Thesis.....	4
*From Group A.....	8
*Elective.....	10
	<hr/> 32
(b) For students having completed the B. S. in E. E. course:	
E. E. 201, 202.....	4
Thesis.....	4
*From Group A.....	8
*Elective.....	16
	<hr/> 32

***Electives:**

The student must elect at least 8 credits from Group A. It is recommended that 4 credits be elected from Group B. The choice of electives must in all cases be approved by the head of the department.

CURRICULUM IN MECHANICAL ENGINEERING

Leading to the Degree of Bachelor of Science in Mechanical Engineering.

(For description of each subject, see page 232, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
Math. 51 (trigonometry and algebra)	4	Math. 52 (analytical geometry)	4
Chem. 1 or 21 (general)....	4	Chem. 2 or 22 (general)....	4
C. E. 1 (drawing).....	2	C. E. 6 (drawing).....	4
English 8	2	C. E. 20 (surveying).....	4
*Elective	3	M. E. 2 (shop).....	2
M. E. 1 (shop).....	2	Mil. Sci.	1
Mil. Sci.	1		
	<hr/> 15+3		<hr/> 16+3

**Freshman Electives:*

Continuation of the foreign language studied in the high school, 4 credits; Economics 3, 4 credits; History, 4 credits; Sociology 1, 4 credits; Geology 3, 4 credits; or any course approved by the head of the department.

SOPHOMORE YEAR

Math. 61 (calculus).....	4	Math. 62 (calculus).....	4
Physics 95, 97	6	Physics 96, 98	5
M. E. 81 (mechanism).....	2	M. E. 90 (machine design)..	3
Chem. 51 (engineering).....	3	English 4	2
C. E. 11 (drawing).....	2	M. E. 82 (steam).....	2
M. E. 53 (shop).....	2	M. E. 54 (shop).....	2
Mil. Sci.	1	Mil. Sci.	1
	<hr/> 17+3		<hr/> 16+3

JUNIOR YEAR

M. E. 123 (engines and boilers)	2	C. E. 132 (mechanics).....	3
C. E. 131 (mechanics).....	4	E. E. 122 (alternating currents)	4
E. E. 107, 108	5	C. E. 142 (hydraulics).....	4
M. E. 91 (machine design)..	2	M. E. 124 (engine and boiler design)	3
M. E. 141 (experimental)...	3	M. E. 126 (valve gears)....	2
Math. 151 (calculus).....	2	M. E. 106 (machine work)..	2
M. E. 105 (machine work)..	2	Phys. Ed.	1
Phys. Ed.	1		
	<hr/> 18+3		<hr/> 16+3

SENIOR YEAR

C. E. 145 (hydraulic motors)	2	M. E. 188 (gas engines).....	2
M. E. 101 (special machinery design)	2	M. E. 102 or 201.....	2
M. E. 179 (steam turbines)..	2	M. E. 180 (refrigeration)...	2
M. E. 183 (thermodynamics)	2	M. E. 182 (heating and ventilating)	2
C. E. 167 (structural materials)	3	M. E. 184 (power plants)...	2
M. E. 151 (experimental)...	3	M. E. 152 (experimental)...	2
*Electives	3	*Elective	4
Phys. Ed.	1	Phys. Ed.	1
	<hr/> 17+1		<hr/> 16+1

CURRICULUM IN MECHANICAL ENGINEERING

Leading to the Degree of Bachelor of Science and to the Degree of
Master of Science in Mechanical Engineering.

<i>Requirements for the B. S. degree:</i>	<i>Credits</i>
Mathematics 51, 52, 61, 62, 151.....	18
Chemistry 1, 2, 41, 51 (or 21, 22, 51, plus elective) ..	15
English 3, 4	4
Physics 95, 96, 97, 98.....	11
Civil Engineering 1, 6, 11, 20, 131, 132, 142, 145....	25
Electrical Engineering 107, 108, 122.....	9
Mechanical Engineering 81, 82, 90, 91, 101, 123, 124, 126, 141, 151, 183, 184.....	28
*Elective	18
Mechanical Engineering 1, 2, 53, 54, 105, 106.....	12
Phil. Sci. and Phys. Ed.	8
	<hr/> 128+20

<i>Additional Requirements for the M. S. in M. E. degree:</i>	<i>Credits</i>
Mechanical Engineering 102, 152, 179, 180, 182, 188, 201, 203	16
*Elective	12
Thesis	4
	<hr/> 32

* Electives must be approved by the head of the department.

31 + 4
33 + 4
34 + 4
33

131 + 12

DEPARTMENTS OF INSTRUCTION

CHEMISTRY

(Bagley Hall)

PROFESSORS BYERS AND BENSON, ASSOCIATE PROFESSOR DEHN,
ASSISTANT PROFESSORS ROSE, TRUMBULL, HEATH,
DR. LANGDON AND ASSISTANTS.

1. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. BYERS, ROSE, Instructors and Assistants.

This course is designed to meet the needs of students who come from accredited schools in which chemistry is not required.

2. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 1.

21. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. This course is open to students who have had a year of chemistry in an accredited high school. BYERS, TRUMBULL, LANGDON and Assistants.

22. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 21. BYERS, TRUMBULL, LANGDON and Assistants.

The laboratory work is an elementary course in qualitative analysis.

31. ORGANIC CHEMISTRY. Four credits. First semester. Prerequisite, 22 or its equivalent. DEHN.

Introductory course in organic chemistry, consisting of three lectures per week and four hours' laboratory work, on the preparation and testing of representative compounds.

32. ORGANIC CHEMISTRY. Four credits. Second semester. DEHN.

A continuation of 31.

41. ELEMENTARY QUALITATIVE ANALYSIS. Four credits. Either semester. Two lectures and six laboratory hours per week. LANGDON.

This course is designed to follow chemistry 1 and 2, and is open to election to those students in the College of Engineering who have not presented high school chemistry for entrance.

43. **ADVANCED QUALITATIVE ANALYSIS.** Four credits. First semester. BYERS.

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

51. **ENGINEERING CHEMISTRY.** Three credits. Either semester. Prerequisite, 22 or its equivalent. BENSON.

A course in the chemistry of engineering materials. Designed for sophomore engineers.

101. **QUANTITATIVE ANALYSIS.** Four credits. Either semester. Twelve laboratory hours and one recitation per week. HEATH.

The technique of gravimetric and volumetric analysis.

102. **QUANTITATIVE ANALYSIS.** Four credits. Either semester. A continuation of 101. HEATH.

Mineral analysis and special analytical processes.

121. **INDUSTRIAL CHEMISTRY.** Four credits. First semester. Prerequisite, chemistry 101. BENSON.

A course designed primarily for chemical engineers, and dealing with a detailed study of chemical industries.

122. **INDUSTRIAL CHEMISTRY.** Four credits. A continuation of 121.

133. **SANITARY CHEMISTRY.** Three credits. First semester. Two lectures and one laboratory period. BENSON.

A study of the materials and processes used in the purification of water and sewage and in sanitation.

135. **FOREST PRODUCTS.** Three credits. First semester. A course designed especially for students of forestry. Two lectures and one laboratory period. BENSON.

A detailed study of the chemical processes involved in the utilization of wood.

136. **ROAD MATERIALS.** Two credits. Second semester. One lecture and one laboratory period. BENSON.

A course designed for students in civil engineering. Deals with the materials of, and methods for examination of, road binders, dust preventives, etc.

201. **PHYSICAL CHEMISTRY.** Five credits. First semester. Three lectures and two laboratory periods per week. Prerequisite, physics 1-2. TRUMBULL.

An elementary course, dealing with the fundamental theories of chemistry based upon physical measurements.

202. **ADVANCED PHYSICAL CHEMISTRY.** Four credits. Second semester. Two lectures and six laboratory hours per week. Prerequisite, 201 and differential calculus. TRUMBULL.

A course in chemical statics and dynamics with physical chemical measurements.

204. **ELECTRO CHEMISTRY.** Four credits. Second semester. Prerequisite, chemistry 201. Laboratory deposit, \$10.00. BYERS, TRUMBULL.

The lecture course deals with the historical development of electro chemistry and the theories of voltaic and electrolytic cells. The laboratory work deals with the practical methods of electro analysis and electro synthesis and related processes.

221-222. **CHEMICAL THEORY.** Two credits per semester. BYERS.

All graduate students registering in the Department of Chemistry are expected to take this course which deals with the historical development of the fundamental laws and theories.

231. **ADVANCED ORGANIC CHEMISTRY.** Four credits. First semester. ROSE.

A review of the theories of organic chemistry with special reference to the volatile oils, dye stuffs, alkaloids, sugars, etc. Special laboratory work to be arranged.

232. **ADVANCED ORGANIC CHEMISTRY.** Four credits. Second semester. A continuation of 231. ROSE.

241-242. **JOURNAL COURSE.** One credit per semester. LANGDON.

The course deals with the sources of information through the publications of various sorts and involves the preparation of abstracts of articles in English, French, German and other periodicals.

250. **RESEARCH.** Credit to be arranged. The work in research offered by the department consists of three types: First, thesis work for the bachelor's degree in chemical engineering.

Such work may receive a maximum of six credits. Second, research work for the master's degree. This work is not necessarily laboratory investigation, although the investigation of the literature is ordinarily supplemented by more or less practical development of the subject. Maximum credit, six hours. Third, research work for the doctor's degree. Maximum credit, thirty hours. Work for the doctor's degree may be carried on with any member of the staff of the department, on any topic; subject to the approval of the department.

CIVIL ENGINEERING (Engineering Hall)

PROFESSORS FULLER, MORE, ALLISON, ASSOCIATE PROFESSOR HARRIS,
ASSISTANT PROFESSORS MILLER, NEWTON, WARNER, MR.
DUCKERING, MR. RUBEY, MR. WERNECKE, MR. ROGERS.

1. ² ENGINEERING DRAWING. ³ Two credits. ~~Either semester.~~ *Repeated, 7 W.S.*

All freshman engineers. Prerequisite, plane geometry. Two three-hour laboratory periods. WARNER, DUCKERING, WERNECKE, RUBEY, ROGERS.

The use of instruments, freehand lettering, tracing.

6. ~~ENGINEERING DRAWING~~. Four credits. Either semester. All freshmen engineers. Prerequisite, 1 and solid geometry. Laboratory deposit, \$1.00. Two recitations and two three-hour laboratory periods. WARNER, HARRIS, ~~RUBEY~~, ROGERS.

The elements of descriptive geometry, including the principles of shades, shadows and perspective. Practical problems.

11, 12, 13. ~~ENGINEERING DRAWING~~. ^{Problems 3} Two credits. ~~Either semester.~~ *7 W.S. each.*

All sophomore engineers. Prerequisite, 6. Laboratory deposit, \$1.00. Two three-hour laboratory periods. WARNER, WERNECKE, ROGERS.

Continuation of 6. Problems and tracings.

14-15. ~~ENGINEERING DRAWING~~. One credit per semester. All sophomore and junior civil engineers. Prerequisite, 11. One three-hour laboratory period. WARNER, WERNECKE.

Working drawings, including tracings.

21. ~~ENGINEERING~~ PLANE SURVEYING. ³ ~~Four~~ credits. ~~Either semester.~~ *7 S.* All freshman engineers. Prerequisite, mathematics

51 and C. E. 1. Laboratory deposit, \$3.00. Two recitations and two three-hour laboratory periods. MILLER, DUCKERING, RUBEY.

Adjustment of instruments, trigonometric computations, mapping of simple surveys, and a brief introduction to the U. S. system of public land surveying.

23, 24

Engineering

3

W.S.

~~22. FIELD GEOMETRY AND CONSTRUCTION SURVEYING. Two credits. Second semester. Sophomore C. E. Prerequisite, Mathematics 52 and C. E. 20. Laboratory deposit, \$3.00. Two three-hour laboratory periods. MILLER.~~

Theory of circular and parabolic curves. Staking out engineering work and the computation of earth work. Use of mass diagram and construction profiles.

27. MINE SURVEYING. Three credits. First semester. Sophomore mining engineers. Prerequisite, C. E. 20. Laboratory deposit, \$3.00. NEWTON.

Surface and underground practice. Observation for meridian. Topography. Mining claim survey. Plane triangulation. Tunnels and vertical shaft work and connections. Mapping.

A trip of one or two days to a mine in the vicinity for the purpose of practice under operating conditions.

30. FOREST SURVEYING. (Short session in Forestry, first year. Jan-Mar.). Laboratory deposit, \$3.00. NEWTON.

Engineering drawing, topographical and map drawing. Instructions and field practice in the use of the chain, hand compass, and Forest Service compass, hand level, clinometer and transit in direct application to the requirements of the U. S. Forest Service.

4 hrs. - W. Newton.

* 32. FOREST SURVEYING. (Short session in Forestry, second year, Jan-Mar.). Laboratory deposit, \$3.00. NEWTON, DUCKERING.

Traversing by various conventional methods, mining claim surveys, plane triangulation and topographical work. U. S. Public Land Subdivision.

38. MINE SURVEYING. (Short session in Mining, Jan-Mar.). Laboratory deposit, \$3.00. NEWTON.

Instruction and field practice in the use of simple instruments for making surface and underground surveys. The ele-

* Not offered in 1917-18.

41, Hist of C. E. - 2 - *W. Neumecke*

ments of drawing, lettering, sketch mapping and field work. Judicial functions of the mine surveyor and the rules governing mineral surveys. *4 hrs 3- W. WS*

55-56. FOREST SURVEYING. ~~Six~~ credits per semester. Sophomore and junior foresters. Prerequisite, Mathematics 51 and Forestry 3. Laboratory deposit, \$3.00. ~~NEWTON.~~ *Duckering*

Engineering lettering and map drawing. Chain, compass, transit and level surveying, with reference to work in forest. U. S. Public Land Subdivision.

architectural 3
65-66. MECHANICS. ~~Four~~ credits per semester. For architects. ~~Moore.~~ *warnecke*

*103. SURVEYING CAMP. Six credits. Six weeks following the second semester sophomore work. Class will start for camp immediately following the final examination in June. Required of all civil engineering students. Prerequisite, C. E. 14 and 22. MILLER, NEWTON, DUCKERING.

Railway and topographic surveying. Elementary triangulation and the use of the plane table and stadia. Precise measurement of short base lines with the steel tape. Railway preliminary and location surveys. Cross sectioning and referencing the line and making the necessary right of way surveys.

105. SURVEYING OFFICE WORK. Two credits. First semester. Junior C. E. Prerequisite, C. E. 103. MILLER.

Computations and maps of summer camp surveys.

107. TOPOGRAPHY. Four credits. First semester. Junior foresters and miners. Prerequisite, C. E. 55-56. Laboratory deposit, \$3.00. NEWTON.

Topographic surveys as applied to forestry and mining. Reconnaissance and sketch maps, and exercises in reading and adjusting triangulation systems. Filling in topographic details with plane table and transit. Beginning of elementary railroad surveying. *3*

* 108. LOGGING RAILROADS. ~~Four~~ credits. ~~Second semester~~ *W.*
Junior foresters. Prerequisite, C. E. 107. Laboratory deposit, \$3.00. MILLER.

Elementary railroad engineering, including curves and earth-work and the economic location of logging railways. Cost estimates.

* See bulletin of information—Summer School of Surveying.

111. RAILWAY OPERATION. Two credits. First semester. Junior C.E. Prerequisite, 103, accompanied by 131. MILLER.

Economics of the operation of railways from an engineering standpoint. Train weights and resistances, costs, etc. Maintenance of way and equipment.

112. RAILWAY CONSTRUCTION. Two credits. Second semester. Junior C.E. Prerequisite, 111. MILLER.

The economics of railway location and the relation of location to operation. Contracts and specifications.

115. RAILWAY TRANSPORTATION. Two credits. First semester. Senior and graduate C.E. Prerequisite, 112. MILLER.

The economics of railway transportation from an engineering standpoint. Traffic statistics and the choice of routes and motive power.

* 116. TUNNELLING AND TRACK ELEVATION. ³ ~~Two~~ credits. ~~Second semester~~ Senior and graduate C.E. Prerequisite, 112. MILLER. *SP*

The problems confronting the engineer in track elevation and the construction of subways. ³

* 118. YARDS AND TERMINALS. ³ ~~Two~~ credits. ~~Second semester~~ Senior and graduate C.E. Prerequisite, 112. MILLER. *SP*

The design and operation of the large yards of modern railway organizations, and the control of trains by means of signaling and interlocking.

122. HIGHWAYS. ³ ~~Two~~ credits. ~~Second semester~~ Junior C.E. ALLISON. *SP Rogers*

A general survey of the location, construction and maintenance of country roads and city streets, with special emphasis upon the construction of the cheaper roads; i. e. earth, sand, clay and gravel up to \$5,000 per mile.

125. HIGHWAY CONSTRUCTION. Four credits. First semester. Senior and graduate C.E. Prerequisite, 112 and 122. ALLISON.

The economics of highway location, construction, and maintenance of the more permanent character, i. e. \$5,000 per mile and up. All standard laboratory tests of highway metals.

126. CITY STREETS AND PAVEMENTS. Two credits. Second semester. Senior and graduate C.E. Prerequisite, 125. ALLISON.

A study of city streets and pavements, including estimates and inspection; also, a study of the manufacture and testing of materials of paving.

131-132, ~~MECHANICS~~. ~~Four~~ ³ credits ~~first semester~~. Three credits second semester. Junior engineers. Prerequisites, Mathematics 62, Physics 97. 131 is repeated second semester. MORE, DUCKERING, WERNECKE, RUBEX.

Statics, dynamics and mechanics of materials.

134 ~~135~~ ~~ADVANCED MECHANICS~~. ~~Four~~ ³ credits. ~~First semester~~. Senior and graduate engineers. Prerequisite, C.E. 132 and 138. MORE.

General theories of flexure, elasticity and least work, with applications.

~~136~~ ~~MASONRY CONSTRUCTION~~. Five credits. Second semester. Junior C.E. Prerequisite, 15, and preceded or accompanied by 132. MORE WERNECKE.

Foundations, piers, retaining walls, dams and arches. Reinforced concrete.

142. ~~HYDRAULICS~~. Four credits. ~~Second semester~~. Junior engineers. Prerequisite, 131. Laboratory deposit, \$3.00. HARRIS, ~~ROGERS~~.

Flow of water through pipes and orifices, over weirs and in open channels; energy, impulse and reaction of jets with application to impulse wheels. Review of hydrostatics.

~~143~~ ~~HYDRAULICS~~. Four credits. First semester. Senior miners and chemical engineers. Prerequisite, C.E. 131. Laboratory deposit, \$3.00. HARRIS.

Elements of hydraulics with application to industrial uses.

~~144~~ ~~HYDRAULIC MINING~~. (Short session in Mining, Jan.-Mar.). ALLISON.

A course of two lectures per week on theory and practice of hydraulic mining.

145. ~~HYDRAULIC MOTORS~~. ~~Two~~ ³ credits. ~~First semester~~. Senior and graduate E.E. and M.E. Prerequisite, 142. HARRIS.

Development and theory of water wheels and turbine pumps; design of a reaction turbine.

147. ~~HYDRAULIC POWER~~. ~~Three~~ ⁵ credits. ~~First semester~~. Senior and graduate C.E. Prerequisite, 142. HARRIS.

Stream flow, storage and generation of power. Development and theory of turbines, design of a spillway, penstock and turbines; test of an existing power plant.

153. WATER SUPPLY AND IRRIGATION. Three credits. First semester. Senior and graduate C. E. Prerequisite, 142. ALLISON.

A study of the principal engineering operations necessary to secure suitable water supplies for cities and towns and water for irrigation. The purification of water supplies.

154. SANITARY ENGINEERING. Three credits. Second semester. Senior and graduate C. E. Prerequisite, 153. ~~ALLISON~~. *arr WS*

A study of the design and construction of sewerage systems, both combined and separate. Sewage treatment. *Rogers*

157. WATER SUPPLY AND IRRIGATION PROBLEMS. Two credits. First semester. Senior and graduate C. E. ALLISON.

Supplementary to 153, with special problems and investigations.

158. SEWAGE TREATMENT. Two credits. Second semester. Senior and graduate C. E. and Ch. E. ALLISON.

Supplementary to 154, with special problems in matters relating to public health.

161-162. BRIDGES. ~~Four credits first semester. Three credits second semester.~~ Senior and graduate C. E. Prerequisite, 138. ~~FULLER~~. *arr WS*

Stresses, design and deflection of simple trusses. Detail drawings. Estimates. *Snell*

164. HIGHER STRUCTURES. Four credits. Second semester. Senior and graduate C. E. Prerequisite, preceded or accompanied by 161-162. FULLER.

Primary and secondary stresses. Design.

167. ¹⁶⁸ STRUCTURAL MATERIALS. Three credits. ~~First semester.~~ Senior and graduate C. E. and M. E. and graduate E. E. Prerequisite, 132. Laboratory deposit, \$3.00. ~~FULLER, RORER~~. *7*

An experimental study of the physical properties of materials of construction. *?, Snell*

ELECTRICAL ENGINEERING
(Engineering Hall)

PROFESSOR MAGNUSSON, ASSOCIATE PROFESSOR LOEW, ASSISTANT PROFESSOR KIRSTEN, MR. CURTIS, MR. RADER AND MR. KALIN.

101. ELECTRICAL ENGINEERING. ~~Three credits. Either semester.~~ Junior E. E. Prerequisite, Mathematics 62, Physics 96, 98. ~~Loew.~~ *Kirsten* 7WS

Theory of the electric and magnetic circuits; construction, operation and characteristics of direct current generators and motors.

102. DYNAMO LABORATORY. ~~Two credits. Either semester.~~ Junior E. E. Prerequisite, Mathematics 62, Physics 96, 98. ~~Loew.~~ *Kirsten* 7WS
Laboratory work on direct current machinery to be taken in connection with 101.

103. ELECTRICAL ENGINEERING. Three credits. ~~Either semester.~~ Junior E. E. Prerequisite, E. E. 101 and 102. ~~Loew, KIRSTEN.~~ *Curtis* 7W

Continuation of 101 in direct current machinery. Storage batteries. Regulation and control of direct current systems.

104. DYNAMO LABORATORY. ~~Three credits. Either semester.~~ Junior E. E. Prerequisite, 101 and 102. To be taken in connection with 103. ~~KIRSTEN.~~ *Curtis* 7W

Experimental work on direct current dynamo machinery and storage batteries.

105. ELECTRICAL ENGINEERING. Four credits. Either semester. Junior C. E., Ch. E. and M. E. Prerequisite, Mathematics 62, Physics 96, 98. KIRSTEN, CURTIS.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

107. ELECTRICAL ENGINEERING. Three credits. First semester. Junior M. E. Prerequisite, Mathematics 62, Physics 96, 98. ~~LOEW.~~

An abbreviated course on the electric circuit, and the construction and operating characteristics of direct current generators and motors.

108. DYNAMO LABORATORY. Two credits. First semester. Junior M.E. Prerequisite, Mathematics 62, Physics 96, 98. LOEW.

Experimental work on the electric circuit and on direct current machinery. Taken in conjunction with 107.

115. ELEMENTARY ELECTRICAL ENGINEERING. Four credits. First semester. (Night class.) RADER.

The laws of the electric and magnetic circuits with application to direct current machinery without the use of advanced mathematics. For students having at least two years of practical experience with electrical machinery and appliances.

120. ALTERNATING CURRENTS. Four credits. ~~Second semester.~~ Electricians. (Night class.) Prerequisite, E.E. 115. ~~RADER.~~ *Kirsten*

An introduction to alternating current theory with experimental work on alternating current machinery.

122. ALTERNATING CURRENTS. ~~Four credits. Second semester.~~ Junior M.E., C.E., Ch.E. and Miners. Prerequisite, E.E. 101 or 105. ~~Loew.~~ *Reportis*

~~A short course in alternating currents for non-electrical students.~~

131. TELEPHONES. ~~Two credits. Either semester.~~ Junior E.E. Prerequisite, E.E. 101 and 102, or 105. CURTIS.

Theory, construction and operation of telephone systems. Central station practice.

132. TELEPHONES AND TELEGRAPHS. Two credits. Second semester. Prerequisite, E.E. 131. CURTIS.

Details of automatic and manual switchboards. Testing and locating faults. Multiplex and wireless telegraphy. Railway signal systems. *illumination*

141. ~~ELECTRIC LIGHTING.~~ Three credits. First semester. Senior E.E. KIRSTEN.

Electric lamps. Commercial photometry. Adaptation of electric lighting to commercial requirements.

151. DYNAMO DESIGN. ~~Two credits. First semester.~~ Prerequisite, E.E. 103 and 104. Senior E.E. LOEW.

Complete design of one direct current generator or motor.

152. DESIGN OF ELECTRICAL APPARATUS. Two credits. Second semester. Prerequisite, E. E. 151. Seniors in E. E. LOEW. Design of switchboards, transformers, alternators or alternating current motors.

156. METERS. Two credits. Second semester. Prerequisite, E. E. 103 and 104. Senior E. E.

Detail study of different types of meters and the problems arising in the measurements of electrical energy for various commercial requirements.

161. ALTERNATING CURRENTS. ~~Four~~ ⁵ credits. ~~First~~ ^{7 S} semester. Senior E. E. Prerequisite, E. E. 101, 102. MAGNUSSON, ~~KERN~~.

The theory of the generation of singlephase and polyphase currents. Energy storage in the magnetic and dielectric fields. Vector diagrams and the symbolic method of analysis. Power factors and the measurement of power. Hysteresis and eddy currents. Theory of the transformer, singlephase and polyphase induction motors and alternators.

162. ALTERNATING CURRENT LABORATORY. ~~Three~~ ² credits. ~~First~~ ^{7 S} semester. Prerequisite, E. E. 101, 102. Senior E. E. Taken in conjunction with E. E. 161. CURTIS.

Experimental work on alternating current machinery.

163. ALTERNATING CURRENTS. ~~Four~~ ⁴ credits. ~~Second~~ ^W semester. Senior and graduate E. E. Prerequisite, E. E. 161, 163. MAGNUSSON, ~~KERN~~.

The theory of rotary converters, synchronous and commutator motors, and transmission lines. High tension phenomena. Commercial wave forms. Unbalanced and interlinked polyphase systems.

166. ALTERNATING CURRENT LABORATORY. ~~Three~~ ² credits. ~~Second~~ ^W semester. Prerequisite, E. E. 161, 163. Senior and graduate E. E. To be taken in connection with E. E. 164. CURTIS. *Kern*

A continuation of E. E. 163 with tests on rotary converters, synchronous and commutator motors and transmission lines.

* 170. ELECTRIC RAILWAYS. ~~Three~~ ⁴ credits. ~~First~~ ^W semester. Prerequisite, E. E. 103, 104 or 105. Seniors in E. E. and C. E. CURTIS.

Electrical equipment and rolling stock; roadbed; construction and operation of direct current, single phase, and polyphase systems.

* 174. CENTRAL STATIONS. ~~Two credits. Second semester.~~ ^{SP} Pre-requisites, E. E. 161 and 163. Senior E. E. CURTIS.

Location, design and operation of electric central stations.

* 176. POWER TRANSMISSION. ~~Two credits. Second semester.~~ ^S Prerequisites, E. E. 161 and 163. Senior and graduate E. E. KIRSTEN.

Theory, design and operation of electric power transmission systems.

181. RADIO ENGINEERING. ~~Three credits. Second semester.~~ ^S Senior and graduate E. E. ^{Curtis}

Natural oscillations of condenser circuits. Lineal, open and complex oscillators. Coupled circuits. Resonance. Transmitters. Undamped and quenched oscillations. Receivers. Propagation of waves over the earth's surface.

7 all 195-196. THESIS. ~~One credit first semester. Three credits~~ ^{an} ~~second semester.~~ Senior and graduate E. E. MAGNUSSON, LOEW, KIRSTEN, CURTIS.

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 semester's or year's work is typewritten and bound and a copy deposited in the University library.

201-202. TRANSIENT ELECTRICAL PHENOMENA. ~~Two credits per semester.~~ ^{3 cr.} Prerequisite, E. E. 161, 163. Graduate E. E. MAGNUSSON. ^{3 credits}

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. Lightning phenomena.

211-212 RESEARCH. ~~Four credits per semester.~~ ^{an} Graduate E. E. MAGNUSSON. ^{7.}

MECHANICAL ENGINEERING.

(Engineering Hall)

PROFESSOR EASTWOOD, ASSOCIATE PROFESSOR WILSON, ASSISTANT
PROFESSOR MACINTIRE, MR. BEATTIE, MR. KANE.

1. CARPENTRY AND WOOD-TURNING. ¹Two credits. ~~Either semester.~~ Freshman and sophomore M. E., C. E., E. E., and Ch. E. First semester. BEATTIE. 7WS

2. PATTERN MAKING AND CABINET WORK. ¹Two credits. ~~Either semester.~~ Freshman and sophomore M. E., C. E., E. E., and Ch. E. First semester. BEATTIE. 7WS

3 — Shop — 1 cr. — ¹Two credits. ~~Second semester.~~ Sophomore mining engineers. BEATTIE, DANIELS. W. S. P.

53. FORGE ⁽⁵⁴⁾AND FOUNDRY. ¹Two credits. ~~Either semester.~~ Sophomore and Junior M. E., E. E., and Ch. E. KANE. 7WS

55-54. MACHINE WORK. ¹Two credits. ~~Either semester.~~ Sophomore and junior M. E., E. E., and Ch. E. First semester. KANE. 7WS

81. MECHANISM. ³Two credits. ~~Either semester.~~ Sophomore and junior M. E. and E. E. WILSON. 7WS

A study of the operation of machines involving the transmission of forces and the production of determinate motions.

82. STEAM ENGINEERING. ²Two credits. ~~Either semester.~~ Junior M. E. and C. E.; junior and senior E. E.; sophomore and junior Ch. E. Not open to freshmen. EASTWOOD. 7WS

The various forms of steam apparatus used in modern power plants, considering the construction, use and reason for installing such apparatus. 7WS

90. MACHINE DESIGN. Three credits. ~~Either semester.~~ Sophomore and junior M. E., E. E., Ch. E. and junior C. E. Prerequisite, C. E. 11. MACINTIRE.

A study of the design of machine details, giving practice in the application of modern formulae and manufacturers' standards.

91. MACHINE DESIGN. ³ ~~Two~~ credits. ~~Either semester.~~ Sophomore and junior M. E. and E. E. Prerequisite, M. E. 90, preceded or accompanied by M. E. 81. MACINTIRE. 7 W S

A continuation of M. E. 90, consisting in the design of gearing, cone pulleys and belt transmission. Practice in tracing and blue-printing.

101. DESIGN OF SPECIAL MACHINERY. Two credits. First semester. Senior M. E. Prerequisite, M. E. 91 and C. E. 131. MACINTIRE.

Special problems in the design of hoisting and pumping machinery.

102. ¹⁰³ ADVANCED MACHINE DESIGN. ~~Two~~ credits. ~~Second semester.~~ Senior and graduate M. E. Prerequisite, M. E. 101 and C. E. 132. MACINTIRE. am 7 W S

Special problems in the design of machine tools, and automatic machinery.

105. ¹⁰⁶ MACHINE WORK. ~~Two~~ credits. ~~First semester.~~ Junior and senior M. E. KANE. 7 W
Advanced.

106. ¹⁰⁷ MACHINE WORK. ~~Two~~ credits. ~~Either semester.~~ Junior and senior M. E. KANE. 1 W S
Advanced.

108. MANUAL ARTS, WOODWORK. ~~Two~~ credits. ~~Either semester.~~ BEATTIE. am 7 W S
For teachers.

109. MANUAL ARTS, METALWORK. ~~Two~~ credits. ~~Either semester.~~ KANE. am 7 W S
For teachers.

115. CHEMICAL MACHINERY. Two credits. ~~First semester.~~ Senior Ch. E. Prerequisite, M. E. 90 and C. E. 131. MACINTIRE. 7
Special problems in the design of chemical machinery.

123. ENGINES AND BOILERS. Two credits. ~~First semester.~~ Junior and senior M. E. Prerequisite, M. E. 82. MACINTIRE.

The generation and use of steam in boilers and engines; valve gears; governors; the condition necessary for maximum efficiency; the influence of economizers, feed-water heaters, etc., upon the engine and boiler performance.

125' COLLEGE OF ENGINEERING

124. ENGINE AND BOILER DESIGN. Three credits. ²⁴⁷~~Second~~ semester. Senior M. E. Prerequisite, M. E. 91, 123 and C. E. 132. EASTWOOD. *W.S.*

One complete problem will be assigned for solution in the class room.

126. VALVE GEARS. Two credits. Second semester. Junior M. E. Prerequisite, M. E. 82 or 123. WILSON.

The theory and practice of designing the various kinds of valve gears for steam engines.

140. EXPERIMENTAL ENGINEERING. ³~~Two~~ credits. ~~Either~~ ^{7 W S} semester. Junior and senior E. E., junior and graduate Ch. E. Prerequisite, preceded or accompanied by M. E. 82. WILSON.

Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine. One complete engine and boiler test with report.

141. EXPERIMENTAL ENGINEERING. Three credits. First semester. Junior and senior M. E. Same as M. E. 140 except an additional laboratory period is provided. WILSON.

151. EXPERIMENTAL ENGINEERING. ²~~Three~~ credits. First semester. Senior M. E. Prerequisite, M. E. 141. WILSON. *W*

A continuation of M. E. 141, involving more extended and complete investigations. Special attention is given to the theory involved and previous experiments. Gas and fuel analysis.

153. EXPERIMENTAL ENGINEERING. ¹~~Two~~ credits. ~~Second~~ semester. Senior and graduate M. E. Prerequisite, M. E. 151. *S p*
EASTWOOD, WILSON.

An advanced course in commercial testing.

179. STEAM TURBINES. ²~~Two~~ credits. ~~First semester~~ ⁷ Senior and graduate M. E. and E. E. Prerequisite, M. E. 82. EASTWOOD. The theory, construction and design of steam turbines.

180. MECHANICAL REFRIGERATION. Two credits. ~~Second~~ semester. Senior and graduate M. E. Prerequisite, Physics 96 and 98. MACINTIRE. *S p*

The theory and application of mechanical refrigeration.

182. HEATING AND VENTILATING. ³~~Two~~ credits. ~~Second~~ semester. Senior and graduate M. E. Prerequisite, M. E. 82. EASTWOOD. *W*

The various systems of heating and ventilating, methods of design and tests.

183. THERMODYNAMICS. ³Two credits. ⁷First semester. Senior M. E. Prerequisite, M. E. 82 or 123, Physics 98 and Mathematics 62. EASTWOOD.

The fundamental principles underlying the transformation of heat into work, with reference to the steam engine, the gas engine and the hot air engine, and the operation of refrigerating machinery; efficiency of the simple, compound, and multiple expansion engine.

* 184. POWER PLANTS. ³Two credits. ^{SP}Second semester. Senior M. E. Prerequisite, M. E. 123. EASTWOOD.

The design of power plants involving their location, buildings, prime movers, power transmission, etc.

185. NAVAL ARCHITECTURE. ³Two credits. ^{7 S}First semester. Elective. EASTWOOD.

The calculations common to ship construction, accompanying regular drafting room work.

¹⁸⁷ 186. SHIP DRAWING ~~AND DESIGN~~ ^{an}Two credits. ^{US}Second semester. Elective. EASTWOOD.

An application of the principles of naval architecture to the design of a steamship for a definite purpose.

^{190, 191} 187. SHIP DESIGN ³Two credits. ^{an}Second semester. Senior and graduate M. E. Prerequisite, M. E. 82. WILSON.

The development of gas engineering, including the different types of gas engines, and gas producers and methods of testing.

* ¹⁹² 188. MARINE ENGINEERING, ^{Boilers}Two credits. ^{SP}Second semester. Elective. EASTWOOD.

The consideration of the power plant equipment of ships, including boilers, engines, turbines, auxiliaries and propellers. Attention is given to arrangement, materials and design.

201. GAS ENGINE DESIGN. ^{an}Two credits. ^{SP}Second semester. Graduate M. E. Prerequisite, M. E. 188. WILSON.

Calculations and plans for the design of a given type of gas engine.

¹⁹⁶ Thesis - 7 W, S - an.

Cliff

**SUBJECTS PRESENTED BY DEPARTMENTS OF OTHER
COLLEGES OF THE UNIVERSITY.****ASTRONOMY****(The Observatory)**

101. **GEODETIC ASTRONOMY.** Four credits. First semester. Prerequisite, Astronomy 2 or Civil Engineering 20, Mathematics 11-12 or its equivalent and must be preceded or accompanied by Mathematics 31 or its equivalent. **BOOTHROYD.**

After mastering the elements of the subject, they are applied to the problems of determination of time, latitude, longitude and azimuth with the sextant and the surveyor's transit. The student becomes acquainted with this work with the use of the astronomical transit, clock and chronograph. Especially desirable for navigators and for civil, electrical and mining engineers.

102. **GEODESY.** Four credits. Second semester. Prerequisite, Astronomy 101 and preceded or accompanied by Mathematics 62 or its equivalent. **BOOTHROYD.**

Precise surveying methods and elements of geodesy, mapping and map projection, method of least squares. This course is planned especially for engineers who desire a knowledge of precise surveying methods such as are used in the survey of the larger cities, in geodetic surveying and in all survey work where a high degree of accuracy is necessary. As much practice in precise surveying methods will be given as the time permits.

105-106. **ANALYTICAL MECHANICS.** Two credits per semester. **BOOTHROYD.**

BACTERIOLOGY**(Science Hall)**

103. **GENERAL BACTERIOLOGY.** Four credits. First semester. For chemical engineers. Prerequisite, junior standing; botany or zoology, 1 year; chemistry, 1 year. **WEINZIRL, MASKE.**

Methods of growing bacteria and studying their structure, functions and distribution.

104. **SANITARY AND INDUSTRIAL BACTERIOLOGY.** Four credits. Second semester. For chemical engineers. Prerequisite, 103. **WEINZIRL, MASKE.**

A brief survey of disease bacteria. Most of the time is given to sanitation and industry. Inspection trips.

ECONOMICS
(Commerce Hall)

1-2. **MAN AND HIS ECONOMIC LIFE.** Four credits per semester. PARKER, ———.

An analysis of man's original nature, a description of the evolution of his economic environment and a statement of his problems of adjustment in modern life.

This course is an absolute prerequisite to all advanced economics.

3. **MAN AND HIS ECONOMIC LIFE.** Four credits. Either semester. ———.

ENGLISH
(Denny Hall)

3-4. **FRESHMAN COMPOSITION.** Two credits per semester. First semester of freshman and second semester of sophomore year. MILLIMAN in charge.

GEOLOGY
(Science Hall)

1-2. **GENERAL.** Four credits per semester. Three lectures and one laboratory period per week, with occasional half day field trips. Laboratory deposit, \$1.00. SAUNDERS.

The fundamental principles of structural, dynamic and historical geology.

3. **GEOLOGY FOR ENGINEERING AND MINING STUDENTS.** Four credits. Either semester. Elective for freshmen. Required for sophomores. Three class periods and one laboratory period per week, with occasional half-day field trips. Laboratory deposit, \$1.00. CULVER.

A general course emphasizing those phases which are of special application in engineering and mining work.

21. **COMMON MINERALS AND ROCKS.** Three credits. First semester. Two lectures and one laboratory period. Laboratory deposit, \$1.00. CULVER.

An examination and study of the physical properties of the more common minerals and rocks with field trips to local outcrops.

22. **MINERALOGY.** Four credits. Second semester. Two lectures and two laboratory periods. For engineering and mining students. Laboratory deposit, \$2.00. Prerequisite, one year of college chemistry. CULVER.

A descriptive and determinative study of the minerals, with blowpipe analysis.

LAW

(Commerce Hall)

180. **ENGINEERING CONTRACTS.** Two credits. Second semester. Senior and graduate C. E. AYER and special lecturers.

MATHEMATICS

(Science Hall)

1-2 **SOLID GEOMETRY.** Two credits per semester. Prerequisite, plane geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

4. **SOLID GEOMETRY.** Three credits. Second semester. Same as 1-2.

5. **ADVANCED ALGEBRA.** No credit. Either semester. Required of all students who fail to pass in the qualifying tests required in Mathematics 51.

51. **TRIGONOMETRY AND ALGEBRA.** Four credits. First semester. Prerequisite, one year plane geometry and one and one-half year's elementary algebra.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of plane trigonometry and supplementary work in algebra equivalent to one hour per week.

Students registering in this course will be required to pass a qualifying test in algebra after a two-week review of that subject.

52. **ANALYTICAL GEOMETRY AND ALGEBRA.** Four credits. Either semester. Prerequisite, 51.

Primarily for students in the Colleges of Engineering, Forestry, and Mines. The elements of analytical geometry and supplemental work in algebra equivalent to one hour per week.

61. CALCULUS FOR ENGINEERS. Four credits. Either semester. Prerequisite, 52.

62. CALCULUS FOR ENGINEERS. Four credits. Either semester. Continuation of 61.

151. APPLICATION OF THE CALCULUS FOR ENGINEERS. Two credits. Either semester. Prerequisite, 62.

MILITARY SCIENCE AND TACTICS

(The Armory)

In accordance with the National Defense Act, June 3, 1916, the War Department has established and maintains at this University an Infantry unit of the Senior Division of the Reserve Officers' Training Corps. Provision has also been made for the probable establishment in the near future of Coast Artillery and Engineer units. The primary object of these units is to qualify, by systematic and standard methods of training, students for reserve commissioned officers in the military forces of the United States.

The system of instruction prescribed presents to the student a standardized measure of that military training which is necessary in order to prepare him to perform intelligently the duties of a commissioned officer, and it enables him to be thus trained with the least practicable interference with his civil career.

All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take two years' work in military training, which by regulation of the University is required during the first and second years. During this time three hours a week are devoted to military training, for which two credits are given each semester.

Students desiring to continue in the Reserve Officers' Training Corps during their junior and senior years are required to take five hours a week of military training and to attend two student training camps during two summer vacations; one prior to, and one subsequent to graduation. During service in the Reserve Officers' Training Corps in their junior and senior years, students are paid by the Federal Government, and the successful completion of this course entitles a graduate to commission as a temporary second lieutenant in the Regular Army, and to a commission in the Officers' Reserve Corps.

Under regulations prescribed by the Secretary of War, members of the Reserve Officers' Training Corps are furnished uniforms, arms and equipment without cost to themselves.

COURSE OF TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION OF THE RESERVE OFFICERS' TRAINING CORPS

FRESHMAN YEAR.

FIRST SEMESTER

Practical:

- Physical drill.
- Infantry drill to include school of the company, close and extended order.
- Nomenclature and care of the rifle and equipment.
- Preliminary instruction in sighting, position and aiming drills, gallery practice.

Theoretical:

- Theory of target practice, individual and collective.
- Military organization.
- Map reading.
- Service of security.
- Personal hygiene.

SECOND SEMESTER

Practical:

- Physical drill.
- Infantry drill to include fire control and direction, ceremonies, manuals.
- Bayonet combat.
- Intrenchments.
- First aid instructions.
- Range and gallery practice.

Theoretical:

- Lectures on
- Military policy.
- Service of information.
- Combat.
- Infantry drill regulations.
- Camp sanitation.

SOPHOMORE YEAR.

THIRD SEMESTER

Practical:

- Same as second semester (practical), and combat and collective firing.

Theoretical:

- Infantry drill regulations, to include school of battalion and combat.
- Small-arms firing regulations.
- Lectures—Same as second semester (theoretical), also
- Map reading.
- Camp sanitation and camping expedients.

FOURTH SEMESTER

Practical:

- Same as second semester (practical), and signaling.
- Sand table work.

Theoretical:

- Lectures on
- Military history.
- Service of information and security.
- Marches and camps.

JUNIOR YEAR.

FIFTH SEMESTER

Practical:

- Duties of cadet officers and non-commissioned officers.
- Military sketching.

Theoretical:

- Minor tactics.
- Map maneuvers.
- Company administration.
- Military history.

SIXTH SEMESTER

Practical:

- Same as practical, fifth semester.
- Advanced military sketching.

Theoretical:

- International law.
- Property accountability.

SENIOR YEAR.

SEVENTH SEMESTER

Practical :
 Same as practical, fifth semester.
 Theoretical :
 Minor tactics.
 Manual of Courts-martial.
 International relations.
 International law.
 Lectures on
 Psychology of war.
 General principles of strategy.

EIGHTH SEMESTER

Practical :
 Same as practical, fifth semester.
 Theoretical :
 Tactical problems.
 Map maneuvers.
 Lectures on
 Military history.
 Military policy.

It is presumed that each member of the Reserve Officers' Training Corps during his academic course has taken one course or equivalent credit in either French, German or Spanish.

PHYSICS

(Denny Hall)

95. PHYSICS MEASUREMENTS. Two credits. Either semester. All sophomore engineers. One four-hour laboratory period. Laboratory deposit, \$6.00 per year. GILBREATH.

96. PHYSICS MEASUREMENTS. One credit. Either semester. Sophomore engineers. One three-hour laboratory period. Laboratory deposit, \$6.00 per year. GILBREATH.

97. MECHANICS, WAVE MOTION AND LIGHT. Four credits. Either semester. Prerequisite, 8 credits in Mathematics. All sophomore engineers. BRAKEL, ANDERSON.

This course must be accompanied by 95.

98. ELECTRICITY AND HEAT. Four credits. Either semester. Sophomore engineers. Prerequisite, 97. BRAKEL, ANDERSON.

This course must be accompanied by 96.

114. ELECTRICAL MEASUREMENTS. Two credits. Either semester. Junior E. E. Two laboratory periods. Prerequisite, 98. Laboratory deposit, \$6.00 per year. BRAKEL.

SOCIOLOGY

(Denny Hall)

1. INTRODUCTION TO THE STUDY OF SOCIETY. Four credits. Each semester. BEACH.

The course analyses briefly the nature of society and the chief factors in its organization, followed by a somewhat fuller consideration of a number of the more important social problems.

101-102. PRINCIPLES OF SOCIOLOGY. Two credits per semester. BEACH.

A study of the principles underlying the organization and development of society.

COLLEGE OF FINE ARTS

THE FACULTY

- HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.
IRVING MACKAY GLEN, A. M. (Oregon), Professor of Music, DEAN.
WALTER EDMUND SQUIRE, Graduate in Music (Northwestern), A. A. G. O.
Assistant Professor of Music.
MORITZ ROSEN, Graduate (Warsaw Conservatory), Assistant Professor of Music.
ALBERT FRANZ VENINO (New York College, Stuttgart Conservatory, Le-schetizky), Assistant Professor of Music.
FRANCES DICKY, A. M. (Columbia), Assistant Professor of Music.
CARL FRELINGHUYSEN GOULD, A. B. (Harvard), Assistant Professor of Architecture.
HAMILTON ACHILLE WOLF (National Academy of Design), Assistant Professor of Fine Arts.
HELEN BALCH CULVER (Columbia, Pratt Institute), Instructor in Design.
LOUISE HOWE TIFFANY, B. M. (Knox), Instructor in Music.
MRS. LOUISE VAN OGLE, Instructor in Music.
HAROLD OGDEN SEXSMITH (Armour Institute), Instructor in Architecture.
ALBERT PORTER ADAMS, Instructor in Music.
*MARIE GASHWEILER, A. B. (Colorado College), Instructor in Music.
ANNE VOELKER (Oberlin, Michigan), Assistant in Music.
ARTHUR SEWALL HAGGETT, A. M. (Bowdoin), PH. D. (Johns Hopkins), Professor of Greek.
EVERETT OWEN EASTWOOD, C. E., A. M. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.
DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer and Director of Physical Education for Men.
WALTER GREENWOOD BEACH, A. M. (Harvard), Professor of Sociology.
CHARLES CHURCH MORE, C. E., M. S. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.
THOMAS KAY SIDEX, PH. D. (Chicago), Associate Professor of Latin and Greek.
DAVID ALLEN ANDERSON, A. M., PH. D. (Iowa), Associate Professor of Education.
ERNEST GEORGE ATKIN, A. M. (Harvard), Assistant Professor of French.
JOEL MARCUS JOHANSON, A. B. (Washington), Assistant Professor of English.
ERNEST OTTO ECKELMAN, PH. D. (Heidelberg), Assistant Professor of German.
SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Assistant Professor of Physics.
JESSIE B. MERRICK, B. S. (Columbia), Director of Physical Education for Women.
ERIC TEMPLE BELL, PH. D. (Columbia), Assistant Professor of Mathematics.
ROBERT CHENAULT GIVLER, A. M., PH. D. (Harvard), Instructor in Psychology.

***ADMISSION TO FRESHMAN STANDING**

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

3 units of English

2 units of mathematics (1 unit algebra, 1 unit plane geometry)

3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):

(a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).

(b) Modern foreign language (at least 2 units in *one* language; not less than one unit will be counted in any language).

(c) History, civics, economics (at least one unit to form a year of consecutive work in history).

(d) 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.)

2 units in subjects represented in the above groups (a)-(d)

5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

In addition to the three units of English and the two units of mathematics required for admission to all colleges of the University, it is recommended that a student expecting to enter the College of Fine Arts should elect his work from the groups (a) to (d), so as to offer the following subjects:

A foreign language.....at least 2 units

A science (physics, chemistry, botany or zoology) .1 unit

A history (or U. S. history and civics).....1 unit

If he shall not have included these subjects in his high school elections, it will be necessary for him to include them among his elections in college.

* More detailed information concerning admission is furnished on pages 42-49.

Since all the courses in fine arts leading to a degree require four years of foreign language before graduation, it is advisable to elect as much of this work in preparatory years as possible. It is also advisable that students intending to enter the course in architecture present credits for preparatory work in trigonometry and freehand drawing.

Students intending to enter any of the music courses leading to a degree must satisfy the director that they have completed in addition to the usual high school preparation the equivalent of four years' work in music, showing that they are familiar with its 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.

NORMAL DIPLOMA

Graduates in music may receive in addition to their bachelor of music degree a normal diploma, entitling them to teach music in the public schools, by meeting the requirements of the department of education and such departmental requirements as the department of music may see fit to institute. This will necessitate a total of at least 132 credits.

CERTIFICATES OF PROFICIENCY FOR MUSIC SUPERVISORS

These may be issued by the head of this department to students who may not have completed the requirements for the degree, but who have satisfactorily completed certain stipulated courses at the discretion of the department. These courses include history of music, 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.

CURRICULA OF THE COLLEGE OF FINE ARTS

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH VOCAL MUSIC MAJOR

FRESHMAN YEAR	Credits	SOPHOMORE YEAR	Credits
Music 1-2 (fundamentals)...	4	Music 7-8 (choral study)...	2
Music 3-4 (history).....	4	Music 15-16 (applied music) 6	
Music 5-6 (sight singing)...	4	Music 51-52 (harmony)....	4
Music 15-16 (applied music) 6		Modern language	8
English composition	0-8	Physics 51-52	8
Modern language	8	Pol. sci., economics or sociology	6
	<hr/> 36		<hr/> 34

JUNIOR YEAR		SENIOR YEAR	
	Credits		Credits
Music 7-8 (choral study)...	2	Music 7-8 (choral study)....	2
Music 15-16 (applied music)	6	Music 15-16 (applied music)	6
Music 101-102 (advanced harmony)	4	Music 151-152 (composition)	4
Music 107-108 (form and analysis)	4	Music 153-154 (appreciation)	4
Music 105-106 (count- erpoint)	4	*Music—program	2
Music 103-104 (advanced history)	4	Philosophy 115-116 (es- thetics)	4
Modern language	8	Elective	8
	<hr/> 32		<hr/> 30

(8 credits in military science or physical education are required.)

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH INSTRUMENTAL MUSIC MAJOR

FRESHMAN YEAR		SOPHOMORE YEAR	
	Credits		Credits
Music 1-2 (fundamentals)...	4	Music 15-16 (applied music)	8
Music 3-4 (history).....	4	Music 51-52 (harmony).....	4
Music 5 (sight singing)....	2	Modern language	8
Music 15-16 (applied music)	8	Physics 51-52	8
English composition	0-8	Pol. sci., economics or sociology	6
Modern language	8		<hr/> 34
	<hr/> 34		

JUNIOR YEAR		SENIOR YEAR	
	Credits		Credits
Music 15-16 (applied music)	8	Music 15-16 (applied music)	8
Music 101-102 (advanced harmony)	4	Music 153-154 (appreciation)	4
Music 103-104 (advanced history)	4	Music 151-152 (composition)	4
Music 105-106 (count- erpoint)	4	*Music—program	2
Music 107-108 (form and analysis)	4	Philosophy 115-116 (es- thetics)	4
Modern language	8	Elective	6
	<hr/> 32		<hr/> 28

(8 credits in military science or physical education are required.)

* 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.

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
A MAJOR IN MUSICAL THEORY

FRESHMAN YEAR	Credits	SOPHOMORE YEAR	Credits
Music 3-4 (history).....	4	Music 7-8 (choral study) or elective	2
Music 15-16 (applied music)....	4	Music 15-16 (applied music)....	4
Music 51-52 (harmony)....	4	Music 101-102 (advanced harmony)	4
Music 107-108 (form and analysis)	4	Music 103-104 (advanced history)	4
Music 5 (sight singing).....	2	Music 107 (form and analysis)	2
English composition	0-8	Music 151-152 (composition)....	4
Modern language	8	Modern language	8
		Physics 51-52	8
	<hr/> 34		<hr/> 36

JUNIOR YEAR	Credits	SENIOR YEAR	Credits
Music 7-8 (choral study) or elective	2	Music 7-8 (choral study) or elective	2
Music 15-16 (applied music)....	4	Music 15-16 (applied music)....	4
Music 105-106 (coun- terpoint)	4	Music (vocal composition)..	4
Music 108 (form and analysis)	2	Music (instrumental composition)	4
Music (vocal composition)..	4	Music (canon and fugue)....	2
Modern language	8	Philosophy 115-116 (es- thetics)	4
Pol. sci., economics, or sociology	6	Elective	10
	<hr/> 30		<hr/> 30

(8 credits in military science or physical education are required.)

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
A MAJOR IN PUBLIC SCHOOL MUSIC 198+12

FRESHMAN YEAR	Credits	SOPHOMORE YEAR	Credits
7, 8, 9 Music 1-2 ³ (fundamentals).. ²⁶	26	45, 6 Music 3-4 (history)..... ²⁶	26
10 Music 5 (sight singing).. ²⁶	26	Music 7-8 (choral study).. ²⁶	26
14, 15, 16 Music 10 (choral study).. ²⁶	26	Music 15-16 (applied music).. ²⁶	26
18 Music 11-12 (ear training).. ²⁶	26	Music 51-52 (harmony).. ²⁶	26
Music 107-108 (applied music).. ²⁶	26	Music 55-56 (school music).. ²⁶	26
English composition	26	Modern language	26
Modern language	26	Physics 51-52	26
Elective	26	Elective	26
	<hr/> 51		<hr/> 51
	46		46
	<hr/> 51+6		<hr/> 51+6

JUNIOR YEAR		Credits
Music 15-16 (applied music)	3	
Music 101-102 (advanced harmony)	4	6
Music 109-110 (music education)	4	6
Modern language	2	10
Pol. sci., economics or sociology	2	5
Education	2	9
Elective	1	9

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SENIOR YEAR		Credits
Music 15-16 (applied music)	3	
Music 108-109 (counterpoint)	4	9
Music 107-108 (form and analysis)	4	6
Music 158-159 (musical appreciation)	4	6
Music 155-156 (musical education and supervision)	4	6
Philosophy 110-116 (esthetics)	6	5
Education	2	9
Physical education 109	2	
Elective	1	5

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(8 credits in military science or physical education are required.)

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ARTS IN MUSIC

FRESHMAN YEAR		Credits
Music elective	8	
1-2 (fundamentals)	4	
3-4 (history)	4	
5-6 (sight singing)	4	
7-8 (choral study)	2	
11-12 (ear training)	4	
15-16 (applied)	4	8
17-18 (orchestra)	2	
23-24 (ensemble)	2	
English composition	0-8	
Foreign language	8	
Chemistry, botany or zoology (laboratory)	8	

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SOPHOMORE YEAR		Credits
Music elective	10	
3-4 (history)	4	
5-6 (sight-reading)	4	
7-8 (choral study)	2	
15-16 (applied)	4	8
17-18 (orchestra)	2	
23-24 (ensemble)	2	
51-52 (harmony)	4	
55-56 (school music)	4	
103-104 (advanced harmony)	4	
Physics 51-52	8	
Foreign language (or elective)	8	
Pol. sci., economics or sociology	6	

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JUNIOR YEAR		Credits
Music elective	12	
5-6 (sight reading)	4	
7-8 (choral study)	2	
15-16 (applied)	4	8
17-18 (orchestra)	2	
23-24 (ensemble)	2	
51-52 (harmony)	4	
101-102 (advanced harmony)	4	
109-110 (music education)	4	
153-154 (musical appreciation)	4	
Philosophy or psychology	8	
Elective (from College of Liberal Arts)	12	

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SENIOR YEAR		Credits
Music elective	10	
7-8 (choral study)	2	
15-16 (applied)	4	8
17-18 (orchestra)	2	
23-24 (ensemble)	2	
101-102 (advanced harmony)	4	
107-108 (form and analysis)	4	
153-154 (musical appreciation)	4	
155-156 (music education and supervision)	4	
Elective (from College of Liberal Arts)	20	

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(8 credits in military science or physical education are required.)

NOTE.—(1) Among the music courses indicated above the following are required: 1-2, 3-4, 5-6, 51-52, 101-102. (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.

A total of two years of German and two years of French pursued either in high school or in the University is required for the degree. If a student has finished this language work in the high school he shall substitute electives in the University. If he presents neither French nor German for admission he must supply the deficiency above the sixteen hours allowed for in the outlined courses, without credit.

If a student has had two years of Latin he may be excused from the second required year of French or German, at the discretion of the dean.

Students of the public school music course are required to take Education 161 in the senior year. This practice teaching substitutes for the senior thesis.

CURRICULUM IN ARCHITECTURE LEADING TO THE DEGREE OF BACHELOR OF ARCHITECTURE

FRESHMAN YEAR

First Semester	Credits	Second Semester	Credits
Architecture 1 (history and elements)	2	Architecture 2 (history and elements)	2
Architecture 3 (drawing)...	3	Architecture 4 (drawing)...	3
Architecture 5 (freehand)...	1	Architecture 6 (free hand)...	1
Architecture 7 (descriptive geometry)	1	Architecture 8 (shades and shadows)	1
Architecture 9 (history of civilization)	1	Architecture 10 (history of civilization)	1
Architecture 47 (mechanics)...	4	Architecture 48 (mechanics)...	4
English Composition	2	English Composition	2
French or German	4	French or German	4
	<hr/> 18		<hr/> 18

SOPHOMORE YEAR

Architecture 51 (history and elements)	2	Architecture 52 (history and elements)	2
Architecture 53 (arch. design)	3	Architecture 54 (arch. design)	3
Architecture 55 (freehand)...	1	Architecture 56 (freehand)...	1
Architecture 57 (perspective)...	2	Architecture 60 (building construction)	2
Architecture 59 (building construction)	2	Mathematics 56	4
Mathematics 55	4	French or German	4
French or German	4		
	<hr/> 18		<hr/> 18

JUNIOR YEAR

Architecture 101 (history and elements)	2
Architecture 103 (design) ..	3
Architecture 105 (water color)	1
Architecture 109 (sanitation) ..	2
Architecture 115 (mechanics of materials)	2
Physics 1	4
Forestry 319 (wood analysis)	2
Elective	1

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Architecture 102 (history and elements)	2
Architecture 104 (design) ..	3
Architecture 106 (freehand) ..	1
Architecture 116 (mechanics of materials)	2
Physics 2	4
Mechanical Engineering 182 (heating and ventilating) ..	2
Elective	2

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SENIOR YEAR

(Design)

Architecture 151 (history and elements)	2
Architecture 153 (design) ..	3
Architecture 205 (freehand) ..	1
Painting, Design 165 (art appreciation)	2
Physics 87 (acoustics and illumination)	4
Elective	3

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Architecture 152 (history and elements)	2
Architecture 206 (freehand) ..	1
Painting, Design 166 (art appreciation)	2
Thesis	3
Law 180 (contracts)	2
Elective	6

16

SENIOR YEAR

(Engineering)

Architecture 161 (structural details)	3
Civil Engineering 131 (mechanics)	4
Physics 87 (acoustics and illumination)	4
Elective	5

16

Civil Engineering 20 (surveying)	4
Civil Engineering 182 (mechanics)	3
Civil Engineering 188 (masonry construction)	5
Law 180 (contracts)	2
Elective	4

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(8 credits in military science or physical education are required.)

**CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF FINE ARTS
WITH A MAJOR IN PAINTING AND DESIGN**

FRESHMAN YEAR		SOPHOMORE YEAR	
	Credits		Credits
Painting, Design 5 (free-hand)	4	*Painting, Design 53-54 (art structure)	8
Painting, Design 8 (cast drawing)	4	Painting, Design 55 (illustration)	4
*Painting, Design 9-10 (art structure)	8	Modern language	8
English composition	0-8	Chemistry (color)	8
Modern language	8	Pol. sci., economics or sociology	6
Greek 9 (art)	2	Latin 27 (Roman art)	2
	<hr/> 34		<hr/> 36
JUNIOR YEAR		SENIOR YEAR	
	Credits		Credits
Architecture 3 (architectural drawing)	3	*Painting, Design 155-156, 157-158 (art structure) ...	8
*Painting, Design 103-104, 105-106 (art structure)	8	Painting, Design 159-160 (portrait and life) or 161-162 (mural decoration)	8
Painting, Design 159 (portrait)	4	Painting, Design 212 (art appreciation—arch.)	4
Painting, Design 160 (life) ..	4	Philosophy 115-116 (esthetics)	4
Painting, Design 166 (art appreciation)	2	Elective	6
Modern language	8		
Elective	1		
	<hr/> 30		<hr/> 30

(8 credits in military science or physical education are required.)

**CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF FINE ARTS
WITH A MAJOR IN PUBLIC SCHOOL DRAWING**

FRESHMAN YEAR		SOPHOMORE YEAR	
	Credits		Credits
Painting, Design 5 (freehand drawing)	4	Painting, Design 53-54 (art structure)	8
Painting, Design 9-10 (art structure)	4	Painting, Design 55 (illustration)	4
Greek (art)	1	Painting, Design 56 (art structure)	3
English composition	8	Latin 27 (Roman art)	2
Modern language	10	Chemistry (color)	8
	<hr/> 34	Modern language	8
	<hr/> 34		<hr/> 34

*The courses in art structure comprise the following: Freshman, Principles of design; Sophomore, Needle designing, wood block printing, design; Junior, Pottery, interior decorating, posters; Senior, Jewelry, landscape composition, design.

30
25
/ 26

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JUNIOR YEAR

Credits

Painting, Design 1 (public school drawing)	2
Painting, Design 103-104 (art structure)	2
Painting, Design 107 (illustration)	2
Modern language	2
Pol. sci., economics or sociology	2
Education	2
Elective	2
	<hr/>
	32

SENIOR YEAR

Credits

Painting, Design 105 (art structure)	2
Painting, Design 153 (methods of teaching art)	2
Painting, Design 165-166 (art appreciation)	2
Education	2
Philosophy (aesthetics)	2
Phys. education 109 (folk dancing)	2
Elective	2
	<hr/>
	30

(8 credits in military science or physical education are required.)

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF FINE ARTS WITH A MAJOR IN MUSIC AND DRAWING

FRESHMAN YEAR

Credits

Music 3-4 (history of music)	4
Music 5-6 (sight singing)	4
Painting, Design 5 (drawing)	4
Painting, Design 9 (art structure)	4
Modern language	0-8
English composition	8
	<hr/>
	32

SOPHOMORE YEAR

Credits

Music 11-12 (ear training) or elective	4
Music 55-56 (school music) ..	4
Painting, Design 6 (water-color)	4
Painting, Design 10 (art structure)	4
Chemistry (color)	8
Modern language	8
	<hr/>
	32

JUNIOR YEAR

Credits

Music 15-16 (applied music) ..	4
Music 51-52 (harmony)	4
Music 109-110 (music education)	4
Painting, Design 53 (art structure)	4
Painting, Design 165 (art appreciation)	2
Education	6
Pol. sci., economics or sociology	6
	<hr/>
	30

SENIOR YEAR

Credits

Music 15-16 (applied music) ..	4
Music 153-154 (music appreciation)	4
Music 155-156 (music supervision)	4
Painting, Design 153 (public school drawing) methods ..	4
Painting, Design 166 (art appreciation)	2
Painting, Design 169-170 (illustration, life)	4
Education	6
Elective	4
	<hr/>
	32

(8 credits in military science or physical education are required.)

* Three of the ten credits indicated must be earned in practice teaching.

CURRICULUM IN ART FOR CERTIFICATES OF PROFICIENCY FOR SUPERVISORS OF ART

FIRST YEAR	Credits	SECOND YEAR	
Painting, Design 5 (freehand drawing)	8	Painting, Design 103-104 (art structure)	8
Painting, Design 9-10 (art structure)	8	Painting, Design 107 (drawing and illustration)	2
English composition	0-8	Painting, Design 153 (methods of teaching art)	2
Greek 9 (art)	2	Painting, Design 165-166 (art appreciation)	2
Modern language	8	Education	6
		Modern language	8
		Psychology	4
	<hr/> 34		<hr/> 32

(8 credits in military science or physical education are required.)

I. MUSIC

(Meany Hall)

PROFESSOR GLEN, ASSISTANT PROFESSORS SQUIRE, ROSEN, VENINO,
DICKEY, MISS TIFFANY, MRS. VAN OGLE, MISS VOELKER,
MR. ADAMS.

1-2-³ **FUNDAMENTALS OF MUSIC.** Two credits per semester. *gtu*
VAN OGLE.

The study of major and minor scales and the various relations between them. Intervals, their inversion and classification. Triads of the major and minor scales, their classification and inversion. Cadences, their use and their more familiar forms. Sentence structure, the section, phrase and motif. Primary forms, large and small. The dance forms.

3-4-⁵⁻⁶ **HISTORY OF MUSIC.** Two credits per semester. *gtu* GLEN.
A survey course, covering the progress of musical development from the primitive period to the modern.

7-8-9-¹⁰ **SIGHT SINGING.** Two credits per semester. *gtu* DICKEY.

A course for prospective grade supervisors and for music students. This course will be conducted in two sections—one for beginners and the other for students who have had some experience in sight singing.

10 **CHORAL STUDY.** One credit per semester. *gtu* GLEN.

The University chorus provides the opportunity, for those qualified, to study the more serious as well as the lighter forms of choral composition. Candidates must satisfy the director as to the extent of their musical ability.

11-12-13

~~9-10.~~ ^{glt} ORCHESTRAL STUDY. One credit per semester. ADAMS.

A course designed to develop the proficiency of students who are not ready for work in the University orchestra.

~~11-12.~~ ^{glt} EAR TRAINING AND MELODY WRITING. Two credits per semester. DICKEY.

The purpose of this course is to make students familiar with the simplest principles of melodic invention and to train them to hear accurately. Some study in notation will precede and later supplement the melody writing.

~~17 18.~~ ^{each glt} CHORAL STUDY. Two credits. First semester. GLEN.

This course provides the opportunity for the study of part songs for men's voices. Candidates admitted only upon examination.

~~15-16.~~ ^{18 3 glt} APPLIED MUSIC. One to ~~four~~ credits per semester.

(a) Piano—SQUIRE, VENINO, VAN OGLE, VOELKER.

(b) Violin—ROSEN.

(c) Voice—GLEN, TIFFANY.

Students of other colleges and schools may earn one or two credits a semester. Students of the College of Fine Arts carry a larger number of credits—two to four—as indicated in the set courses. Students enrolled in these courses will be given opportunity, upon demonstration of the required ability, to participate in the public recitals of the department.

Unless excused by reason of advanced standing upon entrance, students who major in courses in applied music will require two lessons a week, ordinarily, in order to cover the work necessary for a degree.

~~17-18.~~ ^{glt} UNIVERSITY ORCHESTRA. One credit per semester. GLEN.

The University orchestra affords to the qualified students an unusual opportunity for the study of the better grades of orchestral composition. None may be eligible to enter this course unless the director is satisfied of the ability of the applicant.

~~19-20.~~ ^{glt} UNIVERSITY BAND. Two credits per semester. ADAMS.

Competent players of band instruments are admitted to the band upon consent of the bandmaster.

~~21-22.~~ ^{glt} CHAMBER MUSIC. One credit per semester. ROSEN.

Advanced students in the study of stringed instruments may have the opportunity of studying the musical literature for string trios, quartets and quintets.

28-29-30
23-24. ENSEMBLE SINGING. One credit per semester. TIF-
FANY.

A choral course for women. Only advanced students will be admitted to this course.

31-32-33
51-52. HARMONY. Two credits per semester. Prerequisite,
1-2. SQUIRE.

The study of intervals; triads, their formation and rules governing their connection. Original exercises in two, three and four voices, and keyboard exercises. The dominant, diminished, and collateral seventh chords, dissonant chords, and their resolutions. Chords with definite and chords with indefinite location. Figured basses, harmonization of melodies, and the writing of original chord progressions and chants. Tones foreign to the harmony. Organpoint.

34-35-36
53-56. SCHOOL MUSIC. Two credits per semester. DICKEY.

A course for supervisors. The first semester will include the study of material for the primary grades especially. Some time devoted to the study of the child voice.

The work of the second semester will cover a study of material for the upper grammar grades, the high school and glee clubs. Students will have some practice in chorus conducting.

101-102. 103
ADVANCED HARMONY. Two credits per semester. Prerequisite ~~54~~ SQUIRE.

Figured and unfigured basses, harmonization of melodies and chorals, original progressions, unprepared, delayed, and unresolved dissonances, remote modulations, three and four voiced writing in dispersed harmony. Text: Foote and Spaulding's "Modern Harmony" or Chadwick's Harmony.

103-104. 105-106
HISTORY OF MUSIC (ADVANCED). Two credits per semester. VAN OGLE.

A detailed study of important periods and composers of modern music.

107-108-109
105-106. COUNTERPOINT. Two credits per semester. SQUIRE.

Simple counterpoint in two, three and four parts. Canon in various intervals for two voices. Exercises using alto and tenor clefs. Text by Sir Frederick Bridge or Ebenezer Prout. Two years of harmony, a prerequisite for entering this course.

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~~107-108.~~ FORM AND ANALYSIS. Two credits per ~~semester.~~ *gta*

SQUIRE.

Chord reading from standard chants, hymns and chorals. The study of primary forms as found in the classic and romantic schools, Bach inventions, song or aria forms, dance forms, variations, rondos, the suite, the sonata, the prelude and fugue.

~~113-114-115~~
~~109-110.~~ MUSIC EDUCATION. Two credits per ~~semester.~~ *gta*

DICKEY.

A study of psychological and pedagogical principles and their application to the teaching of music. The work for the eight grades will be outlined and methods for such work will be developed. This course will include the planning and presentation of individual lessons or topics. More detailed study will be made in the second semester.

~~116-117-118~~
~~151-152.~~ COMPOSITION. Two credits per ~~semester.~~ *gta* SQUIRE.

Unaccompanied settings of poems for three, four, and five voices. Chants, hymns and chorals—simple and figured. Songs and instrumental compositions in primary forms. Songs with more elaborate accompaniment. Dance and romantic forms with trio. The rondo. Courses 51-52, 101-102, 105-106, or their equivalents, are prerequisite for this course.

~~119-120-121~~
~~153-154.~~ MUSICAL APPRECIATION. Two credits per ~~semester.~~ *gta*

VAN OGLE.

A course planned to make music contribute to liberal culture. Actual presentation of musical masterpieces of different periods, by mechanical devices and lectures.

~~122-123-124~~
~~155-156.~~ MUSIC EDUCATION AND SUPERVISION. Two credits per ~~semester.~~ *gta* DICKEY.

This course is for seniors or students of experience. A study of principles and methods. A consideration of the problems of supervision as well as of music teaching. High school, normal school and institute music.

COLLEGE COURSES IN APPLIED MUSIC

The courses outlined are not necessarily arbitrary. They simply indicate the amount and character of the work that the student is expected to cover for his musical degree. Credit will be given for equivalent courses pursued elsewhere prior to entering the University.

PIANO

FRESHMAN AND SOPHOMORE YEARS: Major and minor scales and arpeggios; studies selected from Czerny, Cramer, Loeschorn, Kullak, Hiller and Krause; sonatas by Scarlatti, Haydn, Clementi, Mozart and Beethoven; shorter compositions and inventions by Bach; and works from the classic and romantic schools.

JUNIOR AND SENIOR: Scales in thirds, sixths and tenths; studies by Czerny, Clementi, Chopin, Brahms, MacDowell and Moszkowski; Well-tempered Clavichord and suites by Bach; sonatas, 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

FRESHMAN: Violin Method, Book I, Rosen; Exercises, Op. 45, Book I, Wohlfahrt; Book I, De Beriot; Exercises, Op. 68.

SOPHOMORE: Scales, Hrimaly; 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, Sophr, 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.

NOTE.—In the last semester the student is obliged to memorize one sonata by Bach for violin alone and one of the concertos given in the fourth year.

FEES. Since most of the work in the courses in applied music must necessarily be of the character of private or individual instruction, the student will be required to pay tuition fees for this work in addition to the general University tuition fee. These fees are payable to the Comptroller of the University and are collected in advance for the entire semester. No rebate will be made for the loss of lessons falling on national or University holidays nor will such lessons be made up by the teacher. The rate charged takes these into consideration. The following quotations are based on one lesson per week. More than one lesson per week will be charged for at the same rate. All lessons are one-half hour in length.

Piano: Squire, Venino or Van Ogle, \$24.00 per semester; Voelker, \$16.00 per semester.

Vocal Music: Tiffany, \$24.00 per semester.

Violin: Rosen, \$24.00 per semester.

Band and Orchestra Instruments: Adams, \$16.00 per semester.

It has been necessary in some cases, and for special reasons, for the dean to give private instruction in singing and repertoire. In such instances the fee is \$40 per semester for one lesson weekly. Arrangements may be made for individual instruction in other musical courses if necessary or desirable.

Piano for practice may be rented at the Music department at the following rates:

One hour daily, \$4.00 per semester.

Two hours daily, \$7.50 per semester.

Additional hours, \$2.50 per semester.

All rental charges must be paid in advance. No rebate in these charges will be allowed. Lessons lost through enforced ab-

sence may not be made up unless the teacher in charge has been previously notified of the intended absence and is willing to accept the excuse for the absence.

II. ARCHITECTURE

(Architecture Building)

ASSISTANT PROFESSORS GOULD, WOLF, MR. SEXSMITH, MR. MEYERS,
MR. YOUNG.

I. A student should have some previous training in free-hand drawing and he will be required to confer with the head of the department as to his special qualifications for taking the subject. It is desirable that a student shall have had in addition trigonometry, algebra, plane geometry, elementary physics or chemistry and two years of either French or German. Four years of modern language will be required before graduation. Provision for two years' work is made in the curriculum. A student offering his entire four years on entrance may elect 16 credits on approval of his advisor. Students offering no modern language on entrance will be obliged to do two years' work, or 16 credits in modern language in addition to the set course in architecture.

METHOD OF INSTRUCTION

II. The plan of study recognizes that architecture is essentially a fine art, the practice of which must be based upon a thorough knowledge of construction and of the practical requirements of buildings. Technical training which has not recognized the importance of the knowledge of the principles of design has failed notably to raise the skilled draughtsman to the position of an architect.

The University recognizes that its function in teaching the profession is to equip men to obtain not only a general knowledge of the subject of architecture but that they may become able to cope with the problems that occur in actual practice.

It must be recognized, however, that knowledge of design is the most essential subject in a course preparing students for the profession of architecture.

DESIGN

III. The program of studies is so arranged as to allow students to give the greater part of their afternoons to the work

in the draughting room. This work will be largely problems in architectural design presented as far as possible with the object of developing the technical skill without hindering the individuality in expression. The problems after the freshman year will be judged by a visiting committee of architects appointed by the dean and the head of the department.

CONSTRUCTION

IV. The theory and practice of construction is taught as a necessary basis for and in connection with architectural design and is such as to prepare students in the best way for architectural practice. It is strongly recommended that the student supplement his University training by working in an architect's office and three months of office work at least will be required of a student before a degree may be obtained.

DESCRIPTION OF COURSES

-2-3
1. HISTORY AND ELEMENTS OF ARCHITECTURE, DOMESTIC ARCHITECTURE. Two credits. ~~First semester.~~ Required of all students majoring in architecture and all juniors in home economics. Two lectures per week. The home economics students have a two-hour laboratory period and receive three credits in this course. GOULD, SEXSMITH.

Instruction is given by means of illustrated lectures and exercises in drawing the simpler elements of buildings—walls, roofs, doors and plans. A general survey of the history of dwellings will be given. Excursions will be made to buildings both completed and in process of construction and to builders' supply houses. Illustrated lectures will be supplemented by visits to buildings of various periods and types.

2. HISTORY AND ELEMENTS OF ARCHITECTURE. Two credits. Second semester. GOULD.

A general course in the history of architecture, including all periods from ancient to modern. Lectures and selected readings.

~~3-4~~ *4-5-6* 3-4. ARCHITECTURAL DRAWING. Three credits per semester. GOULD, SEXSMITH. *gtw*

The purpose of this course is to teach the practical methods of presenting an architectural problem by means of plan, section, and elevation. Individual instruction is given with occasional conferences. Simple problems in the orders will be given with

occasional design problems which are intended to develop individuality in expression and a general understanding of the different materials of construction, stone, wood and iron.

This course is recommended to students in engineering and will be open to all students in the engineering school.

5-6. ~~FREEHAND DRAWING. One credit per semester. SEXSMITH.~~

~~Drawing from geometrical solids and from still life subjects. The mediums will be pencil and charcoal. Studies in clay of the simpler architectural ornament.~~

7-8. ~~DESCRIPTIVE GEOMETRY. One credit. First semester. One lecture and two laboratory hours. SEXSMITH.~~ *F. W. McChelland*

~~Designed for students in architecture, the problems used being those which most frequently occur in office practice.~~

9-8. ~~SHADES AND SHADOWS. One credit. Second semester. SEXSMITH.~~ *Freehand Draw SP. McChelland*

~~Construction by descriptive geometry of all shadows commonly found in the presentation of architectural renderings. Frequent examinations will be given.~~

9-10. ~~HISTORY OF CIVILIZATION. One credit per semester.~~

~~A general survey of all the great epochs in the evolution of civilization. Lectures and reading.~~

47-48. ~~MECHANICS. Four credits per semester. For freshman architects. No prerequisites. SEXSMITH.~~ *49 3 gtu Wernecke*

~~Statics, dynamics, and mechanics of materials.~~

51-52. ~~HISTORY AND ELEMENTS OF ARCHITECTURE. Two credits per semester. Required of all students in architecture and open to all students in the University. Regular sophomore course, but may be taken as a half course the first semester. GOULD.~~ *92. F. W.*

By means of illustrated lectures Egyptian, Greek and Roman architecture will be studied the first semester—notes, diagrams and drawings will be required of the student. The study of history of architecture is given in order to obtain an intelligent understanding of the principles of design by an analysis of the evo-

lution of architectural form and its application. The student will be required to study the outline of general history concurrent with the lecture and also by assignments in books on architectural history.

The second semester Byzantine, Romanesque, and Gothic architecture will be studied and analyzed in the same manner.

~~53-54.~~ ^{5-56 Design gth} ARCHITECTURAL DRAWING. Three credits per semester.

GOULD.

Problems in design and simple problems in planning will be given. Society of Beaux Arts Architects program will be used as the students' work progresses.

^{63-64 2 7, SP'} ~~55-56.~~ FREEHAND DRAWING. ~~One credit per semester.~~ WOLF.

Drawing in charcoal or crayon of architectural ornament and studies from casts of the human figure. Drawing from costumed model in charcoal. Sketches from life with reference to structure. When the weather permits, the class will do out-of-door sketching with water color and pen and ink.

^{gth} 57. PERSPECTIVE DRAWING. ~~Two credits.~~ First semester. ~~SMITH.~~

^{McClallan} The theory of perspective from simple problems up to and including the more complicated methods will be studied. The office methods will be compared frequently with the theory.

^{61 gth} 59-60. BUILDING CONSTRUCTION AND INSPECTION. Two credits ~~per semester.~~ ~~SEYSMITH.~~ ^{McClallan}

A general study of the methods used in building construction, including all types of buildings. Visits will be made to the manufacturing plants of building materials, such as structural and ornamental terra cotta, lumber mills, brick yards, plumbing, etc. Visits will also be made to all types of buildings under construction.

^{gth} 101-102. HISTORY OF ARCHITECTURE. Two credits per semester. ~~GOULD.~~ ^{Meyer 7, W.}

This course follows the same method of instruction as that for the sophomore year. The architecture of the Renaissance will be studied; problems in ornamental design and planning will be discussed.

105-106
~~105-104. ARCHITECTURAL DESIGN. Three credits per semester.~~ *gth*

~~GOULD, MEYERS.~~

More advanced problems will be given in ornamental design and in planning. Ornamental design as applied to different materials, terra cotta, iron and stone will be studied. Problems of industrial layouts, city squares, playgrounds, etc., will be given.

110, 111
~~105- WATER COLOR. One credit. First semester. WOLF and~~ *W. & SP.*

Studies from still life and nature. Architectural rendering.

~~106. FREEHAND DRAWING. One credit. Second semester.~~

~~WOLF.~~

~~Drawing from life.~~

~~109. SANITATION AND PLUMBING. Two credits. First semester. SEXSMITH.~~

~~Methods of sewage disposal and water supply. All types of modern appliances will be discussed, as well as the general history of plumbing. Special problems occurring in office practice will be given.~~

117
~~115-116. MECHANICS OF MATERIALS. Two credits per semester. SEXSMITH.~~ *gth*

A continuation of 47-48. Steel, concrete, timber design. One three-hour period.

gth
~~151-152. HISTORY OF MODERN ARCHITECTURE. Two credits per semester.~~ *155-156*

~~153-154. ARCHITECTURAL DESIGN. Three credits per semester.~~ *gth*

Advanced problems in design and plan. Studies in city planning with special reference to city plan in America.

Recognizing that many students will desire to emphasize the work in structural engineering, the work in the senior year has been divided for an option of design or engineering.

~~161. STRUCTURAL DETAILS. Three credits. First semester. SEXSMITH.~~

~~Working details and full size drawing of varied types of construction.~~

~~*205-206. FREEHAND DRAWING.~~

ELECTIVES

Electives may be chosen from among the following named subjects:

Analytical geometry
Calculus
Architectural rendering
Language
Music
Labor problems
Engines and boilers
Bridges
Higher structures
Naval architecture
Stone masonry
Economics
Psychology
Public speaking

III. PAINTING AND DESIGN (Architecture Building.)

ASSISTANT PROFESSOR WOLF, MRS. CULVER, MISS JOHNSTON.

1. PUBLIC SCHOOL DRAWING. Two credits. ~~Either semester.~~ *3 P.*

~~CULVER~~ *Edens*

A course intended for drawing supervisors. It includes the working out of such drawings as would be used in the public schools, viz., line drawing, elementary design, painting and illustration in water colors and crayon, printing, wood-block printing and simple book-binding. *7 W S*

3. PRINCIPLES OF DESIGN. Two credits. ~~Either semester.~~

~~CULVER, JOHNSTON~~

A study of the principles of design in line, dark and light, and color. To develop power of appreciation and creation of good design. For students in home economics. *7 W*

5. FREEHAND DRAWING (still life). ~~Four credits. First se-~~ *2. Each*

~~master.~~ WOLF.

Study of the technique of drawing from elementary forms. The use of all mediums—water color, oil, pen, etc. Prerequisite for any subsequent course in drawing and painting.

7x CAST DRAWING. ² Four credits. ^{3rd} Second semester. WOLF.
A course in drawing from the models of the antique and modern sculpture, preparatory to drawing from living model.

9-10. ⁻¹¹ ART STRUCTURE (Design). Four credits per ^{qtr} semester.
CULVER.

A study of the principles of design in line, dark and light, and color. To develop power of appreciation and creation of good design. This course is prerequisite for 53, 54, 103-104, 105, 106, 155, 156, 157-158.

53. ⁻⁵⁴⁻⁵⁵ ART STRUCTURE (Needle designing). Four credits. First ^{qtr} semester. CULVER. ^{7WS}

A course in needle designing, working out simple units, borders, and all-over patterns with needle and cloth as medium.

54. ART STRUCTURE. Four credits. Second semester. CULVER.

A course in the designing of books and wood-blocks, followed by application in book-binding and wood-block printing.

56. ⁻⁵⁷⁻⁵⁸ ILLUSTRATION. Four credits. First semester. WOLF. ³ ^{fall}

Drawing and painting from the model in various mediums, including charcoal, pen and ink, wash, water-color, oil and pastel for reproductive processes such as magazines, newspapers and commercial work.

59. ^{3 per qtr. W.S.} LIFE STUDY. Four credits. ~~Second semester.~~ WOLF.

Painting in oil, water-color and pastel from the model, considering all the artistic and compositional elements in portraiture and figure work.

103-104. ⁻¹⁰⁵ ART STRUCTURE (Pottery). ³ Two credits per ^{qtr} semester. ^{7WS - edens}

The first semester devoted to the designing and building of simple forms; the second to the development of skill in the building, molding, glazing, etc., of more elaborate forms.

105. ART STRUCTURE (Interior decoration). Two credits. First semester. CULVER.

The application of the principles of design in interior decoration. Designs carried out in rugs, furniture, and textile patterns. Color schemes for interiors studied and planned.

COLLEGE OF FINE ARTS

279

106. ~~ART STRUCTURE (Posters). Two credits. Second semester.~~ CULVER.

Design as applied to advertising and cartooning.

~~107. ILLUSTRATION. Four credits. First semester.~~ WOLF.
An advanced course of the same type as 55.

153. ~~METHODS OF TEACHING ART. Two credits. First semester.~~ CULVER.

A study of the methods of teaching art, including the making of courses of study, the different methods of teaching art, and the collection of useful material for teaching.

154. ~~PRACTICE TEACHING. Six credits. Second semester.~~ CULVER.

Teaching under supervision in the city schools.

~~155. ART STRUCTURE (Metal Work). Two credits. First semester.~~

A course in simple metal work—etching, sawing, and hammering of copper and brass.

~~156. ART STRUCTURE (Jewelry). Two credits. Second semester.~~

A continuation of 155, working with silver in jewelry-making.

~~157-158. ART STRUCTURE (Landscape composition). Four credits per semester.~~ CULVER.

A continuation of work begun in 3. Landscape and flowers studied especially in a decorative way.

~~159-160. PORTRAIT AND LIFE. Four credits per semester.~~ WOLF.

161-162. ~~MURAL DECORATION. Four credits per semester.~~

Decorative compositions done in oil, applied to the beautifying of the wall spaces, in harmony with the scheme of architecture.

164. ~~LANDSCAPE. Four credits. Second semester.~~

Outdoor sketching. Nature structure studied for the understanding and representation of landscape in pencil, charcoal, pastel, water-color and oil in all their applications.

167-168
~~165-166.~~ ART APPRECIATION. ~~Two credits per semester.~~ WOLF. *gt*

A survey course covering the historical development, from the art of primitive man to the present day, including the study of the anatomical structure and function of the human body as related to artistic construction. Also the principles that enter into the composition of any pictorial arrangement, whether it be elementary or advanced in character. The study of the elements of perspective necessary to such pictorial arrangement.

169-170-171
~~167-168.~~ TEXTILE AND COSTUME DRAWING. Two credits per semester. WOLF. *Edens* *gt*

Representation of textiles in pencil, color, pen and ink, followed by a study of the relation of costuming to the figure.

~~169. ILLUSTRATION. Four credits. First semester. WOLF.
 A continuation of work begun in 55.~~

~~170. LIFE STUDY. Four credits. Second semester. WOLF.
 A continuation of work begun in 56.~~

SUBJECTS PRESENTED BY DEPARTMENTS OF OTHER COLLEGES OF THE UNIVERSITY.

CIVIL ENGINEERING

(Engineering Hall)

20. ELEMENTARY PLANE SURVEYING. Four credits. Either semester. Laboratory deposit, \$3.00. Two recitations and two three-hour laboratory periods. MILLER, DUCKERING, RUBEY.

131-132. MECHANICS. Four credits. First semester. Three credits. Second semester. MORE.

Statics, dynamics and mechanics of materials.

138. MASONRY CONSTRUCTION. Five credits. Second semester. MORE.

Foundations, piers, retaining walls, dams and arches. Reinforced concrete.

ECONOMICS

(Denny Hall)

For description of courses in economics, see bulletin of the College of Liberal Arts.

EDUCATION

(Home Economics Hall)

For description of courses in education, see bulletin of the College of Liberal Arts.

ENGLISH

(Denny Hall)

1-2. ENGLISH COMPOSITION. Two credits per semester. MILLMAN.

FORESTRY

(Forestry Hall)

319. WOOD ANALYSES. Two credits. First semester. GRÖNDAL.

A study of the identification, physical properties, and characteristics of all woods used in building construction and finishing. The finishing and preserving of woods will be discussed.

GREEK

(Denny Hall)

9. GREEK ART. Two credits. First semester. HAGGETT. Knowledge of the Greek language is not required.

The main work of the course will be devoted to a discussion of some of the best examples of Greek architecture, sculpture and vase painting. The discussions will be illustrated by photographs and lantern slides.

LATIN

(Denny Hall)

27. ROMAN ART. Two credits. Second semester. To follow Greek 9. SIDEY.

A study of the more important remains of Roman architecture and sculpture together with lectures on Pompeii, Roman numismatics and the minor arts.

LAW

(Law Hall)

180. ENGINEERING CONTRACTS. Two credits. Second semester.

MATHEMATICS

(Science Hall)

55-56. **FORESTER'S COURSE.** Four credits per semester. **GAVETT.**

57-58. **ARCHITECTS' COURSE.** Four credits per semester. Prerequisite, one year plane geometry, one and one-half years elementary algebra. **WEAR.**

A year's course in plane trigonometry; solid and projective geometry, spherical trigonometry and elementary analytical geometry.

MILITARY SCIENCE AND TACTICS

(The Armory)

In accordance with the National Defense Act, June 3, 1916, the War Department has established and maintains at this University an Infantry unit of the Senior Division of the Reserve Officers' Training Corps. Provision has also been made for the probable establishment in the near future of Coast Artillery and Engineer units. The primary object of these units is to qualify, by systematic and standard methods of training, students for reserve commissioned officers in the military forces of the United States.

The system of instruction prescribed presents to the student a standardized measure of that military training which is necessary in order to prepare him to perform intelligently the duties of a commissioned officer, and it enables him to be thus trained with the least practicable interference with his civil career.

All able-bodied male students (except those from foreign countries, not intending to become naturalized must take two years' work in military training, which by regulation of the University is required during the first and second years. During this time three hours a week are devoted to military training, for which two credits are given each semester.

Students desiring to continue in the Reserve Officers' Training Corps during their junior and senior years are required to take five hours a week of military training and to attend two student training camps during two summer vacations; one prior to, and one subsequent to graduation. During service in the Reserve Officers' Training Corps in their junior and senior years, students are paid by the Federal Government, and the successful completion of this course entitles a graduate to commission as a

temporary second lieutenant in the Regular Army, and to a commission in the Officers' Reserve Corps.

Under regulations prescribed by the Secretary of War, members of the Reserve Officers' Training Corps are furnished uniforms, arms and equipment without cost to themselves.

COURSE OF TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION OF THE RESERVE OFFICERS' TRAINING CORPS

FRESHMAN YEAR

FIRST SEMESTER

Practical:
Physical drill.
Infantry drill to include school of the company, close and extended order.
Nomenclature and care of the rifles and equipment.
Preliminary instruction in sighting, position and aiming drills, gallery practice.
Theoretical:
Theory of target practice, individual and collective.
Military organization.
Map reading.
Service of security.
Personal hygiene.

SECOND SEMESTER

Practical:
Physical drill.
Infantry drill to include fire control and direction, ceremonies, manuals.
Bayonet combat.
Intrenchments.
First aid instructions.
Range and gallery practice.
Theoretical:
Lectures on
Military policy.
Service of information.
Combat.
Infantry drill regulations.
Camp sanitation.

SOPHOMORE YEAR

THIRD SEMESTER

Practical:
Same as second semester (practical), and combat and collective firing.
Theoretical:
Infantry drill regulations, to include school of battalion and combat.
Small-arms firing regulations.
Lectures—Same as second semester (theoretical), also
Map reading.
Camp sanitation and camping expedients.

FOURTH SEMESTER

Practical:
Same as second semester (practical), and signaling.
Sand table work.
Theoretical:
Lectures on
Military history.
Service of information and security.
Marches and camps.

JUNIOR YEAR

FIFTH SEMESTER

Practical:
Duties of cadet officers and non-commissioned officers.
Military sketching
Theoretical:
Minor tactics.
Map maneuvers.
Company administration.
Military history.

SIXTH SEMESTER

Practical:
Same as practical, fifth semester.
Advanced military sketching.
Theoretical:
International law.
Property accountability.

SENIOR YEAR

SEVENTH SEMESTER

Practical:
Same as practical, fifth semester.
Theoretical:
Minor tactics.
Manual of Courts-marital.
International law.
Lectures on
Psychology of war.
General principles of strategy.

EIGHTH SEMESTER

Practical:
Same as practical, fifth semester.
Theoretical:
Tactical problems.
Map maneuvers.
Lectures on
Military history.
Military policy.

It is presumed that each member of the Reserve Officers' Training Corps during his academic course has taken one course or equivalent credit in either French, German or Spanish.

MODERN LANGUAGE

(Denny Hall)

For description of courses in modern languages, see bulletin of the College of Liberal Arts.

PHILOSOPHY

(Denny Hall)

115-116. **ESTHETICS.** Two credits per semester. Required for seniors in music. ——— and DUCASSE.

The origin and motive of art, and the esthetic principles of architecture, sculpture, painting, music, poetry, the drama and the decorative arts. The nature of beauty, the sublime, the comic, the tragic. Standards of criticism. Social and democratic theories of art.

PHYSICAL EDUCATION

(Gymnasium)

All male undergraduate students are required to take physical exercise or athletics during each week of their attendance at the University (not more than eight semesters being required). Freshmen and sophomores take three hours a week of Military Science and Hygiene plus one hour of physical exercise or athletics. Juniors and seniors take two hours a week of physical exercise or athletics.

All women students are required to participate in some form of healthful exercise during the first two years of their college course. Freshmen take two hours a week of practice and one

hour of hygiene. Sophomores take two hours a week of practice and one hour of Food and Nutrition.

PHYSICS

(Denny Hall)

1-2. GENERAL PHYSICS. Four credits per semester. Two lectures, one quiz and one laboratory period. OSBORN.

51-52. MECHANICS, SOUND AND MUSIC. Four credits per semester. Three recitations and one laboratory period. ANDERSON.

87. ACOUSTICS AND ILLUMINATION. Four credits. First semester. ANDERSON.

For students in architecture.

POLITICAL SCIENCE

(Denny Hall)

For description of courses in political science, see bulletin of the College of Liberal Arts.

COLLEGE OF FORESTRY

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

HUGO WINKENWERDER, 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.

BROD LEONARD GRÜNDAL, M. S. F. (Washington), Assistant Professor of Forestry.

L. A. NELSON, Lecturer in Scaling.

CONRAD W. ZIMMERMAN, A. B. (Washington), Lecturer in Timber Physics.

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

HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry.

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

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

ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.

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

HAROLD EUGENE CULVER, PH. M. (Wisconsin), Assistant Professor of Geology.

DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer and Director of Physical Education for Men.

CHARLES EDWARD NEWTON, E. M. (Michigan College of Mines), Assistant Professor of Civil Engineering.

WALTER EDWARD ROLOFF, PH. D. (Wisconsin), Instructor in German.

HORACE HARDY LESTER, PH. D. (Princeton), Instructor in Physics.

SPECIAL LECTURERS

R. E. BENEDICT, Forest Inspector, Canadian Forest Service, Lecturer on Forest Protection.

THORNTON T. MUNGER, Chief of Silvics, District 6, United States Forest Service, Lecturer on Timber Sales.

LEWIS SCHWAGER, Schwager-Nettleton, Inc., Lecturer on Sawmilling.

JOHN ADAMS, Insurance Appraiser, Lecturer on Lumber Insurance.

THORPE BABCOCK, Secretary West Coast Lumbermen's Association, Lecturer on Milling and Association Work.

O. P. M. GOSS, Engineer, West Coast Lumbermen's Association, Lecturer on Special Problems in Uses of Timber.

H. B. OAKLEAF, Chief of Products, U. S. Forest Service, District 6, Lecturer on Saw Milling.

CLYDE MARTIN, Logging Engineer, Cherry Valley Logging Co., Lecturer on Logging Engineering.

ADVISORY BOARD.

J. J. DONOVAN, Bloedel-Donovan Lumber Mills, Bellingham.

George S. Long, Weyerhaeuser Timber Co., Tacoma.

Lewis Schwager, Schwager-Nettleton Mills, Inc., Seattle.

Thorpe Babcock, Secretary West Coast Lumbermen's Association, Seattle.

James O'Hearn, English Logging Co., Mt. Vernon.

Stanton G. Smith, U. S. Forest Service, Seattle.

Laurence J. Colman, Colman Creosoting Co., Seattle.

W. E. Crosby, Editor, West Coast Lumberman, Seattle.

PURPOSE AND LOCATION

The College of Forestry was established in 1907. It has a two-fold purpose; first, to afford instruction in the principles and practice of forestry; second, to promote the interests of forestry in the State of Washington by encouraging the right use of forest resources.

The College has exceptional advantages in its location. The University campus comprises 355 acres, a portion of which is in timber, and offers splendid opportunities for field work in silviculture and forest measurements. Other excellent forests are within walking distance of the campus. The University also owns large forest tracts in various parts of the state, where students may conduct extensive research work. The immense national forests within a few hours' ride of Seattle afford practical object lessons in the art of forest management. The city of Seattle is in the center of the timber industry of Washington and the North-

west. In its many sawmills and wood-working industries, the student has unrivaled opportunities for studying wood utilization.

*ADMISSION TO FRESHMAN STANDING

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

3 units of English

2 units of mathematics (1 unit algebra, 1 unit plane geometry).

3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):

(a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).

(b) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).

(c) History, civics, economics, at least one unit to form a year of consecutive work in history).

(d) 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.)

2 units in subjects represented in the above groups (a)-(d).

5 units selected from any subject accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

In addition to the three units of English and the two units of mathematics required for admission to all colleges of the University, it is recommended that a student expecting to enter the

* More detailed information concerning admission is furnished on pages 42-49.

College of Forestry should elect his work from the groups (a) to (d), so as to offer the following subjects:

Advanced algebra	½ unit
Solid geometry	½ unit
Physics	1 unit
Botany	½ or 1 unit
A foreign language	2 units

If he shall not have included these subjects in his high school elections, it will be necessary for him to include them among his elections in college.

ADVANCED STANDING

Credit will be given for subjects pursued at other colleges of recognized rank upon presentation to the Registrar of certificates that such subjects have been satisfactorily completed. Graduates of this institution and others of similar rank are admitted to graduate standing. (See Entrance Information, page 50.)

SPECIAL STUDENTS

Persons twenty-one years of age, or over, who are not regularly qualified for admission, but who have pursued special lines of studies related to forestry, may be admitted as special students, on giving satisfactory evidence of their ability to pursue the work and conforming with the regulations regarding the admission of special students. (See Entrance Information, page 48.)

SPECIAL SHORT COURSES FOR FOREST RANGERS AND LUMBERMEN.

(See page 311.)

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.

FOREST LABORATORIES

DENDROLOGY. Individual lockers. Extensive collections of tree seeds, cones and bark specimens. An arboretum is under way and a great number of the less common tree species are to be found on the campus.

LUMBERING. Field work is given at logging camps and saw-mills about Seattle. A complete equipment of instruments and tools is available for work in logging engineering. One room con-

tains a complete collection of lumber, showing grades and patterns, charts of lumber grades, exhibits of sawmill and woods saws, logging equipment such as wire rope, 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. Equipment 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 by students 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 maintained by the College of Forestry affords an excellent opportunity for demonstrations and practice in modern nursery methods.

TIMBER PHYSICS. Laboratory work in timber physics is carried on in the U. S. Forest Service Timber Testing Laboratory, operated in cooperation with the University. This laboratory is magnificently equipped with seven large testing machines for static and impact loading, circular and band saws, planer and other shop equipment for wood-working.

WOOD TECHNOLOGY. Elementary work in wood technology is carried on in the same room as the work in dendrology. Individual lockers, gas, water, compound microscopes and all apparatus for preparing and sectioning wood for the microscopic study of woody tissues are provided. Hand specimens and planks of domestic and foreign commercial timbers are provided in large quantities. These include extensive collections of South American and Philippine hardwoods. 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 bal-

ances, all apparatus necessary for the 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 twelve-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 thoroughly equipped with all apparatus necessary for scientific experimentation in kiln drying.

COMMERCIAL PLANTS. Plants for the manufacture of paper, wood pipe, cooperage, excelsior, wood conduit veneers, furniture, boxes, and numerous other secondary wood products are located in or very near Seattle and are available for study. Four large creosoting plants and several smaller preservation plants are also available. As such of these industries as are not in Seattle are conveniently situated on Puget Sound, transportation costs to them are very low.

DEMONSTRATION FOREST AND EXPERIMENT STATION. Arrangements are now completed whereby the University will acquire title to a 60,000 acre tract of forest land to be used by the College of Forestry as a demonstration forest and forest experiment station. This tract, which consists of the Pilchuck-Sultan watersheds of the Snoqualmie forest, 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,

the most important commercial species. 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 30,000,000 feet on an annually sustained yield basis.

ASSEMBLY ROOM. Equipped with aluminum screen and Lietz lantern for episcopic, diascopic and microscopic projection and a complete set of the maps of the world.

EXPENSES

Matriculation fee, \$10.00.

Tuition fee per semester, \$10.00.

Associated Students' fee, \$5.00.

LABORATORY DEPOSITS. Forestry 1, 102 and 303, \$1.00; Forestry 51, 52, 101, 103, 304, 306, 309, 310, 313, 314, 318, \$2.00; Botany, \$3.00; Chemistry, \$10.00; Geology 6, \$1.00; Physics, \$2.50; Zoology, \$2.00.

NOTE.—The laboratory deposits in each case are for materials used and cover repairs of apparatus. The student is entitled to a refund for such portion of the deposit as is not used.

FIELD EXCURSIONS

Much of the instruction in technical forestry is given in the field, necessitating frequent field excursions in nearby forests, logging camps and sawmills. The expenses of these excursions never exceed \$10.00 for the freshman year, \$15.00 for the sophomore year, \$20.00 for the junior year, \$50.00 for the senior year, and usually are much less.

SUMMER WORK.

Students of forestry are urged to spend their summer vacations in some line of practical work connected with the forest industry. Situated, as the school is, in the heart of a great lumbering section and near extensive national forests, ample opportunity is offered for summer employment. Students not only acquire valuable experience in this way, but earn a considerable portion of their University expenses.

FOREST CLUB.

The Forest Club is an organization open to all students of the College of Forestry. It aims—To secure full acquaintance and good fellowship among students and instructors—To keep in touch with everyday problems in forestry and lumbering, and the men who are doing things worth while in these industries—To interest the public in the College of Forestry and in the forestry problems of the state.

Officers of the club for the year 1916-1917 are: President, Fred H. Madigan; vice president, Timon Torkelson; secretary-treasurer, L. S. Stanton.

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.

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 the 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.

REQUIREMENTS FOR GRADUATION

UNDERGRADUATE WORK

For the degree of bachelor of science the student shall have completed, in addition to the required subjects outlined in the curriculum, at least 24 credits in subjects selected from forestry, engineering, or the botanical, chemical, zoological, geological or economic sciences, the subjects to be approved by the students' class advisor, but in no case shall more than 12 in any department other than forestry be allowed toward graduation. The

total number of credits required for graduation shall be 131 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. (This requirement does not apply to grades given before the year 1913-1914.)

GRADUATE WORK

For the degree of master of science in forestry, the student, in addition to being a graduate of this University or other institution of equal rank, and having a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, shall have been credited at this University with 166 credits, of which at least 52 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration, management, lumbering, wood preservation, forest economics, and thesis. Only grades of A, B and C can be counted toward a graduate degree.

Attention is called to the equipment and to the special advanced courses for graduate students. The physical equipment of the College of Forestry (see pages 9-12) and the exceptional advantages of its location should prove particularly attractive to graduate students. The advanced courses include dendrology, silviculture, 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 OF CURRICULUM

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 advisors unless such deviation is imperative.

RECOMMENDATIONS FOR CHOICE OF STUDIES

For specialization in Forest Management, the following electives are recommended: C.E. 107, Economics 9, 10, Law 180, and Forestry 155, 157, 301, 303, 307, 308, 311, 315, 316.

For specialization in Logging Engineering: C. E. 107 and 108, Law 180, Zoology 14, Electrical Engineering 105, Mechanical Engineering 82, and Forestry 303, 305, 306, 311, 315.

For specialization in Forest Products: Chemistry 31 and 32 or 41 and 121, Botany 141-142, Electrical Engineering 105, Mechanical Engineering 82, and Forestry 301, 303, 304, 309, 310, 311, 315.

For specialization in the Business of Lumbering: Economics 9, 10, Journalism 105, 106, and Forestry 157, 303, 304, 309, 310, 311, 315.

*FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
	Credits		Credits
Mathematics 55	4	Mathematics 56	4
English 5	2	English 6	2
Botany 11 (general).....	4	Botany 12 (morphology)....	4
Forestry 1 (dendrology)....	4	Geology 6 (general).....	4
Forestry 3 (general).....	2	Forestry 4 (general).....	2
Forestry 5 (woodcraft).....	1	Mil. Sci.	1
Mil. Sci.	1		
	<u>16+2</u>		<u>16+1</u>

SOPHOMORE YEAR

Modern language	4	Modern language	4
C. E. 55 (surveying).....	6	C. E. 56 (surveying).....	6
Chemistry 1 (general).....	4	Chemistry 2 (general).....	4
Forestry 51 (mensuration)..	4	Forestry 52 (mensuration)..	4
Mil. Sci.	1	Mil. Sci.	1
Elective		Elective	
M. E. 1 (shop).....	2	M. E. 2 (shop).....	2
	<u>18+1</u>		<u>18+1</u>

JUNIOR YEAR

Physics 93 (general).....	4	Physics 94 (general).....	4
Forestry 101 (technology)..	4	Forestry 102 (silviculture)..	6
Forestry 105 (protection)...	4	Economics 3	4
Phys. Ed.	1	Phys. Ed.	1
Electives	5	Electives	5
Chemistry 31 (organic). 4		Chemistry 32 (organic). 4	
C. E. 107 (topography). 4		C. E. 108 (logging railroads)	4
M. E. 2 (shop).....	2	M. E. 54 (shop).....	2
Economics 5 (commercial geography)	3	Economics 10 (accounting)	3
Economics 9 (accounting)	3	Zoology 110 (entomology)	4
Zoology 109 (entomology)	4	Botany 142 (fungi).....	4
Botany 141 (fungi).....	4		
	<u>16+1</u>		<u>19+1</u>

* Freshmen entering the beginning of the second semester will take the following subjects: English, 2 credits; Forestry 1, 4 credits; Forestry 4, 2 credits; Geology 6, 4 credits, and Foreign Language, 4 credits.

SENIOR YEAR

Forestry 151 (management) . . . 5	Forestry 152 (management) . . . 3
Forestry 153 (lumbering) . . . 4	Forestry 156 (forest economics) . . . 2
Phys. Ed. 1	Forestry 154 (cruising and scaling) . . . 2
Electives 7	Phys. Ed. 1
M. E. 82 (steam engineering) 2	Electives 10
Forestry 157 (history and policy) 2	E. E. 105 4
Chemistry 41 (qualitative) 4	Zoology 14 (forest) 2
Botany 148 (plant physiology) 4	Journalism 106 (advertising) 3
Forestry 155 (adv. silviculture) 2	Law 180 (engineering contracts) 2
Economics 145 (money and banking) 3	
Journalism 105 (advertising) 3	
16+1	17+1

GRADUATE YEAR

Thesis 4	Electives 16
Electives 13	Forestry 302 (administration) 2
Forestry 801 (adv. dendrology) 3	*Forestry 304 (preservation) 3
Forestry 803 (timber physics) 3	Forestry 306 (logging engineering) 6
Forestry 805 (logging engineering) 4	Forestry 308 (seminar) 1
Forestry 807 (seminar) 1	Forestry 310 (adv. forest products) 2
Forestry 809 (adv. forest products) 2	Forestry 314 (research) 2
*Forestry 311 (utilization) 4	*Forestry 316 (adv. forest management) 3
Forestry 313 (research) 2	Forestry 318 (field mensuration) 2
Forestry 315 (scientific management) 2	
Economics (markets) 3	
16	16

Students wishing to specialize on the business side of lumbering are advised to elect nine hours of work in commerce.

* In the final form of the five-year course, 311 will be five credits, 316, six credits, and 304, four credits.

DEPARTMENT OF INSTRUCTION

FORESTRY

(Forestry Hall)

PROFESSOR WINKENWERDER, ASSOCIATE PROFESSOR KIRKLAND, ASSISTANT PROFESSORS CLARK, GRÖNDAL, MR. NELSON, MR. ZIMMERMAN.

1. **ELEMENTARY DENDROLOGY.** Four credits. *Fall* Either semester. Required of freshmen. *2* Two recitations, *4* four hours laboratory work, field trips additional. Prerequisite, high school botany. Laboratory deposit, \$1.00. WINKENWERDER, GRÖNDAL.

The nomenclature and classification of trees. The use of keys. A study is made of one type species of each genus of the important timber trees of North America. Identification and distribution of the species of the Northwest. Texts: Sargent's Manual of the Trees of North America; Sudworth's Trees of the Pacific Slope; Winkenwerder's Keys to Trees of Oregon and Washington.

General
5
Fall
2 ~~34~~ **INTRODUCTION TO FORESTRY.** *5* Two credits per semester. Required of all freshmen. WINKENWERDER.

A course of lectures intended to familiarize the student with the general nature of the field of work he is about to enter.

5. **WOODCRAFT.** One credit. First semester. Required of all freshmen in forestry. CLARK, HALL.

Food lists, camp cooking, woods clothing, camp equipment, camp sanitation, packing a horse, general woodcraft. Course concludes with a half dozen lectures on first aid to the injured.

A special section in Forestry 5 will be arranged for students not regularly enrolled in forestry, providing at least six students apply for the course.

Fall
51. **FOREST MENSURATION.** Four credits. *Fall* First semester. Two recitations and six hours field or laboratory work. Prerequisite, 1 or 110 and 8 credits in mathematics. Laboratory deposit, \$2.00. Required of all sophomores and graduate students. CLARK, GRÖNDAL.

The construction and use of common types of log rules and hypsometers; methods of computing volumes of logs and trees;

the principles involved in the use of form factors; the construction and use of volume tables; the elements of scaling and cruising. Texts: Graves' Forest Mensuration, Winkenwerder and Clark's Exercises in Forest Mensuration.

52. FOREST MENSURATION. Four credits. ~~Second semester~~ ^{7, W}
 Two recitations, six hours field or laboratory work. Prerequisite 51. Laboratory deposit, \$2.00. Required of all sophomores and graduate students. WINKENWERDER, GRÖNDAL.

Methods of studying growth in diameter, height and volume. Sample plot methods. The construction of growth and yield tables. Texts: Same as 51.

101. WOOD TECHNOLOGY. ~~Four~~ ⁵ credits. ~~First semester~~ ^{Fall}
 Required of juniors and graduate students. Prerequisite, 8 credits in college botany. Laboratory deposit, \$2.00. WINKENWERDER, GRÖNDAL.

Wood structure, leading to the identification of the commercial timbers of the United States. The physical properties of wood. Each student is required to prepare permanent microscopic mounts of fifty species. Text: Record's Economic Woods.

102. ¹⁰³ SILVICULTURE. ~~Six~~ ^{4 & 5} credits. ~~Second semester~~ ^{Fall & Sp.}
 Required of all juniors and graduates. Four recitations, one-half day field work. Prerequisite, 1, 51, and 52. Laboratory deposit, \$1.00. KIRKLAND.

A study of the individual tree; forest ecology; the forest as a whole; treatment of the forest regions; forest types; silvical characters of trees; seed collecting; nursery practice; transplanting. Text: Graves' Principles of Handling Woodlands.

103. WOOD IDENTIFICATION. ~~Two~~ credits. ~~First semester~~
 Open to students in other departments of the University who upon consultation can show ability to carry the work. WINKENWERDER, GRÖNDAL.

This course includes only the laboratory work of 101. Two three-hour laboratory periods a week. Laboratory deposit, \$2.00. Text: Record's Economic Woods.

54 105. FOREST PROTECTION. ~~Four~~ ³ credits. ~~First semester~~ ^{Sp.}
~~KIRKLAND, KIRKLAND, HOTSON.~~ ^{Winkenwerder}

Protection of forests against fire, insects, fungi and other destructive agencies. Approximately one-third of the allotted

55 - Forest aid - 2 cr. - Winter

time will be devoted to each of the three following divisions of the subject:

Classification of parasitic and saprophytic fungi attacking trees and forest products; methods of detecting presence of fungi in trees with or without aid of fruiting bodies; how to avoid fungus attacks and minimize their ill effects; sanitation of the forest and lumber yards. **HORSON.**

Forest fires; organization of patrol for prevention of fire, considered from standpoint of national forests, state and private organizations; duties of various members of force; methods of patrol on tracts; water courses; railroads, etc.; requirements in trail and telephone facilities; lookout stations; tools and tool caches; organization of volunteer forces; integration of patrol with other work, procedure when fires are discovered; methods of fighting fire; location of fire lines; backfiring, etc. **KIRKLAND.**

Classification of forest insects; methods of detecting insect attack; preventing insect attack; combating insects by encouragement of natural enemies; by removal of trees attacked, etc. **KINCAID.**

109. **GENERAL FORESTRY.** Two credits. First semester. Offered only to students not regularly enrolled in the College of Forestry, and may be taken at the University or as an extension course by correspondence. **WINKENWERDER.**

The natural history of the tree and of the forest; the forests of Oregon and Washington; the forest as an economic factor (including forest influences); the nature and control of forest fires; harvesting the forest crop; the utilization of forest and wood waste; the status of forestry in the United States; forestry in the Pacific Northwest. Lectures, assigned readings and reports.

110. **CHARACTERISTICS OF TREES.** Two credits. Second semester. Offered only to students not regularly enrolled in the College of Forestry and may be taken at the University or as an extension course by correspondence. **WINKENWERDER.**

The identification, distribution, life-habits, and uses of the trees of the Pacific Northwest. Lectures supplemented by laboratory work and field trips.

111. **TEACHER'S COURSE.** One credit. Either semester. Offered only as a correspondence course. Must be accompanied or preceded by 109. **WINKENWERDER.**

105 - For Mason, 4 cr. - W. S.
Winkenwerder

Fall W

~~151-152. FOREST MANAGEMENT. Five credits first semester, three credits second semester. Required of all students in senior or graduate year. Prerequisite, 51, 52, and 102. Additional preliminary courses recommended, 156 and Economics 9, 10. KIRKLAND.~~

Forest finance, including theoretic discussion of values, outlay, income and valuation of assets, as applied to forest lands; forest valuation; general financial aspects of forest production and timber investment; application of compound interest to forest investment; profits from timber investment and forest production; appraisal of damages; stumpage values and appraisal in the field; comparison of forest with agricultural values.

Forest organization in public or private owned forests, either for immediate exploitation or continuous forest production, examination and report on forest properties; basis of determination whether tract shall be used for immediate exploitation or continuous forest production; organization in each case; in case of continuous production methods of silviculture; the rotation; regulation of annual cut; protection, improvements, special consideration of correct procedure in the Pacific Northwest on private, state, or national forests; forest administration. Texts: Chapman, Forest Valuation; Roth, Forest Regulation; Rechnagel, Working Plans.

5- Fall
~~153. GENERAL LUMBERING. Four credits. First semester. For seniors or graduate students only. Prerequisite, 51, 52. CLARK and special lecturers.~~

Comparative methods of logging on the Pacific Coast and in other lumbering regions of the United States. Study of machinery, organization, methods and costs of sawmill operations. Grading of lumber, transportation, lumber associations and general points connected with lumber industry. Text: Bryant's Logging.

~~154. SCALING AND CRUISING. Two credits. Second semester. Required of all students in senior year. Prerequisite, 52. CLARK.~~

~~Advanced work in scaling and cruising, topographic mapping, woods surveying, and the study of a logging operation. The field work for this course will be given on a two weeks' field trip to a logging operation during the spring vacation. The office work and preparation of timber sale report will be performed in the classroom at the conclusion of the field work.~~

~~*155. ADVANCED SILVICULTURE. Two credits. First semester. For seniors and graduates. Prerequisite, 102. KIRKLAND.~~

Advanced work for students who desire to specialize in silviculture and management.

~~106~~ ³ ~~155. FOREST ECONOMICS. Two credits. Second semester. Required in junior or senior year. Prerequisite, Economics 1 or 3. KIRKLAND.~~ ^{7 all}

The forests of the United States compared with those of other countries of the world as to area and volume; classification of forests of the United States as to area, volume, ownership and future use of forest land; economic position of the lumber industry; relations with other industries and natural resources; influences of forests on climate; water supply for power, irrigation, navigation and other uses; drainage; relation to grazing, agriculture and game protection; logged-off land problem; how to determine best use of land. Open to students in other departments.

³²⁰ ~~156. FOREST HISTORY AND POLICY. Two credits. First semester. Prerequisite, 102. KIRKLAND.~~ ^{7 all}

Forest policy of the United States; forestry in the states and our island possessions; the rise of forestry abroad. Text: Fernow, History of Forestry.

^{7 all} ~~301. ADVANCED DENDOLOGY. Three credits. First semester. Primarily for graduate students. WINKENWERDER.~~

An extension of course 1 covering the identification and distribution of all important commercial tree species of the United States: Text: Sargent's Manual Trees of North America.

³¹⁹⁻³²¹ ~~302. NATIONAL FOREST ADMINISTRATION. Two credits. Second semester. CLARK. KIRKLAND~~ ³ ^{7 all}

Objects of forest administration; regulations and instructions governing disposal of timber, range, and all other forest resources; use and disposal of land; rights-of-way; protection against fire, and trespass; improvement work; fiscal matters; principles and details of each subject, including investigations, reports, permits, use of all forms, supervision of work; suggestions and demonstrations.

314 - Adv. Timber Physics - Sp. - 1 cr
Zimmerman

302 UNIVERSITY OF WASHINGTON

104
~~303.~~ TIMBER PHYSICS. ⁴Three credits. ^{Winter}First semester. For senior and graduate students. Prerequisite, Mathematics 55-56. Deposit, \$1.00. ZIMMERMAN.

Various stresses which wood must resist; methods of making tests; theory of flexure; relation between moisture and strength; between specific gravity and strength; mechanical properties of wood.

⁴
304. WOOD PRESERVATION. ^{Sp.}Three credits. Second semester. Required of seniors and graduates. Prerequisite, 101 and one year of chemistry. Laboratory deposit, \$2.00. GRÖNDAL.

Nature of the decay of timber. Preservative processes. Design and practical operation of wood preserving plants. Commercial testing of preservatives. Economics of wood preservation. Laboratory work with College of Forestry treating plant and report work on local creosoting plants.

⁴⁸⁵
305-306. ⁷LOGGING ENGINEERING. ⁷Four credits first semester, six credits second semester. Primarily for graduates. Prerequisite, 51, 52, C. E. 108, M. E. 82. Laboratory deposit, second semester, \$2.00. CLARK.

The construction and use of types of logging machinery and equipment. The organization of logging companies, capital required. Construction of logging railroads, landings, camps, water systems, etc. Topographic and railroad surveying applied to logging operations. Organization and cost of operations. Lectures, demonstrations at plants manufacturing logging machinery, field work in nearby logging camps. During the second half of the second semester the work is transferred to the field where extensive work in logging engineering is carried on.

³¹⁷⁻³¹⁸
307-308. SEMINAR. One credit per semester. For seniors and graduates. WINKENWERDER, KIRKLAND, GRÖNDAL.

Reviews, assigned readings, reports, and discussions on current periodical literature and the more recent Forest Service publications.

⁴
309-310. ADVANCED FOREST PRODUCTS. ^{Fall}Two credits per semester. For seniors and graduates. Prerequisite, 101 and 304. Laboratory deposit, \$2.00 per semester. GRÖNDAL.

Advanced studies in wood preservation and wood technology. Special problems with reference to the needs of the individual student.

310 - Milling - W.S. - 4 cr. Gröndal
311

15'8 COLLEGE OF FORESTRY

303

~~311. FOREST UTILIZATION. Four credits. First semester. For seniors and graduates. Prerequisite, 101 and one year of chemistry. GRÖNDAL.~~

Lumber and its economic uses. Building materials and buildings. Proper uses of treated wood blocks. Wood pipe, silos, veneers, etc. Paper making, wood distillation, tanbark, naval stores and other secondary forest products.

~~313-314. RESEARCH. Two credits per semester. May be taken as a semester or a year course. For seniors and graduates. Laboratory deposit will depend on nature of the work.~~

~~315. SCIENTIFIC MANAGEMENT. Two credits. First semester. KIRKLAND.~~

~~Fundamental principles of scientific management, with special reference to the lumber industry.~~

~~316. ADVANCED FOREST MANAGEMENT. Three credits. Second semester. For graduate students only. Prerequisite, 151-152. KIRKLAND.~~

Advanced studies. 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 plant providing for regulation of the yield and organization of all forest work on the area, with estimates of outlay and income.

~~318. FIELD FOREST MENSURATION. Two credits. Second semester. For seniors or graduates. Prerequisite, 305. Laboratory deposit, \$2.00. CLARK.~~

~~This course will be given in the field the second half of the semester in connection with the field work in logging engineering. It supplements and enlarges upon the work of timber estimating and mapping as given in courses 51 and 52.~~

~~319. WOOD ANALYSIS. Two credits. First semester. For juniors in architecture. GRÖNDAL.~~

~~A study of the identification, physical properties and characteristics of all woods used in building construction and finishing. The finishing and preserving of wood will be discussed.~~

**SUBJECTS PRESENTED BY DEPARTMENTS OF OTHER
COLLEGES OF THE UNIVERSITY.**

BOTANY

(Science Hall)

11. FORESTERS' BOTANY. Four credits. First semester. For forestry students. Prerequisite, Botany 1. HOTSON, Assistants.

A study of types of plants to illustrate the advance in complexity.

12. FORESTERS' BOTANY. Four credits. Second semester. A continuation of 11, which is prerequisite. HOTSON, Assistant.

143. PLANT PHYSIOLOGY. Four credits. First semester. Prerequisite, Chemistry 2; Botany 1, 2 or 10 and junior standing. RIGG.

The fundamental physical and chemical processes in plants.

CHEMISTRY

(Bagley Hall)

1. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. BYERS, ROSE, Instructors, Assistants.

This course is designed to meet the needs of students who come from accredited schools in which chemistry is not required.

2. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 1.

31. ORGANIC CHEMISTRY. Four credits. First semester. Prerequisite, 22, or its equivalent. DEHN.

Introductory course in organic chemistry, consisting of three lectures per week and four hours laboratory work, on the preparation and testing of representative compounds.

32. ORGANIC CHEMISTRY. Four credits. Second semester. DEHN.

A continuation of 31.

41. ELEMENTARY QUALITATIVE ANALYSIS. Four credits. Either semester. Two lectures and six laboratory hours per week. LANGDON.

43. **ADVANCED QUALITATIVE ANALYSIS.** Four credits. First semester. LANGDON.

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

135. **CHEMISTRY OF FOREST PRODUCTS.** Three credits. First semester. A course designed especially for students of forestry. Two lectures and one laboratory period. BENSON.

A detailed study of the chemical processes involved in the utilization of wood.

CIVIL ENGINEERING.

(Engineering Hall.)

30. **FOREST SURVEYING.** (Short session in Forestry, first year, Jan.-Mar.). Laboratory deposit, \$3.00. NEWTON.

Engineering drawing, topographical and map drawing. Instructions and field practice in the use of the chain, hand compass and Forest Service compass, hand level, clinometer and transit in direct application to the requirements of the U. S. Forest Service.

* 32. **FOREST SURVEYING.** (Short session in Forestry, second year, Jan.-Mar.). Laboratory deposit, \$3.00. NEWTON, DUCKERING.

Traversing by various conventional methods, mining claim surveys, plane triangulation and topographical work; U. S. subdivision of public lands.

55-56. **FOREST SURVEYING.** Six credits per semester. Sophomore and junior foresters. Prerequisite, Mathematics 51 and Forestry 3. Laboratory deposit, \$3.00. NEWTON.

Engineering lettering and map drawing. Chain, compass, transit and level surveying, with reference to work in forest. U. S. subdivision of public lands.

107. **TOPOGRAPHY.** Four credits. First semester. Junior foresters and miners. Prerequisite, C.E. 55-56. Laboratory deposit, \$3.00. NEWTON.

Topographic surveys as applied to forestry and mining. Reconnaissance and sketch maps, and exercises in reading and

* Not offered in 1917-18.

adjusting triangulation systems. Filling in topographic details with plane table and transit. Beginning of elementary railroad surveying.

ECONOMICS

(Commerce Hall)

9. ACCOUNTING. Three credits. First semester. Prerequisite, sophomore standing. LILLY.

10. ADVANCED ACCOUNTING. Three credits. Second semester. Prerequisite, sophomore standing. LILLY.

145. MONEY AND BANKING. Three credits. First semester. Prerequisite, 1-2. CUSTIS.

JOURNALISM.

(Commerce Hall.)

105-106. PRINCIPLES OF ADVERTISING. Three credits per semester. Laboratory deposit, \$2.00. Prerequisite, Journalism 101-102, 107-108. TROXELL.

ELECTRICAL ENGINEERING.

(Engineering Hall.)

105. ELECTRICAL ENGINEERING. Four credits. Either semester. Junior C. E., Ch. E. and M. E. Prerequisite, Mathematics 62, Physics 96, 98. KIRSTEN, CURTIS.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

ENGLISH

(Denny Hall.)

5-6. FRESHMAN COMPOSITION. Two credits per semester. For students in the College of Forestry.

GEOLOGY

(Science Hall)

6. GEOLOGY FOR FORESTRY STUDENTS. Four credits. Second semester. Laboratory deposit, \$1.00. CULVER.

11. CLIMATOLOGY. Four credits. First semester. Three recitations and one laboratory period. Laboratory deposit, \$1.00. SAUNDERS, SALISBURY.

A general consideration of the climatic elements of the atmosphere, and a study of the climate of Washington and the United States.

Short Course 1. FOREST GEOLOGY. SAUNDERS.

A course of twenty lectures on general geology given in January, February and March, to the students in the short course in the College of Forestry.

LAW

(Law Hall)

180. ENGINEERING CONTRACTS. Two credits. Second semester. AYER and special lecturers.

MATHEMATICS.

(Science Hall)

1-2. SOLID GEOMETRY. Two credits per semester. Prerequisite, plane geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

4. SOLID GEOMETRY. Three credits. Second semester. Same as 1-2.

55-56. FORESTER'S COURSE. Four credits per semester. Prerequisite, one year plane geometry and one and one-half years elementary algebra. GAVETT.

A year's course in numerical and graphic methods, solution of plane triangles, the elements of coordinate geometry, and derivatives and integrals with applications to problems involving maxima and minima, rectifications, quadratures and cubatures.

MECHANICAL ENGINEERING.

(Engineering Hall.)

2. PATTERN MAKING AND CABINET WORK. Two credits. Either semester. BEATTIE.

53. FORGE AND FOUNDRY. Two credits. Either semester. KANE.

54. MACHINE WORK. Two credits. Either semester. KANE.

82. STEAM ENGINEERING. Two credits. Either semester. EASTWOOD.

The various forms of steam apparatus used in modern power plants, considering the construction, use and reason for installing such apparatus.

MILITARY SCIENCE AND TACTICS.

(Office, The Armory)

In accordance with the National Defense Act, June 3, 1916, the War Department has established and maintains at this University an Infantry unit of the Senior Division of the Reserve Officer's Training Corps. Provision has also been made for the probable establishment in the near future of Coast Artillery and Engineer units. The primary object of these units is to qualify, by systematic and standard methods of training, students for reserve commissioned officers in the military forces of the United States.

The system of instruction prescribed presents to the student a standardized measure of that military training which is necessary in order to prepare him to perform intelligently the duties of a commissioned officer, and it enables him to be thus trained with the least practicable interference with his civil career.

All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take two years' work in military training, which by regulation of the University is required during the first and second years. During this time three hours a week are devoted to military training, for which two credits are given each semester.

Students desiring to continue in the Reserve Officers' Training Corps during their junior and senior years are required to take five hours a week of military training and to attend two student training camps during two summer vacations; one prior to, and one subsequent to graduation. During service in the Reserve Officers' Training Corps in their junior and senior years, students are paid by the Federal Government, and the successful completion of this course entitles a graduate to commission as a temporary second lieutenant in the Regular Army, and to a commission in the Officers' Reserve Corps.

Under regulations prescribed by the Secretary of War, members of the Reserve Officers' Training Corps are furnished uniforms, arms and equipment without cost to themselves.

COURSE OF TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION OF THE RESERVE OFFICERS' TRAINING CORPS

FRESHMAN YEAR

FIRST SEMESTER

Practical:

- Physical drill.
- Infantry drill to include school of the company, close and extended order.
- Nomenclature and care of the rifles and equipment.
- Preliminary instruction in sighting, position and aiming drills, gallery practice.

Theoretical:

- Theory of target practice, individual and collective.
- Military organization.
- Map reading.
- Service of security.
- Personal hygiene.

SECOND SEMESTER

Practical:

- Physical drill.
- Infantry drill to include fire control and direction, ceremonies, manuals.
- Bayonet combat.
- Intrenchments.
- First aid instructions.
- Range and gallery practice.

Theoretical:

- Lectures on
 - Military policy.
 - Service of information.
 - Combat.
 - Infantry drill regulations.
 - Camp sanitation.

SOPHOMORE YEAR

THIRD SEMESTER

Practical:

- Same as second semester (practical), and combat and collective firing.

Theoretical:

- Infantry drill regulations, to include school of battalion and combat.
- Small-arms firing regulations.
- Lectures—Same as second semester (theoretical), also
 - Map reading.
 - Camp sanitation and camping expedients.

FOURTH SEMESTER

Practical:

- Same as second semester (practical), and signalling.
- Sand table work.

Theoretical:

- Lectures on
 - Military history.
 - Service of information and security.
 - Marches and camps.

JUNIOR YEAR

FIFTH SEMESTER

Practical:

- Duties of cadet officers and non-commissioned officers.
- Military sketching.

Theoretical:

- Minor tactics.
- Map maneuvers.
- Company administration.
- Military history.

SIXTH SEMESTER

Practical:

- Same as practical, fifth semester.
- Advanced military sketching.

Theoretical:

- International law.
- Property accountability.

SENIOR YEAR

SEVENTH SEMESTER

Practical :
 Same as practical, fifth semester.
 Theoretical :
 Minor tactics.
 Manual of Courts-martial.
 International relations.
 International law.
 Lectures on
 Psychology of war.
 General principles of strategy.

EIGHTH SEMESTER

Practical :
 Same as practical, fifth semester.
 Theoretical :
 Tactical problems
 Map maneuvers.
 Lectures on
 Military history.
 Military policy.

It is presumed that each member of the Reserve Officers' Training Corps during his academic course has taken one course or equivalent credit in either French, German or Spanish.

MODERN LANGUAGE.

(Denny Hall)

One year of modern language is required. Although German is recommended, any modern language will be accepted.

PHYSICS

(Denny Hall)

93-94. GENERAL PHYSICS. Four credits. Either semester. This course is an abridgment of 97 and 98 and is open only to students in forestry, pharmacy, and medicine. Three class periods and one laboratory period. Prerequisite, 4 hours in mathematics. **VORIS.**

NOTE.—The laboratory deposit is \$2.50 a semester.

ZOOLOGY

(Science Hall)

14. FOREST ZOOLOGY. Two credits. Second semester. **KINCAID.**

Habits and economic relations of typical forest animals. Especially for forestry students, but open to others.

109-110. GENERAL ENTOMOLOGY. Four credits per semester. Prerequisite, 2. **KINCAID.**

The structure, classification, and economic relations of insects.

**SPECIAL SHORT COURSES IN FORESTRY, LOGGING
AND LUMBERING**

Session 1917—January 2 to March 28

EXPLANATION. The short courses in Forestry at the University of Washington are offered for the benefit of persons engaged in some phase of the timber industry and who desire to increase their efficiency, but who cannot take the time required for a broader course. In outlining the courses a special effort has been made to have them simple, concise and thoroughly practical. The work is given by means of lectures, quizzes, laboratory and field practice. Although the time is only of twelve weeks' duration, our location and our equipment enable us to do thorough work in the subjects given. A high school training is not necessary for entrance, but students should be at least twenty years old.

Three distinct courses are offered:

- I. Forestry
- II. Logging.
- III. Lumber and Its Uses

I. THE COURSE IN FORESTRY. This course is for men who are now employed as forest rangers and guards who wish to increase their efficiency, for persons who wish to prepare for this work and for timber land owners who desire some practical knowledge of the care and management of their timber holdings. The course includes the following subjects:

Characteristics of trees	Forest administration
Silviculture	First aid to the injured
Forest measurements	Forest economics
Surveying	

Electives either year—Forest law, botany, geology, diseases of trees.

NOTE.—Elective courses will be given only if a sufficient number elect them.

II. THE COURSE IN LOGGING. For persons engaged in woods work about the donkey engine, with the scaler, the cruiser, the logging engineer, or in any other capacity, who wish to prepare themselves for advancement. It is not for men engaged in mill work. All persons wishing to enter this course must have had at

least three months' experience in a logging camp and should at time of registration bring a statement to this effect from a former employer or foreman.

The course includes the following subjects:

Characteristics of trees	Logging
Surveying	First aid to injured
Forest economics	Electives from forestry course
Forest measurements	

III. THE COURSE IN LUMBER AND ITS USES. Although wood is more widely used than any other material of construction, it requires more special information in its use than any other. This course is outlined with special reference to presenting this information for the use of persons engaged in office work at the sawmills, lumber salesmen, architects, engineers, builders and building inspectors.

The course includes the following subjects:

Characteristics of trees	Wood utilization
Properties of wood	Forest economics

Other subjects may be elected from the course in Forestry.

GENERAL INFORMATION

✓ **ADMISSION.** This is without examination. The only requirement is that applicants must be at least twenty years old and must show evidence of being able to carry the work with profit to themselves. If in doubt write. See special requirements under course in Logging.

EXPENSES.

Tuition	\$10.00
Deposit for material supplied	2.00
Deposit to insure care in use of instruments (returnable) ..	3.00
Board and lodging, per month	\$20.00- 30.00
Books, drawing instruments, etc.	\$10.00- 15.00
Field trips, about	10.00

The total expenses for the twelve weeks, exclusive of transportation, need not exceed \$125.00.

EQUIPMENT REQUIRED. Since much of the field work will be done in the woods, each man should be equipped with suitable rough clothing and shoes. Men owning compasses or barometers are requested to bring them.

HOW TO ENROLL. On arrival at the University students should report at the office of the dean, room 1, College of Forestry, where they will be given all necessary directions.

As the time for the course is limited, all men should report for enrollment on January 2, in order that all classes may begin promptly at 8 o'clock on the morning of the 3d.

ATTENDANCE AND DEPORTMENT. Students in these courses will be expected to attend classes regularly and in all respects will be required to observe the same rules that apply to the regular long course students in the University.

EXAMINATION AND CERTIFICATE. Examinations will be given in the various subjects at the close of the course and a certificate showing the work satisfactorily covered will be issued to each student.

DESCRIPTION OF SUBJECTS

SILVICULTURE. Three lectures or recitations a week, field work additional. **KIRKLAND.**

The requirements of trees for soil, light, water and climate; the special requirements of the trees of the Northwest. The reproduction of trees, how to secure new growth after logging by natural reproduction; system of cutting to this end. Reproduction by seeding and planting, seed collecting; nursery practice; transplanting; forest protection.

FOREST MEASUREMENTS. Two lectures and one-half day field work a week. **CLARK, NELSON, Assistants.**

(a) General mensuration. The theory of construction and the use of log rules; their comparative values; other units of measuring timber. The construction and use of height measures and diameter measures; how to make and use volume tables.

(b) Scaling. Lectures accompanied by extensive practical exercises in the woods. This work is given during the last four weeks of the course.

Methods of deducting for defects; the keeping of scale records; log grading.

(c) Cruising and mapping. Lectures accompanied by extensive field practice. The last two weeks of the course are largely given over to field practice.

The methods of cruising timber in use in the Northwest; how to tell defect and allow for it. Woods mapping; preparation of cruising reports.

FOREST SURVEYING. First year. Two lectures and two four-hour laboratory or field periods. **NEWTON.**

Engineering drawing, topographical and map drawing. Instruction and field practice in the use of the chain, hand compass and Forest Service compass, hand level, clinometer and transit in direct application to woods work.

CHARACTERISTICS OF TREES. Two lectures or recitations and one two-hour laboratory period a week. **WINKENWERDER.**

Simple characters by which the local trees may be recognized, both in the summer and winter condition; their classification, distribution and use.

FOREST ADMINISTRATION. Three lectures or recitations a week. **CLARK**, assisted by members of the United States and British Columbia Forest Service.

(a) Policies. Objects of forest administration. Use of the national forests; timber sales; privileges, and grazing policies; organization of the Forest Service; duties and qualifications of forest officers.

(b) Methods. Regulations and instructions governing disposal of timber, range and all other forest resources; use and disposal of land; rights-of-way; protection against fire and trespass; improvement work; fiscal matters; investigations; reports, permits, use of forms and supervision of work.

FIRST AID TO INJURED. Ten lectures. **HALL.**

What to do in case of accidents; how to use bandages; the treatment of shock, bruises, cuts, burns and poisoning. Demonstrations.

LOGGING. For students in lumbermen's course and second year forestry course. Four lectures and one field period per week. **CLARK.**

Construction of logging railroads, camps, landings, etc. The making of topographic maps and the surveying of logging railroads. Students will actually make a topographic map and survey several miles of logging spurs in this course.

WOOD UTILIZATION. Four lectures a week, and occasional field trips to local wood using plants. **GRÖNDAL.**

Preservation of wood, creosoting piling, paving blocks and lumber. Comparative strength of timber, the construction of buildings and economic uses of wood. Wood for the manufacture of boxes, wood pipe, silos, etc., and the value of such prod-

ucts. Wood distillation, utilization of waste, tanbark, turpentine and other products.

PROPERTIES OF WOOD. Two lectures and one afternoon of laboratory work a week. WINKENWERDER.

The structure of wood; physical properties, color, shrinking and swelling, checking, seasoning; simple characters for recognizing the various commercial species in the piece.

FOREST ECONOMICS. Two lectures a week. KIRKLAND.

Economic relation of forest to other resources, relation of forest industries to other industries. Special effort is made to analyze economic conditions in the lumber industry and the means for betterment of conditions.

GEOLOGY. Two lectures or recitations a week. SAUNDERS.

Common minerals, manner of occurrence and identification; mining, lode and placer work; how to select ore samples and use gold pan; work confined mainly to that which will assist in determining the validity of mineral and coal claims. Soil classification.

FOREST BOTANY. One two-hour laboratory period per week. HOTSON.

A study of roots, stems, leaves, flowers and their modification. Fruits and seeds. How plants are named and how to find their names. Special emphasis is placed on range plants.

DISEASES OF TREES. Six to ten lectures. HOTSON.

How fungi are distributed, how they get into the trees and what to do with them. General causes and nature of decay. The general principles underlying the treatment of diseased trees and timbers.

SCHOOL OF LAW

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

JOHN THOMAS CONDON, LL. M. (Northwestern), Professor of Law; DEAN.

HARVEY LANTZ, A. M. (De Pauw), LL. B. (Kent), Professor of Law.

IVAN WILBUR GOODNER, LL. B. (Nebraska), Professor of Law.

CLARK PRESCOTT BISSETT, A. B. (Hobart), Professor of Law.

LESLIE JAMES AYE, B. S., J. D. (Chicago), Professor of Law.

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

JOSEPH GRATTAN O'BRYAN, A. B. (Jesuit College), Lecturer on Law.

THOMAS ROCHESTER SHEPARD, Lecturer on Law.

ORGANIZATION AND EQUIPMENT

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 BUILDING

The Law School will occupy the entire upper floor of the new Commerce building (now in course of construction) at the opening of the first semester in 1917. 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 adjoining twenty-five feet square. 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 20,000 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 78,322 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 system at present prevailing in the University is to divide the work into two semesters, and is adopted in the Law School. Each semester is approximately for eighteen 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 semester. Students may enter without difficulty, even the beginning students, at the opening of the second semester, although it is somewhat more advantageous to enter at the opening of the first semester.

FEES, EXPENSES, ETC.

A fee of ten dollars is paid by each student upon matriculation. This fee is collected once for all from each student who has not been in attendance at a previous regular session of the University.

A fee of twenty-two dollars and fifty cents (\$22.50) per semester is charged in the Law School, payable at the beginning of each semester.

A diploma fee of five dollars is charged all students to whom diplomas are issued.

Expenses are very reasonable. Seattle, because of its location, makes possible a relatively low cost of living. A special bulletin is issued by the University, which gives the information in detail and may be obtained upon application.

SELF-HELP FOR STUDENTS

The last census shows that Seattle has a population of 348,639. The needs of a large city afford many opportunities to the student 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. Graduates of the Law School of the University of Washington, are in the discretion of the State Board of Law Examiners, admitted without examination.

*ADMISSION TO THE LAW SCHOOL

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.

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

* More detailed information concerning admission is furnished in a separate section of the University Bulletin, known as Entrance Information (see pages 42-49).

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 48) 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 a uniformly good record for scholarship and has earned ninety 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 ninety-six, and earn in the Law School at least twenty-four credits in the first year law work, to apply on his bachelor of arts degree, thus making his one hundred twenty 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 strongly advised to complete their full ninety-six 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 thirty credits in this University before entering the law work.

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

THESIS

It is the desire of the faculty to encourage original investigation and research by the students. Each candidate for a degree is required to prepare and deposit with the Dean of the School of Law, before the beginning of the spring vacation of his senior year, a thesis of not less than thirty folios in length, upon some legal topic selected by the student and approved by the faculty. The student will be examined by the faculty upon this thesis. It must be printed or typewritten, and is to be kept permanently in the library of the Law School.

CARKEEK PRIZE FOR THESIS UPON WASHINGTON LAW

Mr. Vivian M. Carkeek, of the Seattle Bar, a graduate of this Law School, class of '01 (the first class to graduate from the Law School), offers an annual prize of twenty-five dollars for

the best thesis submitted by members of the senior class, candidates for the degree of bachelor of laws, upon a subject of Washington law, or upon a subject of peculiar interest to Washington lawyers, the subject to be selected by the Dean of the Law School.

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 fifty dollars 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 semester'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 required law work provided in the Law School and in addition such electives as will with the required work aggregate eighty-six credits, and comply with all the rules and regulations of the faculty and board of regents of this University.

Students admitted to advanced standing based upon credits earned at another law school may count that work towards graduation, subject to the restrictions heretofore stated.

EXAMINATION

The members of each class are examined daily throughout the year in their studies, and may be subjected to written examinations at any time in the discretion of the faculty without notice. At the end of each semester the members of each class are subject to written examinations on the courses during the year and their promotion is dependent on successfully passing such examination.

To receive the degree of bachelor of laws it is necessary to pass satisfactory examinations in the entire course of three years. Students who pass these examinations with distinguished excellence will receive the degree of bachelor of laws *cum laude*.

LAW

(Commerce Hall)

PROFESSORS CONDON, LANTZ, GOODNER, BISSETT, AYER, ASSISTANT
PROFESSOR CATLETT, MR. O'BRYAN, MR. SHEPARD

COURSES

FIRST YEAR

ALL FIRST YEAR COURSES REQUIRED

100. AGENCY. ¹⁰¹Four credits. ³Second semester. ^{WS}Wambaugh's Cases on Agency, supplemented by Washington cases. AYER.

103-104. ¹⁰⁵CONTRACTS. Three credits per semester. ⁹²Williston's cases on Contracts. LANTZ.

¹⁰⁶⁻¹⁰⁷107. CRIMINAL LAW AND PROCEDURE. ²Four credits. ^{WS}First semester. Mikell's Cases on Criminal Law and Mikell's Cases on Criminal Procedure, supplemented by the Washington Criminal Code and Cases. O'BRYAN.

¹⁰⁸⁻¹⁰⁹110. PLEADING. ²Four credits. ^{WS}Second semester. Sunderland's Cases on Common Law Pleading, and Sunderland's Cases on Code Pleading. GOODNER.

¹¹¹111. PROCEDURE I. ³Two credits. ⁹⁷First semester. This course consists of five lectures of legal bibliography followed by a study of the system of legal classification employed in the leading Digests, etc., used by lawyers, and a series of selected practical problems in finding and keeping a record of the law. CONDON.

SCHOOL OF LAW

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~~114.~~ ¹¹²⁻¹¹³ PROCEDURE II. ~~Two~~ credits. ~~Second~~ semester. This course is a laboratory study in aid of the course in Pleading. It also includes a study of the statutory methods for commencing of actions in the Justice's Court of Washington. GOODNER. ^{W 2 cr. sp.}

~~117.~~ ¹¹⁵⁻¹¹⁶ PROPERTY. Four credits. ~~First~~ semester. Warren's Cases on Property, Volumes I and II. CATLETT. ^{fall 2 cr. W.}

~~119-120.~~ ¹¹⁷⁻¹¹⁸ TORTS. ~~Two~~ ⁴ credits ~~per semester.~~ ^{7 + 2 cr. W.} Ames and Smith's Cases on Torts. BISSETT.

SECOND YEAR

REQUIRED WORK

~~121.~~ ¹²¹ PROCEDURE III. Two credits. ~~First~~ semester. This course relates to civil procedure in Justice's Courts in Washington. GOODNER. ⁷

~~122.~~ ¹²³ PROCEDURE IV. Two credits. ~~Second~~ semester. This course will relate to the procedure in civil actions in the Superior Court and is a prerequisite to Procedure V. GOODNER. ^{sp}

During the second and third years three hours of class work in the courses in Procedure may, in the discretion of the instructor, be required for two hours credit. In exceptional cases only and upon special action of the law faculty, students will be allowed to substitute other courses for Procedure.

ELECTIVES

In addition to required courses second year students may elect from the following such courses as will, with their required work aggregate fourteen credits each semester.

~~124.~~ ¹²⁴ DAMAGES. ~~Two~~ ³ credits. ~~Second~~ semester. Beale's Cases on Damages. Supplemented by Washington cases. BISSETT. ^W

~~127.~~ ¹²⁵⁻¹²⁶⁻¹²⁷ EQUITY. ~~Four~~ ⁷ credits. ~~First~~ semester. Ames' Cases in Equity Jurisdiction, Volumes I and II, supplemented by Washington cases. AYER. ^W

~~129-130-131.~~ ¹²⁹⁻¹³⁰⁻¹³¹ EVIDENCE. Three credits per semester. Wigmore's Cases on Evidence, supplemented by Washington cases and statutes. CONDON. ^{gtu}

~~133.~~ ¹³³ IRRIGATION LAW. Two credits. ~~First~~ semester. Text-book to be selected. SHEPARD. ^{3 7}

134 144. MINING LAW. Two credits. ~~Second semester~~. Text-book to be selected. SHEPARD. ³ ^W

137 145. NEGOTIABLE INSTRUMENTS. Two credits. ~~First semester~~. Huffcut's Cases on Negotiable Instruments. BISSETT. ³ ⁷

146. PERSONS. Two credits. ~~Second semester~~. Woodruff's Cases on Domestic Relations and the Law of Persons, supplemented by Washington cases. BISSETT. ³ ^W

139-140 147-150. PROPERTY. Two credits per semester. Gray's Cases on Property (2d Ed.). Volumes III and V. BISSETT. ³ ^W

142-143 151-152. PUBLIC UTILITIES. Two credits per semester. Green's Cases on Carriers and Wyman's Cases on Public Service Companies. LANTZ. ³ ^W

145 153. QUASI-CONTRACTS. Two credits. ~~Second semester~~. Woodruff's Cases on Quasi-Contracts. CATLETT. ³ ^W

146 155-156. SALES. Two credits per semester. Woodward's Cases on Sales and Washington statutes and cases. AYER. ³ ^W

X 148 157-158. STATUTE LAW. Two credits per semester. Selected cases on Statutory Interpretation and Construction. CONDON. ³ ^W

151 159. WILLS. Two credits. ~~First semester~~. Warren's Cases on Wills and Administration. BISSETT. ³ ^W

THIRD YEAR

REQUIRED WORK

161. PROCEDURE V. Two credits. ~~First semester~~. A continuation of Procedure IV, with a jury in attendance. The course will also include the taking of appeals to the Supreme Court and practice in the extraordinary legal remedies of Habeas Corpus, Mandamus, Quo Warranto and Prohibition. Procedure IV is a prerequisite to this course. GOODNER. ³ ^W

163. PROCEDURE VI. Two credits. ~~First semester~~. A course in probate proceedings, covering administration of estates, probate of wills, appointment of guardians, etc. GOODNER. ³ ^W

During the second and third years three hours of class work in the courses of Procedure may, in the discretion of the instructor, be required for two hours credit. In exceptional cases only and upon special action of the law faculty, students will be allowed to substitute other courses for Procedure.

ELECTIVES

In addition to required courses third year students may elect from the following such courses as will, with their required work aggregate fourteen credits each semester.

¹⁶³ 165. ADMIRALTY. ~~Three~~ ⁴ credits. ~~First semester.~~ ^S Ames' Cases on Admiralty. LANTZ.

*166. BANKRUPTCY. ~~Two~~ ³ credits. Second semester. Williston's Cases on Bankruptcy and Selected Cases. (Given in 1918-19 and every second year thereafter.) BISSETT. ^{7. W}

167-168. CONFLICT OF LAWS. ~~TWO~~ ³ credits per semester. Lorenzen's Cases on Conflict of Laws. LANTZ. ^{W S}

¹⁶⁹⁻¹⁷⁰ 169-170. CONSTITUTIONAL LAW. ~~Two~~ ³ credits per semester. First semester: Federal; Second semester: State of Washington. Hall's Cases on Constitutional Law and Washington Cases. CONDON. ^{W S}

*¹⁷¹ 171. HISTORY OF THE LAW. ~~Two~~ ³ credits. ~~First semester.~~ ^S Textbook to be selected. (Given in 1917-18 and every second year thereafter.) BISSETT.

*¹⁷² 172. INSURANCE. ~~Three~~ ² credits. ~~Second semester.~~ ^{7 W} Vance's Cases on Insurance. LANTZ.

*174. JURISPRUDENCE. ~~Two~~ ³ credits. Second semester. Textbook to be selected. (Given in 1918-19 and every second year thereafter.) BISSETT. ⁷

¹⁷⁶ 176. MORTGAGES. ~~Two~~ ³ credits. ~~Second semester.~~ ⁷ Wyman's Cases on Mortgages and Washington Statutes and Cases. (Given in 1917-18 and every second year thereafter.) AYER. ^{W. S}

¹⁷⁷ 177. MUNICIPAL CORPORATIONS. ~~Three~~ ² credits. ~~First semester.~~ ^{W. S} Beale's Cases on Municipal Corporations and Washington Constitution, Statutes and Cases. CATLETT.

¹⁷⁸ 178. OFFICE PRACTICE. ~~Two~~ ³ credits. ~~Second semester.~~ ⁷ Conveyancing and examination of abstracts, care of law office generally, drawing wills and contracts, preparation of briefs and office accounts. CONDON. ^S

¹⁷⁹ 179. PARTNERSHIP. ~~Two~~ ³ credits. ~~First semester.~~ ^S Gilmore's Cases on Partnership. (Given in 1917-18 and every second year thereafter.) BISSETT.

186-187 ³ ~~180.~~ PRIVATE CORPORATIONS. ~~Four~~ ³ credits. ~~Second semester.~~ ^{W-S}
Canfield and Wormser's Cases on Private Corporations, supplemented by Washington cases. CATLETT.

189 ³ ~~181.~~ PROPERTY. ~~Two~~ ³ credits. ~~First semester.~~ ³ Gray's Cases on Property (2d Ed.). Volume VI. CATLETT.

190-191 ² ~~182.~~ PROPERTY. ~~Three~~ ² credits. ~~Second semester.~~ ^{W-S} Washington statutes and cases on community property. CATLETT.

193 ³ ~~183.~~ SURETYSHIP. ~~Two~~ ³ credits. ~~First semester.~~ ³ Ames' Cases on Suretyship. (Given in 1917-18 and every second year thereafter.) AYER.

*185-186. TRUSTS. Two credits per semester. Ames' Cases on Trusts. (Given in 1918-19 and every second year thereafter.) AYER.

* PARTNERSHIP, JURISPRUDENCE, SURETYSHIP, AND MORTGAGES will be given in 1917-18, alternating in successive years with HISTORY OF THE LAW, BANKRUPTCY AND TRUSTS.

Fifteen hours or credits in each semester of the first year are required, making all first year subjects required. A total amounting to fourteen hours or credits each semester during the second and third years are required, making a minimum total of eighty-six hours or credits for completion of the law course.

First year students are limited to fifteen hours per semester and second and third year students to fourteen hours per semester except upon special permission of the law faculty.

COURSES OFFERED STUDENTS IN OTHER COLLEGES AND SCHOOLS

(No Law School credit is given for these courses.)

54.5.5.5-6 ³ ~~52-54.~~ BUSINESS LAW. ~~Three~~ ³ credits per semester. Bay's Cases on Commercial Law. AYER.

104. NEWSPAPER JURISPRUDENCE. Two credits. Second semester. Prerequisite, Journalism 101-102, 103-104, 151-152; or Journalism 101-102, 103-104, 105-106. CONDON.

180. ENGINEERING CONTRACTS. Two credits. Second semester. Senior and graduate C. E. AYER.

OTHER INFORMATION

Information on subjects not covered by the foregoing statement will be furnished in answer to communications addressed to the Law School of the University of Washington, University Station, Seattle, Washington.

COLLEGE OF MINES

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

MILNOR ROBERTS, A. B. (Stanford), Professor of Mining Engineering and Metallurgy; DEAN.

JOSEPH DANIELS, S. B. (Massachusetts Institute of Technology), M. S. (Lehigh), Assistant 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.

JOHN LAVELL MCALLEN, S. B. (Massachusetts Institute of Technology), Instructor in Mining, Short Session.

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

ROBERT F. McELVENNY, E. M., Lecturer on Copper Smelting.

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

J. J. COREY, Foreman in charge of Mines Rescue Training, U. S. Bureau of Mines, Northwest Station.

JESS C. JOHNSON, Assistant in Metallurgy.

HENRY G. BOULTON, Assistant in Mining.

ALBERT E. SLACK, Assistant in Stock Room.

ALMON HOMER FULLER, M. S. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.

JOHN THOMAS CONDON, LL. M. (Northwestern), Professor of Law.

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

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

FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics.

ROBERT EDOUARD MORITZ, PH. D. (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), Director of Physical Education for Men.

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

CHARLES CHURCH MORE, M. S., C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.

HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry.

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

- *FRANK MARION MORRISON, PH. D. (Chicago), Associate Professor of Mathematics.
- LOBEN DOUGLAS MILLIMAN, A. B. (Michigan), Associate Professor of English.
- CHARLES WILLIAM HARRIS, C. E. (Cornell), Associate Professor of Civil Engineering.
- VANDERVEER CUSTIS, PH. D. (Harvard), Associate Professor of Economics.
- GEORGE SAMUEL WILSON, B. S. (Nebraska), Associate Professor of Mechanical Engineering.
- EDGAR ALLEN LOEW, B. S., E. E. (Wisconsin), Associate Professor of Electrical Engineering.
- HENRY LOUIS BRAKEL, PH. D. (Cornell), Assistant Professor of Physics.
- JOHN WILLIAM MILLER, B. S., C. E. (Nebraska), Assistant Professor of Civil Engineering.
- GEORGE IRVING GAVETT, B. S. (C. E.), (Michigan), Assistant Professor of Mathematics.
- CHARLES EDWIN WEAVER, PH. D. (California), Assistant Professor of Geology.
- HAROLD EUGENE CULVER, PH. M. (Wisconsin), Assistant Professor of Geology.
- CHARLES EDWARD NEWTON, E. M. (Michigan), Assistant Professor of Civil Engineering.
- SAMUEL THOMAS BEATTIE, Instructor in Woodwork.
- SANDY MORROW KANE, Instructor in Metal Work.

ADVISORY BOARD COLLEGE OF MINES

University of Washington

- ROY H. CLARKE, mining engineer, Peyton building, Spokane.
- JOHN ERIKSON, mine operator, Erikson building, Seattle.
- J. T. HEFFERNAN, president of the Heffernan Engine Works, mine operator, 108 Railroad Avenue South, Seattle.
- E. C. HUGHES, of Hughes, McMicken, Dovell and Ramsey, attorneys, mining lawyer, Colman building, Seattle.
- CHARLES HUSSEY, general manager of estate of John A. Finch, mine operator, Empire State building, Spokane.
- CHARLES E. JONES, general manager of the Roslyn Fuel Company, chairman of Coal Mine Operators' Association, coal mine operator, Roslyn, White building, Seattle.
- W. R. RUST, founder and former president of the Tacoma Smelting Company, mine operator, Box 1454, Tacoma.

***ADMISSION TO FRESHMAN STANDING**

A student must offer for admission to freshman standing in the University, fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

3 units of English

2 units of mathematics (1 unit of algebra, 1 unit of plane geometry).

3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented):

(a) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).

(b) Modern foreign language (at least 2 units in *one* language; not less than one unit will be counted in any language).

(c) History, civics, economics (at least one unit to form a year of consecutive work in history).

(d) 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).

2 units in subjects represented in the above groups (a)-(d).

5 units selected from any subjects accepted by an approved high school for its diploma; not more than 4 units, however, may be in vocational subjects.

In addition to the three units of English and the two units of mathematics required for admission to all colleges of the University, it is recommended that a student expecting to enter the College of Mines should elect his work from the groups (a) to (d), so as to offer the following subjects:

Advanced algebra	$\frac{1}{2}$ unit
Solid geometry	$\frac{1}{2}$ unit
Physics	1 unit

If he shall not have included these subjects in his high school elections, it will be necessary for him to include them among his elections in college.

* More detailed information concerning admission is furnished on pages 42-49.

DEGREES

The four-year curricula in the College of Mines lead to the following degrees: Curriculum I, bachelor of science in mining engineering; curriculum II, bachelor of science in geology and mining; curriculum III, bachelor of science in metallurgical engineering; curriculum IV, bachelor of science in coal mining engineering.

In addition to the above, curriculum V, which leads to the degree of bachelor of science (B. S.), is offered. The entrance requirements for curriculum V are less technical than for the other curricula and the training given by it is broader. Students who graduate in this curriculum are advised to spend an additional year in study and research according to the schedule given for the degree of master of science in mining engineering (M. S. in Min. E.) A new group of electro-metallurgical subjects is offered in curriculum III.

The degree of engineer of mines (E. M.) is given to graduates in mining engineering who have practiced their profession for at least three years, and who present a satisfactory thesis. Graduates in metallurgy may receive the degree of metallurgical engineer (Met. E.) under similar conditions.

MINING AND METALLURGICAL RESEARCH

The purpose of the department is to stimulate and encourage development in the mining and metallurgical industry 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 \$720 annual value have been established. These fellowships are open to qualified college graduates. 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 May 15th, 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, or Metallurgy, unless an equivalent degree has been previously 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.

MINING AND METALLURGICAL EXPERIMENT STATION
UNITED STATES BUREAU OF MINES

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, and in the mining, treatment and uses of coal. Members of the experiment station staff give occasional lectures to the students of the University on subjects dealing with their special lines of work.

UNITED STATES MINES RESCUE TRAINING STATION

The United States Mines Rescue Training Station, operated in connection with the College of Mines, occupies a separate building. The "smokeroom" is the largest of its kind in the country, measuring 25 by 50 feet.

Several sets of various types of oxygen rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work. The purpose of the station is to train miners in the use of oxygen helmets, which are used in cases of mine fires and explosions in both coal and metal mines. From ten days to two 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 U. S. Bureau of Mines.

A one-ton, forty-five horse-power automobile truck, equipped with rescue apparatus ready for any 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.

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. The application of hydraulic mining methods to city grading is being carried on locally on a very large scale and with the most approved pumping and piping appliances and methods. Equally important to the mining engineer are the operations of the steam shovels, which are used largely now in iron, copper and gold mining. The engineers in charge of these plants have given the mining students every opportunity to become familiar with the methods of planning and carrying on the work, and the same statement applies to the mine operators throughout the state.

A 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, glass works, several stone quarries and dressing works; clay mines, clay and pottery works; gravel and sand pits with large production and approved methods; a region of varied geology with many economic minerals; the Tacoma smelters and refineries; the U. S. assay office; the West Seattle steel plant of the Pacific Coast Steel Co., and several plants engaged in metallurgical work.

MINING AND METALLURGICAL LABORATORIES.

The laboratories of the College of Mines are housed in a two-story building of pressed brick. The main portion of the structure, measuring 50 by 60 feet, contains the offices, library, classrooms, drafting room and museum, as well as laboratories,

desks, stockroom and balance room for assaying and general metallurgy. The rear wing, 40 by 66 feet, with tower, is occupied by mining and milling machinery, electric furnaces, and stocks of ore, coals and clays. An addition contains a steel locker room, showerbath room and a metallographic laboratory.

The metallurgical equipment includes standard size furnaces fired by six methods,—coal, coke, gasoline, gas, fuel-oil 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 reverberatory furnace, pyrometers of several types, cyanide equipment, amalgamating devices, blowers, calorimeters, balances, sampling machines, and exhibits of metallurgical processes and products.

The mining 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 1,200 slides, and collection of ores and minerals. The College of Mines mill contains breakers, rolls, 3-stamp battery, feeders, screens, classifiers, jigs, four concentrating tables, flotation cells of six types, coal washing equipment, and accessory apparatus.

MINING SOCIETY

The Mining Society, affiliated with the American Institute of Mining Engineers, has a membership composed of upperclassmen, graduate students and three sophomores, chosen for the excellence of their records in actual mining. At the monthly meetings of the society addresses are made by prominent mining engineers, and papers descriptive of their summer work are presented by the student members. The officers for 1916-17 are Jess C. Johnson, president; E. L. Tucker, vice-president; Richard R. Luther, secretary; W. F. Brown, treasurer; Henry G. Boulton, corresponding secretary.

CURRICULA IN THE COLLEGE OF MINES

FRESHMAN YEAR FOR ALL CURRICULA

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
Mathematics 51	4	Mathematics 52	4
Chemistry 21	4	Chemistry 22	4
Civil Engineering 1.....	2	Civil Engineering 6.....	4
English 3	2	Civil Engineering 20	4
Geology 3	4	Mechanical Engineering 4....	2
Mechanical Engineering 1...	2	Mil. Sci.	1
Mil. Sci.	1		
	<hr/> 16+3		<hr/> 16+3

SOPHOMORE YEAR FOR ALL CURRICULA

Mining 51	2	Geology 22	4
Civil Engineering 11.....	2	Chemistry 101	4
Civil Engineering 27.....	3	Physics 98	1
Physics 95	2	Physics 98	4
Physics 97	4	Mathematics 62	4
Mathematics 61	4	Mil. Sci.	1
Mil. Sci.	1		
	<u>17+1</u>		<u>17+1</u>

OPTION I IN MINING ENGINEERING

JUNIOR YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
*Mining 101	2	Mining 106	2
*Mining 103	1	Metallurgy 102	4
*Metallurgy 101	4	Electrical Engineering 105..	4
Civil Engineering 131.....	4	Geology 124	4
*Mechanical Engineering 53..	2	*Economics 3	4
Geology 123	4	Mining practice in summer	
*English 4	2	vacation.	
Phys. Ed.	1	Phys. Ed.	1
	<u>16+4</u>		<u>18+1</u>

SENIOR YEAR

*Mining 151	4	*Mining 152	4
*Mining 153	1	*Mining 154	2
Metallurgy 151	3	*Mining 156	2
Metallurgy 153	2	Mining 158.....	1
Metallurgy 155	2	Metallurgy 157	3
Civil Engineering 143.....	4	Metallurgy 162	1
Geology 125	1	Geology 128	4
Phys. Ed.	1	Phys. Ed.	1
	<u>17+1</u>		<u>17+1</u>

OPTION II IN GEOLOGY AND MINING

JUNIOR YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
*Mining 101	2	*Mining 106	2
*Mining 103	1	*Metallurgy 102	4
*Metallurgy 101	4	Metallurgy 106	2
Metallurgy 103	2	Civil Engineering 107	3
Mechanical Engineering 53..	2	Geology 124	4
Geology 123	4	*English 4	2
Geology 125	1	Geology or mining practice	
*Economics 3.....	4	in summer vacation.	
Phys. Ed.	1	Phys. Ed.	1
	<u>17+4</u>		<u>17+1</u>

* Required in all curricula.

SENIOR YEAR

*Mining 151	4	*Mining 152	4
*Mining 153	1	*Mining 154	2
Metallurgy 151	3	*Mining 156	2
Metallurgy 153	2	Mining 158	1
Metallurgy 155	2	Metallurgy 162	1
Geology 125	1	Geology 128	4
Geology 131	4	Geology 222	1
Phys. Ed.	1	Elective	2
		Phys. Ed.	1
	<u>17+1</u>		<u>17+1</u>

OPTION III IN METALLURGICAL ENGINEERING

JUNIOR YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
*Mining 101	2	*Mining 106	2
*Mining 103	1	*Metallurgy 102	4
*Metallurgy 101	4	Metallurgy 104	2
Metallurgy 103	2	Metallurgy 162	1
Metallurgy 155	2	Electrical Engineering 105..	4
*Mechanical Engineering 53.	2	Mechanical Engineering 54..	2
Civil Engineering 131	4	*Economics 3	4
*English 4	2	Metallurgical practice in summer vacation.	
Phys. Ed.	1	Phys. Ed.	1
	<u>16+4</u>		<u>17+3</u>

SENIOR YEAR

*Mining 151	4	*Mining 152	4
*Mining 153	1	*Mining 154	2
Metallurgy 151	3	Mining 156	2
Metallurgy 157	3	Metallurgy 158	2
Metallurgy 163	1	Metallurgy 160	3
Metallurgy 165	1	Geology 128	4
Civil Engineering 143	4	Phys. Ed.	1
Phys. Ed.	1		
	<u>17+1</u>		<u>17+1</u>

OPTION IV IN COAL MINING ENGINEERING

JUNIOR YEAR

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
*Mining 101	2	*Mining 106	2
*Mining 103	1	Mining 120	2
*Metallurgy 101	4	Mining 122	2
Civil Engineering 131	4	*Metallurgy 102	4
*Mechanical Engineering 53.	2	Electrical Engineering 105..	4
Geology 121	3	*Economics 3	4
*English 4	2	Summer practice in coal mining.	
Phys. Ed.	1	Phys. Ed.	1
	<u>15+4</u>		<u>18+1</u>

SENIOR YEAR

*Mining 151	4	*Mining 154	2
*Mining 153	1	*Mining 156	2
Mining 171	2	Mining 172	3
Civil Engineering 143	4	Mining 174	2
Mechanical Engineering 82	2	Mining 176	4
Mechanical Engineering 140	2	Mining 182	2
Metallurgy 155	2	Geology 126	2
Phys. Ed.	1	Phys. Ed.	1
	<u>17+1</u>		<u>16+1</u>

CURRICULUM V IN MINING ENGINEERING

Leading to the Degree of Bachelor of Science

	Credits
Mining 51, 106, 151, 152, 156	14
Metallurgy 101, 102, 153	9
Civil Engineering 1, 6, 11, 20, 27, 131, 143	23
Electrical Engineering 105	4
Mechanical Engineering 1, 4, 53	6
Chemistry 1, 2, 41, 101	16
Physics 95, 96, 97, 98	11
Mathematics 51, 52, 61, 62	16
Geology 3, 22, 123, 124, 125	17
English 3, 4	4
Economics 3	4
Modern foreign language	12
Elective	2
Military Science or Physical Education	8

GRADUATE COURSE IN MINING ENGINEERING

Following Option I and leading to the Degree of Master of Science
in Mining Engineering

FIRST SEMESTER	Credits	SECOND SEMESTER	Credits
Mining 101	2	Mining 154	2
Mining 103	1	Mining 156	2
Mining 153	1	Mining 158	1
Mining 801	3	Mining 182	2
Metallurgy 157	3	Metallurgy 104	2
Metallurgy 160	3	Geology 128	4
Elective (engineering)	4	Elective (engineering)	4
	<u>16+1</u>		<u>17</u>

Equivalent courses in Coal Mining Engineering may be substituted for those listed above.

The degree of master of science in Mining Engineering will also be conferred upon graduates of this College or of other mining colleges of the first class who complete a year (34 credit hours) of graduate work, including a satisfactory thesis, with the grade of A or B. The candidate must also pass a formal examination open to all members of the faculty. The selection of work for this degree must in each case be approved by the head of the department in which the student majors.

* Required in all curricula.

DEPARTMENTS OF INSTRUCTION

MINING ENGINEERING AND METALLURGY

(Mines Hall)

PROFESSOR ROBERTS, ASSISTANT PROFESSORS DANIELS AND COREY, MR. MC ALLEN; LECTURERS, MR. MC ELVENNY, MR. POWELL, MR. GLENN, MR. J. J. COREY, ASSISTANTS, MR. BOULTON, MR. JOHNSON, MR. SLACK.

I. MINING ENGINEERING

Coal miners who are taking the ten-day course in the U. S. Mine Rescue Training Station are given daily instruction and laboratory demonstrations in the subjects of mine gases, ventilation, the origin and composition of coals, and coal analysis.

51. ELEMENTS OF MINING. ~~Two~~³ credits. ~~First semester.~~ Prerequisite, sophomore standing. DANIELS. *W*

A general study of the field of mining, considering prospecting, boring, drilling, explosives, rock breaking, methods of development and working, transportation and drainage. *7 all*

101. MILLING. ~~Two~~³ credits. ~~First semester.~~ Prerequisite, junior standing. Laboratory deposit, \$5.00. ROBERTS, DANIELS, JOHNSON.

One lecture and one laboratory period. Lectures and mill practice in the principles of ore dressing.

103. MINE RESCUE TRAINING. One credit. ~~First semester.~~ twenty-five hours' instruction. DANIELS, Government engineers. *W*

Practice in the care and use of oxygen rescue apparatus, smoke-room training, and first-aid-to-the-injured work at the U. S. Bureau of Mines Rescue Station. Required of all students in the College of Mines.

~~106. JUNIOR EXCURSION. Two credits. Second semester. Required for senior standing. ROBERTS, DANIELS, COREY.~~

~~An excursion by the junior class during the spring vacation to a mine, mining district, or metallurgical plant. Usually made in connection with the senior excursion, Mining 156. The expense of the trip is variable, depending on the distance traveled and on local arrangements, but it will range from twenty to fifty dollars.~~

120. COAL RESOURCES OF NORTH AMERICA. ~~Two credits. Second semester. Two lectures.~~ ^{3 w} Prerequisite, Mining 51. DANIELS.

The occurrence of coal in North America with especial reference to geographic and geologic distribution and structure; study of the various types of coals; classification of coals; commercial requirements of coals.

122. COAL MINING METHODS. ~~Two credits. Second semester.~~ ^{arr w} Two lectures, Prerequisite, Mining 51. DANIELS.

Methods of prospecting coal seams; determination of structure and content; methods of development and working, timbering, etc. A detailed study is made of a nearby mine.

151. MINING ENGINEERING. Four credits. ~~First semester.~~ ⁷ Prerequisite, senior standing. Laboratory deposit, \$3.00. ROBERTS.

Three lectures and one laboratory period. Lectures on exploration, mine development and operation, with costs, power generation, air compression, hoisting and transportation. Practice with air compressors, machine drills and mine equipment in laboratories and local plants.

152. ORE DRESSING. ~~Four credits. Second semester.~~ ^{5- sp.} Prerequisite, Mining 101. Senior or graduate. Laboratory deposit, \$5.00. ROBERTS, DANIELS, JOHNSON.

Two lectures and two laboratory periods. A detailed study of certain branches of ore dressing followed by a full test of ores by mill run checked by assays. Flotation.

153. THESIS OUTLINE. One credit. ~~First semester.~~ ⁷ One laboratory period. ROBERTS, DANIELS, COREY.

The outlining of senior thesis, the gathering of material, study of references, making of drawings, maps, etc. See Mining 154. Senior or graduate.

154. ¹⁵⁰ THESIS. ~~Two credits. Second semester.~~ ^{2 each w, sp.} Two laboratory periods. ROBERTS, DANIELS, COREY.

A continuation of Mining 153. Weekly consultation and seminars. A deposit of \$5.00 or \$10.00 will be required to cover cost of materials and equipment in thesis work involving the use of mining or metallurgical equipment.

155. FIELD WORK. One credit. First semester. Time to be arranged. ROBERTS, DANIELS.

One laboratory period (or its equivalent in total time required) and monthly seminar. Class or individual visits to a mine, mill, smelter, or engineering work, to be followed by a report with field notes and sketches.

156. MINE INSPECTION. Two credits. Second semester. Time to be arranged. ROBERTS, DANIELS, COREY.

Ten days in the second semester. An excursion by the senior class to a mine, mining district, or metallurgical plant. See Mining 106.

158. MINING LAW. ~~One credit. Second semester.~~ Two lectures for one-half semester. *arr W Daniels*

A series of lectures on the mining laws of the United States and Alaska. Illustrated by diagrams and mine maps.

* 171. MINE GASES AND VENTILATION. ~~Two credits. First semester.~~ *arr W* Two lectures. Prerequisite, Mining 122. DANIELS.

Composition and properties of mine gases, methods of testing. Lighting of mines. Principles of ventilation; ventilating machinery.

172. MINING PLANT. ~~Three credits. First semester.~~ *arr SP* Three drafting periods. Prerequisite, Mining 122 and 171. DANIELS.

Design of plant and machinery employed in mining and preparing coal for market.

174. COAL MINING MACHINERY. ~~Two credits. Second semester.~~ *arr SP* Two lectures. Prerequisite, senior standing. DANIELS.

Study of coal cutting machines, mine locomotives, fans, hoists, pumps, and tippie or breaker machinery with especial reference to application to coal mining. *arr W*

176. COAL WASHING. ~~Four credits. Second semester.~~ *arr W* Two lectures and two laboratory periods. Prerequisite, Mining 101. Laboratory deposit, \$5.00. DANIELS.

A detailed study of methods of preparing coal for market, together with laboratory tests and runs on various coal to determine best methods of preparation.

SC 51 - Mining - 3 - Roberts - W

SC 101 - Milling - 3 - Daniels - W

182. MINE MANAGEMENT. ³~~Two~~ credits. ^{SP}~~Second semester~~. Prerequisite, senior standing. DANIELS.

A study of the organization and administration of engineering plants, involving the keeping and interpretation of cost accounts, the efficiency of labor and methods, the financial, legal and social aspects of engineering operation.

~~184. INDUSTRIAL ORGANIZATION. Two credits. Second semester. Two lectures. DANIELS.~~

~~A study of the principles of industrial organization and scientific management, involving the consideration of handling labor and materials, methods of operation, cost keeping and performance records, interpretation of efficiency data.~~

~~301. MINING METHODS. Three credits. First semester. Senior or graduate. ROBERTS.~~

~~Two lectures and one laboratory period. A detailed study of certain branches of mining.~~

~~302. MINE OPERATION. Three credits. Second semester. Senior or graduate. ROBERTS.~~

~~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.~~

II. METALLURGY.

101. FIRE ASSAYING. ³~~Four~~ credits. ⁷~~First semester~~. Prerequisite, Chemistry 101. Laboratory deposit, \$20.00. COREY, ~~GLENN, SLACK.~~

One lecture and three laboratory periods. The testing of reagents, the crushing, sampling and assaying of ores, furnace and mill products for lead, silver, gold and tin; also, the assay of base and gold bullion.

102. GENERAL METALLURGY. ⁵~~Four~~ credits. ^{SP}~~Second semester~~. Laboratory deposit, \$10.00. Three lectures and one laboratory period. ROBERTS, COREY, McELVENNY.

The properties of metals and alloys, fuels, refractory materials, furnaces and the extraction of the common metals from their ores. Visits to smelter.

103. METALLURGICAL FUELS. Two credits. ~~First semester~~.
Laboratory deposit, \$5.00. DANIELS.

One lecture and one laboratory period. The composition, manufacture and metallurgical uses of natural and prepared fuels; the methods and costs of coking, gas making, and coal briquetting. Furnace and calorimeter tests of various types of fuels.

104. COPPER AND LEAD. ~~Two credits~~. ~~Second semester~~.
COREY.

Two lectures. The metallurgy of copper and lead, especially the methods, of roasting, smelting and refining.

106. REFRACTORIES. Two credits. ~~Second semester~~. One lecture and one laboratory period. Laboratory deposit, \$3.00. COREY.

Methods of testing clays, refractory materials, cement-making materials.

151. GOLD AND SILVER. Three credits. ~~First semester~~.
Laboratory deposit, \$5.00. Two lectures and one laboratory period. COREY.

Amalgamation, cyaniding, and chlorination of gold and silver ores. Complete tests checked by assays.

153. WET ASSAYING. ~~Two credits~~. ~~First semester~~. Two laboratory periods. Prerequisite, Chemistry 101. Laboratory deposit, \$12.00. COREY.

Technical methods for the determination of copper, lead, zinc, etc., in ores and furnace products, etc.

155. IRON AND STEEL. ~~Two credits~~. ~~First semester~~. Two lectures. DANIELS.

The metallurgy and manufacture of commercial iron and steel, with especial reference to their properties and uses in engineering work.

* 157. DESIGN OF PLANT. Three credits. ~~Either semester~~. Three drafting periods. Senior or graduate. ROBERTS, DANIELS.

The designing of a piece of equipment or a structure for mining, milling or metallurgical purposes.

* 158. MINOR METALS. ~~Two credits~~. ~~Second semester~~. Two lectures. COREY.

The metallurgy of zinc, antimony, tin, aluminum, nickel, etc., a study of the plant required, the methods and costs of treatment.

- * 160. METALLURGICAL ANALYSIS. Three credits. ~~Second semester.~~ ^{SP} One lecture. Two laboratory periods. Prerequisite, Chemistry 101. Laboratory deposit, \$12.00. COREY.

Technical methods of analysis of slags and industrial products.

162. METALLOGRAPHY. ~~One credit. Second semester.~~ ² ^{SP} One lecture. DANIELS, COREY.

The constitution and microstructure of metals and alloys, especially iron and steel. The preparation and study of metal sections, photomicrography and the use of the microscope to aid in testing industrial alloys.

163. METALLOGRAPHY. ~~One credit. First semester.~~ ² ^{SP} One laboratory period. Laboratory deposit, \$3.00. Prerequisite, Metallurgy 162. DANIELS, COREY.

Advanced study of industrial alloys.

164. PYROMETRY AND ALLOYS. Two credits. Second semester: One lecture and one laboratory period. Laboratory deposit, \$3.00. COREY.

Methods of measuring high temperatures. Union of metals by fusion, compression and electro deposition; the behavior of metals and alloys under heat. Laboratory practice in thermal measurements, synthesis and testing of alloys.

165. METALLURGICAL PROBLEMS. One credit. ~~First semester.~~ ^{7. W} Prerequisite, Chemistry 101, and Metallurgy 102. COREY.

Physical chemistry for the metallurgist, slag calculations, etc., illustrated by figures quoted from the present practice at a number of smelting plants.

THESIS. See Mining 153 and 154.

SUMMER FIELD WORK. See Mining 106 and 156.

166 - ~~Electrometallurgy~~ - 2 cr. - SP.
SC - assaying - W. - 3 cr.

III. MINING AND METALLURGICAL RESEARCH

(Mines Hall and Bureau of Mines Hall)

THE TECHNICAL STAFF OF THE NORTHWEST STATION, UNITED STATES

BUREAU OF MINES: DORSEY A. LYON, METALLURGIST IN CHARGE;

GEORGE WATKIN EVANS, COAL MINING ENGINEER; FRANCIS C.

RYAN, ELECTRO-METALLURGIST; HARLAN A. DEPEW,

CHEMIST; ———, JUNIOR CHEMIST.

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. Electro-metallurgical processes.
2. Beneficiation of coal and non-metallic minerals.
3. Clay industry and ceramics.
4. General problems affecting the ores and the mining industry of the state.
5. The development of metallurgical industries.

SUBJECTS PRESENTED BY DEPARTMENTS OF OTHER COLLEGES OF THE UNIVERSITY

CHEMISTRY

(Bagley Hall)

1. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. Laboratory deposit, \$10.00. BYERS, ROSE, Instructors and Assistants.

This course is designed to meet the needs of students who come from accredited schools in which chemistry is not required.

2. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 1. Laboratory deposit \$10.00.

3. GENERAL CHEMISTRY. Four credits. From January 1st to April 1st. Three lectures and four laboratory hours per week. Laboratory deposit, \$10.00. BENSON.

This course is open to students who enter the University short courses, and does not demand any previous knowledge of chemistry.

21. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. This course is open to students who have had a year of chemistry in an accredited high school. Laboratory deposit, \$10.00 BYERS, TRUMBULL, LANGDON, Assistants.

22. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 21. Laboratory deposit, \$10.00. BYERS, TRUMBULL, LANGDON, Assistants.

The laboratory work is an elementary course in qualitative analysis.

101. QUANTITATIVE ANALYSIS. Four credits. Either semester. Twelve laboratory hours and 1 recitation per week. Laboratory deposit, \$10.00. HEATH.

The technique of gravimetric and volumetric analysis.

102. QUANTITATIVE ANALYSIS. Four credits. Either semester. A continuation of 101. Laboratory deposit, \$10.00. HEATH. Mineral analysis and special and analytical processes.

CIVIL ENGINEERING

(Engineering Hall)

1. ENGINEERING DRAWING. Two credits. Either semester. All freshman engineers. Prerequisite, plane geometry. Two three-hour laboratory periods. WARNER, WERNECKE, ROGERS, DUCKERING, RUBEY.

The use of instruments, freehand lettering, tracing.

6. ENGINEERING DRAWING. Four credits. Either semester. All freshman engineers. Prerequisite, solid geometry, drawing 1. Laboratory deposit, \$1.00. Two recitations and two three-hour laboratory periods. WARNER, HARRIS, ROGERS, RUBEY.

The elements of descriptive geometry, including the principles of shades, shadows and perspective. Practical problems.

11. ENGINEERING DRAWING. Two credits. Either semester. All sophomore engineers. Prerequisite, 6. Laboratory deposit, \$1.00. Two three-hour laboratory periods. WARNER, WERNECKE, ROGERS.

Continuation of drawing 6. Problems and tracings.

20. ELEMENTARY PLANE SURVEYING. Four credits. Either semester. All freshmen engineers. Prerequisite, Math. 51 and C. E. 1. Laboratory deposit, \$3.00. Two recitations and two three-hour laboratory periods. MILLER, DUCKERING, RUBEY.

Adjustment of instruments, trigonometric computations, mapping of simple surveys, and a brief introduction to the United States system of public land surveying.

27. MINE SURVEYING. Three credits. First semester. Sophomore mining engineers. Prerequisite, C. E. 20. Laboratory deposit, \$3.00. NEWTON.

Surface and underground practice. Observation for meridian. Topography. Mining claim surveys. Plane triangulation. Tunnel and vertical shaft work and connections. Mapping.

A trip of one or two days to a mine in the vicinity for the purpose of practice under operating conditions.

***103. SURVEYING CAMP.** Six credits. Six weeks following the second semester sophomore work. Class will start for camp immediately following the final examination in June. Required of all C. E. students. Prerequisites, C. E. 14 and 22. MILLER,

Railway and topographic surveying. Elementary triangulation and the use of the plane table and stadia. Precise measurement of short base lines with the steel tape. Railway preliminary and location surveys. Cross sectioning and referencing the line and making the necessary right-of-way surveys.

107. TOPOGRAPHY. Four credits. First semester. Junior foresters and miners. Prerequisite, C. E. 55-56. Laboratory deposit, \$3.00. NEWTON.

Topographic surveys as applied to forestry and mining. Reconnaissance and sketch maps, and exercises in reading and adjusting triangulation systems. Filling in topographic details with plane table and transit. Beginning of elementary railroad surveying.

131-132. MECHANICS. Four credits first semester. Three credits second semester. Junior engineers. Prerequisite, Mathematics 62, Physics 97; 131 is repeated second semester. MORE, WERNECKE, DUCKERING, RUBEY.

Statics, dynamics and mechanics of materials.

* See bulletin of information—Summer School of Surveying.

143. **HYDRAULICS.** Four credits. First semester. Senior miners and chemical engineers. Prerequisite, C. E. 131. Laboratory deposit, \$3.00. HARRIS.

Elements of hydraulics with application to industrial uses.

144. **HYDRAULIC MINING.** (Short session in Mining, Jan.-Mar.). ALLISON.

A course of two lectures per week on theory and practice of hydraulic mining.

ECONOMICS

(Denny Hall)

3. **MAN AND HIS ECONOMIC LIFE.** Four credits. Either semester. _____.

ELECTRICAL ENGINEERING

(Engineering Hall)

105. **ELECTRICAL ENGINEERING.** Four credits. Either semester. Junior C. E., Ch. E. and M. E. Prerequisite, Mathematics 62, Physics, 96, 98. Laboratory deposit, \$3.00. KIRSTEN, CURTIS.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

ENGLISH

(Denny Hall)

3-4. **FRESHMAN COMPOSITION.** Two credits per semester. First semester of freshman and second semester of sophomore year. MILLIMAN in charge.

An adaptation of 1-2 for students in the College of Engineering. No students will be excused from the course, but a section will be provided for those whose training has been exceptionally good.

GEOLOGY

(Science Hall)

3. **GEOLOGY FOR ENGINEERING AND MINING STUDENTS.** Four credits. Either semester. Three class periods and one laboratory period. Laboratory deposit, \$1.00. CULVER.

General geological principles with their special application to engineering and mining problems.

22. **MINERALOGY.** Four credits. Second semester. Two lectures and two laboratory periods. For engineering and mining students. Laboratory deposit, \$2.00. Prerequisite, one year of college chemistry. CULVER.

A descriptive and determinative study of the minerals, with blowpipe analysis.

121. **PETROLOGY.** Three credits. First semester. A special course for coal mining men in the College of Mines. Laboratory deposit, \$2.00. Prerequisite, Geology 3 and 22. WEAVER or CULVER.

123. **OPTICAL CRYSTALLOGRAPHY.** Four credits. First semester. Two lectures and two laboratory periods. Prerequisite, Geology 1-2, or 3, or 12, college physics and college chemistry, Laboratory deposit, \$2.00. WEAVER.

Practice in the microscopic determination of crystals and artificial products by optical methods.

124. **PETROGRAPHY.** Four credits. Second semester. Two lectures and two laboratory periods. Prerequisite, Geology 22 and 123. Laboratory deposit, \$2.00. WEAVER.

A study of the distinguishing characteristics of the different groups and species of rocks, with practice in their determination by modern petrographical methods.

125-126. **FIELD WORK FOR MINING STUDENTS.** Credits to be arranged up to three. One credit for eight field days with written report. Prerequisite, 2 or 3 and 21 or 22 (124 also preferred). WEAVER.

127-128. **ECONOMIC GEOLOGY.** Three credits per semester. For mining students four credits second semester. Three lectures and discussion of papers. Prerequisite, for 128, Geology 3, 22, 124. LANDES.

A study of the origin and extent of economic deposits of non-metals (first semester), and metals (second semester). Their production and use.

131. **PALEONTOLOGY.** Four credits. First semester. Three lectures and one laboratory period. Prerequisite, 2 or 3. WEAVER.

A laboratory study of fossil invertebrates with their geologic and geographic distribution.

Short Course 2. **MINERALOGY.** Instruction and practice in blow-pipe analysis, with lectures upon the common minerals, and

practice in the identification of minerals by field tests. Twice a week. Laboratory deposit, \$2.00. CULVER.

Short Course 3. ELEMENTS OF GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous veins and ore deposits, etc. Twice a week. CULVER.

MATHEMATICS

(Science Hall)

1-2. SOLID GEOMETRY. Two credits per semester. Prerequisite, plane geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

4. SOLID GEOMETRY. Three credits. Second semester. Same as 1-2.

51. TRIGONOMETRY AND ALGEBRA. Four credits. First semester. Prerequisite, same as 11-12. Laboratory deposit, \$1.00.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of plane trigonometry and supplementary work in algebra equivalent to one hour per week.

52. ANALYTICAL GEOMETRY AND ALGEBRA. Four credits. Either semester. Prerequisite, 51. Laboratory deposit, \$1.00.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of analytical geometry and supplemental work in algebra equivalent to one hour per week.

61. CALCULUS FOR ENGINEERS. Four credits. Either semester. Prerequisite, 52.

62. CALCULUS FOR ENGINEERS. Four credits. Either semester. Continuation of 61.

151. APPLICATION OF THE CALCULUS FOR ENGINEERS. Two credits. Either semester. Prerequisite, 62.

MECHANICAL ENGINEERING

(Engineering Hall)

1. CARPENTRY AND WOOD-TURNING. Two credits. Either semester. Laboratory deposit, \$2.00. BEATTIE.

4. MINE TIMBER FRAMING. Two credits. Second semester. Freshman mining engineers. Laboratory deposit, \$3.00. BEATTIE, DANIELS.

53. **FORGE AND FOUNDRY.** Two credits. Either semester. Laboratory deposit, \$2.00. KANE.

54. **MACHINE WORK.** Two credits. Either semester. Laboratory deposit, \$2.00. KANE.

82. **STEAM ENGINEERING.** Two credits. Either semester. EASTWOOD.

The various forms of steam apparatus used in modern power plants, considering the construction, use and reason for installing such apparatus.

140. **EXPERIMENTAL ENGINEERING.** Two credits. Either semester. Prerequisite, preceded or accompanied by M. E. 82. Laboratory deposit, \$2.00. WILSON.

Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine. One complete engine and boiler test with report.

MILITARY SCIENCE AND TACTICS

(The Armory)

In accordance with the National Defense Act, June 3, 1916, the War Department has established and maintains at this University an Infantry unit of the Senior Division of the Reserve Officers' Training Corps. Provision has also been made for the probable establishment in the near future of Coast Artillery and Engineer units. The primary object of these units is to qualify, by systematic and standard methods of training, students for reserve commissioned officers in the military forces of the United States.

The system of instruction prescribed presents to the student a standardized measure of that military training which is necessary in order to prepare him to perform intelligently the duties of a commissioned officer, and it enables him to be thus trained with the least practicable interference with his civil career.

All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take two years' work in military training, which by regulation of the University is required during the first and second years. During this time three hours a week are devoted to military training, for which two credits are given each semester.

Students desiring to continue in the Reserve Officers' Training Corps during their junior and senior years are required to take five hours a week of military training and to attend two student training camps during two summer vacations; one prior to, and one subsequent to graduation. During service in the Reserve Officers' Training Corps in their junior and senior years, students are paid by the Federal Government, and the successful completion of this course entitles a graduate to commission as a temporary second lieutenant in the Regular Army, and to a commission in the Officers' Reserve Corps.

Under regulations prescribed by the Secretary of War, members of the Reserve Officers' Training Corps are furnished uniforms, arms and equipment without cost to themselves.

COURSE OF TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION OF THE RESERVE OFFICERS' TRAINING CORPS FRESHMAN YEAR.

FIRST SEMESTER.

Practical:

- Physical drill.
- Infantry drill to include school of the company, close and extended order.
- Nomenclature and care of the rifle and equipment.
- Preliminary instruction in sighting, position and aiming drills, gallery practice.

Theoretical:

- Theory of target practice, individual and collective.
- Military organization.
- Map reading.
- Service of security.
- Personal hygiene.

SECOND SEMESTER.

Practical:

- Physical drill.
- Infantry drill to include fire control and direction, ceremonies, manuals.
- Bayonet combat.
- Intrenchments.
- First aid instructions.
- Range and gallery practice.

Theoretical:

- Lectures on
 - Military policy.
 - Service of information.
 - Combat.
 - Infantry drill regulations.
 - Camp sanitation.

SOPHOMORE YEAR.

THIRD SEMESTER.

Practical:

- Same as second semester (practical), and combat and collective firing.

Theoretical:

- Infantry drill regulations, to include school of battalion and combat.
- Small-arms firing regulations.
- Lectures—Same as second semester (theoretical), also
 - Map reading.
 - Camp sanitation and camping expedients.

FOURTH SEMESTER.

Practical:

- Same as second semester (practical), and signalling.
- Sand table work.

Theoretical:

- Lectures on
 - Military history.
 - Service of information and security.
 - Marches and camps.

JUNIOR YEAR.

FIFTH SEMESTER.

Practical :
 Duties of cadet officers and non-commissioned officers.
 Military sketching.
Theoretical :
 Minor tactics.
 Map maneuvers.
 Company administration.
 Military history.

SIXTH SEMESTER.

Practical :
 Same as practical, fifth semester.
 Advanced military sketching.
Theoretical :
 International law.
 Property accountability.

SENIOR YEAR.

SEVENTH SEMESTER.

Practical :
 Same as practical, fifth semester.
Theoretical :
 Minor tactics.
 Manual of Courts-martial.
 International relations.
 International law.
 Lectures on
 Psychology of war.
 General principles of strategy.

EIGHTH SEMESTER.

Practical :
 Same as practical, fifth semester.
Theoretical :
 Tactical problems.
 Map maneuvers.
 Lectures on
 Military history.
 Military policy.

MODERN LANGUAGE

(Denny Hall)

Twelve hours in a modern foreign language are required in Curriculum V in Mining Engineering. For description of courses in modern languages, see bulletin of the College of Liberal Arts.

PHYSICS

(Denny Hall)

95. **PHYSICS MEASUREMENTS.** Two credits. Either semester. All sophomore engineers. One four-hour laboratory period. Laboratory deposit, \$6.00 per year. GILBREATH.

96. **PHYSICS MEASUREMENTS.** One credit. Either semester. Sophomore engineers. One three-hour laboratory period. Laboratory deposit, \$6.00 per year. GILBREATH.

97. **MECHANICS, WAVE MOTION AND LIGHT.** Four credits. Either semester. Prerequisite, 8 credits in mathematics. All sophomore engineers. BRAKEL, ANDERSON.

This course must be accompanied by 95.

98. **ELECTRICITY AND HEAT.** Four credits. Either semester. Sophomore engineers. Prerequisite, 97. BRAKEL, ANDERSON.

This course must be accompanied by 96.

SHORT SESSION FOR MINING MEN

The twenty-second annual short session for mining men will open on January 2, 1918, continuing until April 1. During this period each year twelve of the instructors in mining engineering offer a course for the benefit of persons who are interested in prospecting, mining, milling, assaying or smelting. 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. Many practical men with an interest in some branch of mining but without much education have obtained satisfactory results from the course; others with a college education and mining experience have gained much up-to-date training and information. The past experience and future aims of each student are taken into consideration, and the character of his work arranged accordingly. Prospectors and mining men may bring in their own ores and minerals for study, for assay, or for concentration tests, either by ordinary wet methods or by flotation.

Instruction is given by lectures, laboratory exercises, and visits to mines and plants in operation. Each year a group of mining men is engaged to give special lectures during the period of the short session. These men represent the fields of coal, metal and placer mining, smelting, assaying and milling.

Three general groups of studies are offered.

- (1) Quartz mining
- (2) Placer mining
- (3) Coal mining

1. QUARTZ MINING

For men interested in quartz or lode mining, the course outlined consists of geology, mineralogy, mining, milling, field trips, mining law, surveying, chemistry and fire assaying. Optional subjects are forge and foundry, mine timber framing, and mine rescue and first aid training.

2. PLACER MINING

The placer mining group embraces surveying, hydraulic mining, placer mining, geology, mineralogy, mining, milling, mining law, and forge and foundry.

3. COAL MINING

For coal miners the courses consist of coal analysis, coal washing, gas and lamp testing, mine rescue and first air training, chemistry, geology, mineralogy and surveying.

GENERAL INFORMATION

Full descriptions of all these subjects are given in the following pages. Students need not enroll for all the subjects listed in a group and changes in the choice of subjects in each group may be made, depending on the individual circumstances. For students who return a second year, special courses are arranged in continuation of their previous work.

No charges are made in the course, except the tuition fee of ten dollars required of all students in the University, but each student makes deposits for laboratory supplies actually used and also buys his own books. The deposits in the various courses are stated under the description of the subjects. Books and supplies will average about ten dollars. The total cost of the full course is less than thirty dollars in the placer group for the three months and fifty dollars in the quartz mining studies. All deposits are made at the beginning of the course.

Rooms and board may be obtained in the University district at twenty-five dollars per month. Rooms may be had at the University dormitory for three and one-half dollars per month, but reservations should be made in advance. The University operates a cafeteria, the cost of board averaging about eighteen dollars per month. Several good restaurants are located close to the University. A list of boarding and rooming houses is kept on file at the University Y. M. C. A. for the benefit of prospective students. The advantages of the University, such as the use of the library, gymnasium, showers and the privilege of attending lectures, concerts and assemblies, are open to all short session students.

Students who satisfactorily complete a course of study are given a certificate stating the amount and character of the work done.

TIME SCHEDULE FOR SHORT MINING SESSION, 1918.

1. QUARTZ MINING

Day	8:00	9:00	10:00	11:00	1:00-5:00
Mon.	Surveying	Geology	Mineralogy	Mineralogy	Surveying or Forge, fdry.
Tues.		Milling	Chemistry	Mining	Mining, milling lab.
Wed.	Min. Law	Geology	Mineralogy	Mineralogy	Assaying laboratory
Thurs.		Milling	Chemistry	Assaying	Assaying laboratory
Fri.	Min. Law	Chemistry	Mining	Surveying	Chemistry laboratory

Sat. Surveying, field work or field trips

2. PLACER MINING

Mon.	Surveying	Geology	Mineralogy	Mineralogy	Surveying or Forge, fdry.
Tues	Hydraulic Mining	Milling	Placer Mining	Mining	Mining, milling lab.
Wed.	Min. Law	Geology	Mineralogy	Mineralogy	
Thurs.	Hydraulic Mining	Milling	Placer Mining		Placer mining milling lab.
Fri.	Min. Law		Mining	Surveying	

Sat. Surveying, field work or field trips

3. COAL MINING

Mon.	Surveying	Geology	Mineralogy	Mineralogy	Surveying or Forge, fdry.
Tues.		Milling	Chemistry	Mining	Mining, milling lab.
Wed.		Geology	Mineralogy	Mineralogy	Coal washing and analysis
Thurs.		Milling	Chemistry		Mine rescue training
Fri.		Chemistry	Mining	Surveying	Chemistry laboratory

Sat. Surveying, field work or field trips

SUBJECTS IN THE SHORT SESSION

MINING S. C. 1. Lectures on prospecting, development, boring, air-compression, drilling, mining systems, timbering and transportation. Practice in air-compression, machine-drilling and sampling. Study of mine maps, ore deposits and mining districts. Two lectures and one laboratory period a week. ROBERTS.

MINING S. C. 2. Milling. Lectures and recitations on ore treatment and concentration. Laboratory practice in sampling, testing, and dressing, using breakers, rolls, screens, stamp battery, tables, vanners, jigs, and flotation machinery. Two lectures and one afternoon a week. Laboratory deposit, \$3.00. DANIELS.

MINING S. C. 3. Placer Mining. Lectures and laboratory work in methods of placer mining. Laboratory practice in panning, sluicing, amalgamation, retorting, assaying of bullion. Lectures on testing and valuing placer ground, methods of operation, thawing, sluicing, dredging. Study of formation of placers and of type localities. Laboratory deposit, \$2.00. Two lectures and one afternoon per week. MCALLEN.

MINING S. C. 4. Field Trips. An outline study of the operations at neighboring mines, mills, and smelters; geological field studies, followed by laboratory practice on the rocks and minerals found. Saturdays. ROBERTS, DANIELS.

METALLURGY S. C. 1. Fire Assaying. Lectures on sampling, preparing ores for assay, furnaces, fuels, reagents, and the fire assay of gold, silver and lead ores. The laboratory work includes the testing of reagents, and the assaying of various ores. One lecture and two afternoons a week in laboratory. Laboratory deposit, \$15.00. COREY.

METALLURGY S. C. 2. A study of the principles of metallurgy for the benefit of those who are engaged in the metal trades or in the mining of ores requiring smelter treatment. Two lectures and one afternoon a week. Laboratory deposit, \$5.00. COREY.

METALLURGY S. C. 3. Wet Assaying. Technical methods for the determination of copper, lead, zinc, etc., in ores and smelter products. Two afternoons a week. Laboratory deposit, \$10.00 COREY.

CHEMISTRY S. C. 3. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Laboratory practice in the determination of the common elements. Three lectures a week, and one laboratory. Laboratory deposit, \$10.00. BENSON.

GEOLOGY S. C. 2. MINERALOGY. Instruction and practice in blowpipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week. Laboratory deposit, \$2.00. CULVER.

GEOLOGY S. C. 3. ELEMENTS OF GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. CULVER.

MINING LAW. A series of lectures on the mining laws of the United States and Alaska. Illustrated by drawings and mine maps. Twice a week for one-half semester.

SURVEYING. (C. E. 38.) Instruction and field practice in the use of simple instruments for making underground and surface surveys; the elements of drawing, lettering, sketch-mapping and field notes; the rules governing mineral surveys. Two lectures and two laboratories a week. Laboratory deposit, \$3.00. NEWTON.

HYDRAULIC MINING. (C. E. 144.) The elements of hydraulics; the flow and measurement of water in pipes, flumes and ditches with special reference to placer mining. Two lectures a week. ALLISON.

FORGE. Practice in sharpening and tempering drill steel and picks; systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. Laboratory deposit, \$2.00. One afternoon a week. KANE.

MINE TIMBER FRAMING. Shop work in the cutting, framing and erection of various types of timbers employed in mining operations. Laboratory deposit, \$3.00. One afternoon a week. BEATTIE, DANIELS.

MINING 103. MINE RESCUE TRAINING. Twenty-five hours' instruction. Practice in the care and use of oxygen rescue apparatus, smoke-room training, and first-aid-to-the-injured at the U. S. Bureau of Mines Rescue Station. DANIELS and government engineers.

COLLEGE OF PHARMACY

THE FACULTY

- HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.
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.
EDITH HINDMAN, PH. C., M. S. (Washington), Instructor in Pharmacy and Assistant State Chemist and Bacteriologist.
EARL MILLIRON PLATT, PH. C., M. S. (Washington), Instructor in Pharmacy.
CORNELIUS OSSEWARD, PH. G. (Columbia), PH. C. (Northwestern), Lecturer on Commercial Pharmacy.
FOREST J. GOODRICH, PH. C., B. S. (Washington), Assistant State Chemist.
JAMES C. PALMER, PH. C., B. S. (Washington), Assistant in Pharmacy.
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- HORACE G. BYERS, PH. D. (Johns Hopkins), Professor of Chemistry.
FREDERICK MORGAN PADELFORD, PH. D. (Yale), Professor of English.
FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics.
PIERRE JOSEPH FREIN, PH. D. (Johns Hopkins), Professor of French.
THEODORE CHRISTIAN FRYE, PH. D. (Chicago), Professor of Botany.
ROBERT EDOUARD MORITZ, PH. N. D. (Strassburg), Professor of Mathematics and Astronomy.
FREDERICK WILLIAM MEISNEST, PH. D. (Wisconsin), Professor of German.
JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
WILLIAM MAURICE DEHN, PH. D. (Illinois), Associate Professor of Chemistry.
ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of Zoology.
GEORGE BURTON RIGG, PH. D. (Chicago), Assistant Professor of Botany.
FRED H. HEATH, PH. D. (Yale), Assistant Professor of Chemistry.

THE 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 ad-

vanced 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 in one of the most fertile fields of modern science.

The students in pharmacy share the advantages 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. The Washington State Board of Pharmacy 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 such time when they shall 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 STANDARDS IN PHARMACY

It may safely be said that never before 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 to 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, an organization of college of pharmacy faculties of the United States. 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.

CURRICULA

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 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 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.

ADMISSION TO THE COLLEGE OF PHARMACY*1. ADMISSION TO THE TWO-YEAR COURSE LEADING TO THE DEGREE OF GRADUATE IN PHARMACY****2. ADMISSION TO THE THREE-YEAR COURSE LEADING TO THE DEGREE OF PHARMACEUTICAL CHEMIST**

For admission to the two- and three-year courses, a student must offer fifteen units by examination or by certificate from an accredited school from which he has graduated. The fifteen units must include the following combinations:

- 3 units of English
- 2 units of mathematics (or three units if desired)
- 3 units in one of the following groups (or two units, if three units of mathematics are presented):
 - (a) Latin and Greek (not less than two units of Latin or one of Greek counted).
 - (b) Modern foreign language (at least two units in one language; not less than one unit counted in any language).
 - (c) History, civics, economics (at least one unit to form a year of consecutive work in history).
 - (d) Physics, chemistry, botany, zoology, general biology, physiology, physical geography or geology. (Not less than one unit counted in physics, chemistry, or general biology. No science counted as applying on this requirement unless it includes a satisfactory amount of laboratory work.)
- 2 units selected from the above groups.
- 5 units selected from any subjects accepted by an approved high school for its diploma, not more than four, however, to be in vocational subjects.

15

3. ADMISSION TO THE FOUR-YEAR COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

For admission to the four-year course the student must present in the fifteen units as listed under paragraph 2, two units

* More detailed information concerning admission is furnished on pages 42-49.

of a foreign language and one unit of science selected from the following: Physics, 1 unit; chemistry, 1 unit; general biology, 1 unit; botany, $\frac{1}{2}$ or 1 unit; zoology, $\frac{1}{2}$ or 1 unit; physiology, $\frac{1}{2}$ unit. No science will be counted as applying on this requirement unless it includes a satisfactory amount of laboratory work.

A student who fulfills the entrance requirements as listed under paragraph 2 will be admitted to freshman standing, but if any of the prescribed subjects as listed in the preceding paragraph have not been taken in the high school he will take them in the University and receive college credit to apply towards the degree, so far as elective courses may allow.

4. 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.

5. STUDENTS NOT CANDIDATES FOR DEGREES

Students over twenty-one years of age may enter as specials, providing they present evidence of adequate preparation. In general, a student from an accredited high school will not be admitted as a special if he has been in attendance in high school the previous year. Persons desiring admission as specials should write to the dean, giving a detailed statement of their preparation. The necessary application blanks will then be forwarded.

DEGREES

1. The degree of graduate in pharmacy will be conferred upon any student who has fulfilled the entrance requirements to the two-year course and has completed the two-year course as outlined.

2. The degree of pharmaceutical chemist 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 will be conferred upon any student who has fulfilled the entrance requirements and has completed the four-year 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 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.

MEDICINAL PLANT GARDEN

The College of Pharmacy maintains a medicinal plant garden on the campus where experiments are being carried on in the cultivation of plants of pharmaceutical importance. Uses are made of these plants by classes in pharmaceutical botany, materia medica and drug assaying. A study is also being made to learn what medicinal plants can be cultivated in this climate on a commercial scale.

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.

A course in the study of the new (ninth edition) of the United States Pharmacopoeia for practicing pharmacists will be started in the fall of 1916. The class will meet once a week in the evening and will be open to all pharmacists who wish to register. If a sufficient demand appears, similar courses may be offered in some of the neighboring cities.

FOOD AND DRUG ANALYSIS

The enactment of the Food and Drugs Act by Congress, and of similar legislation by most of the states (Washington included), has placed very great importance upon pharmaceutical education. It is at once apparent that a knowledge of drugs is equally important with chemistry in the administration and enforcement of this legislation. The graduate in chemistry is not wholly qualified to act as 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, pharma-

ceutical botany, study of the United States Pharmacopœia and National Formulary, pharmacognosy, materia medica and therapeutics, etc. A great many pharmaceutical chemists are needed to carry out the analytical processes involved in the enforcement of this legislation, but the number of men adequately trained is very limited. Students with high school training are urged to consider these opportunities and to prepare themselves for such positions. The Dean of the College of Pharmacy is chemist for the Washington State Department of Agriculture and is also in close touch with the government food and drug work. Courses are offered that will fit students for this line of work.

TUITION AND DEPOSITS

(a) All new students entering the University pay a matriculation fee of ten dollars.

(b) A tuition fee of ten dollars per semester is paid by all students.

(c) Laboratory deposits. The total deposit for first year students in pharmacy, chemistry and botany is twenty-seven dollars per semester.

Second year students have a deposit of twenty dollars in the first semester and fifteen dollars in the second semester.

The students pay only the actual cost of the drugs and chemicals used; the remainder of the deposit, less breakage, is returned at the end of the semester.

ASSOCIATED STUDENT FEE

The associated student fee of five dollars is paid by every student of the University. This entitles the student to a subscription to the University of Washington Daily and free admission to all athletic, debating and oratorical contests given under the auspices of the Associated Students of the University of Washington, the annual musical concert and discounts in the co-operative bookstore.

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 1915-1916 were Stewart and Holmes Drug Company, branch houses of Parke, Davis and Company, 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.

PHARMACY, MATERIA MEDICA AND CHEMISTRY LABORATORIES

Rooms devoted to pharmacy, materia medica and chemistry are located in Bagley Hall, a three-story fireproof building. Special sections are provided for pharmacy students in general, organic and qualitative chemistry. Work in prescription practice receives special attention in a room constructed and arranged as a model prescription pharmacy. The materia medica room contains a museum of several hundred samples of official and unofficial crude drugs. It also contains an extensive collection of commercial and biological products manufactured and donated by the H. K. Mulford Company of Philadelphia, Pennsylvania, Parke, Davis and Company of Detroit, Michigan, and Eli Lilly and Company, of Indianapolis, Indiana. One room is given to drug assaying and food analysis. The examination of official food and drug samples for the state is under the direction of the Dean of the College of Pharmacy. A well equipped laboratory is devoted to this purpose. Pharmacy students taking botany, physiology and bacteriology have well equipped laboratories in Science Hall.

MILITARY SCIENCE AND PHYSICAL EDUCATION

The University requirements in military science, physical education and hygiene are satisfied as follows:

Men students, freshmen and sophomores: Three hours of military science and one hour of physical education per week. Juniors and seniors: Two hours of physical education per week.

Women students in the two-year course: Physical education three times per week for one year; in all other courses three times per week for two years.

Military uniforms are furnished to students free of charge by the United States Government.

CORRESPONDENCE

Inquiries in regard to the College of Pharmacy may be addressed to the Dean of the College or to the Registrar of the University. Students desiring to enter the College of Pharmacy will be furnished proper blanks for filing entrance credentials on request to the Registrar. Entrance credentials should be sent to the Registrar before August 15th. The student will then be notified if his credentials are satisfactory. Copies of the bulletin of the College of Pharmacy may be had upon application.

REQUIREMENTS FOR GRADUATION

1. WITH DEGREE OF GRADUATE IN PHARMACY

FIRST YEAR			
Credits		Credits	
Chemistry 7.....	4	Chemistry 8.....	4
Chemistry 9.....	4	Chemistry 10.....	4
Pharmacy 1.....	4	Pharmacy 2.....	4
Botany 13.....	4	Botany 14.....	4
	<hr/> 16		<hr/> 16

SECOND YEAR			
Pharmacy 3.....	2	Pharmacy 4.....	4
Pharmacy 5.....	2	Pharmacy 6.....	3
Pharmacy 7.....	4	Pharmacy 8.....	4
Pharmacy 9.....	4	Pharmacy 10.....	4
Bacteriology 5 or		Pharmacy 12.....	1
Zoology 7.....	4		
	<hr/> 16		<hr/> 16

2. WITH DEGREE OF PHARMACEUTICAL CHEMIST

In addition to the work required in the two-year course, the student must complete twelve credits in pharmacy and electives sufficient to make a total of ninety-two credits. Students may elect such commercial courses as business law, advertising, accounting and other courses in the Colleges of Liberal Arts and Science which meet the approval of the Dean of the College of Pharmacy.

3. WITH DEGREE OF BACHELOR OF SCIENCE

For graduation with the degree of bachelor of science the student is required to do sufficient work in addition to that of the two-year course to make one hundred and twenty credits. Of the additional work the following credits are required:

Rhetoric, 4; mathematics, 4; modern language, 16; physics, 8; laboratory science, 16.

The work in laboratory science may be elected in bacteriology, botany, geology, pharmacy, pharmaceutical chemistry, physics, physiological chemistry, physiology, toxicology or zoology.

4. WITH DEGREE OF MASTER OF SCIENCE IN PHARMACY

Graduates of the four-year course may continue work for the master's degree as follows:

Not more than 16 credits allowed outside of the department of pharmacy. Election may be made from one or more of the following studies:

Bacteriology, 8 to 16 credits; botany, 4 to 16 credits; physics, 8 credits; chemistry, 4 to 16 credits; zoology, 4 to 8 credits.

Not less than 16 credits may be elected in the department of pharmacy from the following lines of work:

Manufacturing pharmacy, 4 to 8 credits; toxicology, 4 to 8 credits; chemistry of foods or drugs, 8 to 16 credits; plant analysis, 8 to 16 credits. At least 8 credits of the major work must be a research problem and the preparation of a thesis. Examination and thesis to conform to the regulations of the Graduate School.

DEPARTMENT OF PHARMACY, PHARMACEUTICAL CHEMISTRY, AND MATERIA MEDICA

(Bagley Hall)

PROFESSOR JOHNSON, ASSOCIATE PROFESSOR LINTON, MISS HINDMAN,
MR. PLATT, MR. GOODRICH, ASSISTANTS.

FOR FRESHMEN AND SOPHOMORES

1. THEORY AND PRACTICE OF PHARMACY. ~~Four~~ ⁵ credits. ~~Either~~ ^{Fall} semester. Deposit, \$10.00 per semester. PLATT.

The study of the principles of pharmaceutical operations, and the manufacture of such preparations as best illustrate these operations.

2. PHARMACEUTICAL PREPARATIONS. ~~Four~~ credits. ~~Either semester~~. Deposit, \$10.00 per semester. PLATT.

The study and manufacture of galencial and other preparations.

3. U. S. PHARMACOPOEIA. Two credits. ~~First semester~~. PLATT.

A study of the inorganic and organic chemicals included in the pharmacopœia. The manufacture, tests for purity, assay, medicinal properties and methods of identification.

4. U. S. PHARMACOPOEIA AND NATIONAL FORMULARY. ~~Four~~ credits. ~~Second semester~~. PLATT.

A careful study of the United States pharmacopœia and national formulary with the special object of explaining the chemistry involved in the manufacture of the various compounds and preparations.

5. PRESCRIPTIONS. ~~Two~~ credits. ~~First semester~~. Deposit, \$5.00 per semester. LINTON.

6. PRESCRIPTIONS. ~~Three~~ credits. ~~Second semester~~. Deposit, \$5.00 per semester. LINTON.

Pharmacy 5 and 6 take up the study of the problems in prescription practice, special attention being given to incompatibles, and to the more important newer remedies. The students are required to criticise and compound approximately two hundred of the more difficult physician's prescriptions.

7. PHARMACOGNOSY. ~~Four~~ credits. ~~Either semester~~. LINTON.

A study of crude drugs, their source, methods of collecting and preserving, identification, active constituents and adulteration.

8. PHARMACOLOGY AND THERAPEUTICS. ~~Four~~ credits. ~~Either semester~~. LINTON.

A study of the action of chemicals, drugs and their preparations on the human organism in health and disease, also the physiological action of the various poisons, their antidotes and emergency treatment in cases of poisoning.

3707 *in* UNIVERSITY OF WASHINGTON

9-10. DRUG ASSAYING. ~~Four credits per semester.~~ Deposit, \$10.00 per semester. HINDMAN.

In first semester experiments in gravimetric and volumetric methods of analysis are given with the idea of training the students in the fundamental principles of quantitative chemistry, and at the same time making them familiar with the analysis of substances of pharmaceutical importance. The second semester's work includes methods of quantitatively estimating the active constituents of crude drugs and their preparations, the testing of alkaloids, organic analysis, urine analysis and water analysis.

11, 12. COMMERCIAL PHARMACY. ~~One credit.~~ Second-semester.
OSSEWARD. 7 W

A lecture course covering the commercial problems of the practical pharmacist. This course is for sophomores, but is open to election by upperclassmen.

14 - ~~Topography~~ ^{FOR JUNIORS, SENIORS AND GRADUATES} Fall - 2 w. - Platt -
101-402 PHARMACEUTICAL CHEMISTRY. Two credits per se-
mester. JOHNSON. 7 a/c

The lecture work includes a review of inorganic and organic chemistry with special reference to their application to pharmacy, a study of the chemistry of alkaloids, glucosides, volatile oils, indicators and other organic compounds of pharmaceutical importance.

~~\$12~~-104. MANUFACTURING PHARMACY. Credit to be arranged. Deposit, \$5.00 or \$10.00 per semester, according to hours. PLATT.

An advanced course in pharmaceutical manufacturing, including the manufacturing of some of the more difficult of pharmacopœial and national formulary preparations, as well as a number of inorganic and organic compounds used in pharmacy and medicine.

105-106. **ADVANCED PRESCRIPTIONS.** ~~Three credits per semester.~~ Prerequisite, pharmacy 5 and 6. Deposit, \$10.00 per semester. LINTON.

Extensive practice in difficult and incompatible prescriptions, also a study of special problems. One lecture and two laboratory periods.

107-108. CURRENT PROBLEMS. One credit per semester. LINTON.

A lecture and recitation course on current scientific problems of pharmaceutical importance.

~~109-110.~~ ¹¹¹ TOXICOLOGY. ~~Credit to be arranged.~~ ^{an} Deposit according to credit. JOHNSON.

A course on the study of the action, detection and estimation of inorganic and organic poisons. Laboratory work may be taken in the separation of inorganic and organic poisons from tissue and in alkaloidal analysis.

~~111-112.~~ ¹¹³⁻¹¹⁴ FOOD ANALYSIS. Four credits per semester. Laboratory three times per week. Deposit, \$10.00 per semester. HINDMAN.

Laboratory and class work in the study of methods of analysis of food products and the study of federal and state laws regulating the sale of food and drug products. Methods of the Association of Official Agricultural Chemists are used. Graduate students, if prepared, may elect a research problem in food analysis.

~~111 is repeated~~ in the second semester for home economics students.

^{Research}
201-202. ~~INVESTIGATION~~ Credit to be arranged. Deposit, \$5.00 or \$10.00, according to hours.

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.

^{116 - (?) - 4 cr - - Write - Hindman}
SUBJECTS PRESENTED BY DEPARTMENTS OF OTHER COLLEGES OF THE UNIVERSITY

BACTERIOLOGY

(Science Hall)

5. BACTERIOLOGY FOR PHARMACISTS. Four credits. First semester. Prerequisites, sophomore standing, one year of botany and one year of chemistry. WEINZIRL.

A general survey including technique, biology, disease, immune sera, vaccines, disinfectants, etc.

103. GENERAL BACTERIOLOGY. Four credits. First semester. Prerequisites, junior standing; botany or zoology, 1 year; chemistry, 1 year. WEINZIRL, MASKE.

Methods of growing bacteria and studying their structure, functions and distribution.

108. MEDICAL BACTERIOLOGY. Four credits. Second semester. Prerequisite, bacteriology 5 or 103. Required of pre-medical students. WEINZIRL, MASKE.

The study of pathogenic bacteria.

111. BACTERIOLOGICAL ANALYSIS. Two credits. First semester. Laboratory work only. Prerequisite, bacteriology 103 or equivalent. WEINZIRL.

Analysis of water, sewage, milk, meat, etc.

112. LABORATORY DIAGNOSIS. Two credits. Second semester. Prerequisite, bacteriology 104 or 108. WEINZIRL.

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. SANITARY PROBLEMS. Two credits. First semester. Lectures only. Prerequisite, bacteriology 103 or equivalent. WEINZIRL.

The sanitary problems relating to water, sewage, and food.

114. DIAGNOSTIC METHODS. Two credits. Second semester. Lectures only. Prerequisite, bacteriology 104 or 108. To be taken with bacteriology 112. WEINZIRL.

The consideration of diagnostic methods and their application.

209-210. RESEARCH. Two or four credits per semester. Open to qualified students after consultation. WEINZIRL.

BOTANY

(Science Hall)

13-14. PHARMACY BOTANY. Four credits per semester. Rigg.

Gross structure of vegetative and reproductive parts of seed plants. Brief study of spore plants. Microscopy of powdered drugs.

CHEMISTRY

(Bagley Hall)

1. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. BYERS, ROSE, Instructors and Assistants.

This course is designed to meet the needs of students who come from accredited schools in which chemistry is not required.

2. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 1.

7. GENERAL CHEMISTRY. Four credits. First semester. HEATH.

A lecture and recitation course designed for students of the College of Pharmacy. It must be taken in conjunction with 9.

8. ORGANIC CHEMISTRY. Four credits. Second semester. HEATH.

A continuation of 7. For students in pharmacy. It must be taken in conjunction with 10.

9. GENERAL CHEMISTRY. Four credits. First semester. A laboratory course designed to accompany 7. Twelve hours per week. HEATH.

A portion of this course, together with a portion of 10, form a continuous course in qualitative analysis.

10. ORGANIC CHEMISTRY. Four credits. Second semester. HEATH.

A laboratory course in organic preparations. (See also 9.)

21. GENERAL CHEMISTRY. Four credits. Either semester. Two lectures and six laboratory hours per week. This course is open to students who have had a year of chemistry in an accredited high school. BYERS, TRUMBULL, LANGDON, and Assistants.

22. GENERAL CHEMISTRY. Four credits. Either semester. A continuation of 21. BYERS, TRUMBULL, LANGDON, and Assistants.

The laboratory work is an elementary course in qualitative analysis.

31. ORGANIC CHEMISTRY. Four credits. First semester. Prerequisite, 22 or its equivalent. DEHN.

Introductory course in organic chemistry, consisting of three lectures per week and four hours' laboratory work, on the preparation and testing of representative compounds.

32. ORGANIC CHEMISTRY. Four credits. Second semester. DEHN.

A continuation of 31.

41. ELEMENTARY QUALITATIVE ANALYSIS. Four credits. Either semester. Two lectures and six laboratory hours per week. LANGDON.

43. ADVANCED QUALITATIVE ANALYSIS. Four credits. First semester. LANGDON.

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

101. QUANTITATIVE ANALYSIS. Four credits. Either semester. Twelve laboratory hours and one recitation per week. HEATH.

The technique of gravimetric and volumetric analysis.

102. QUANTITATIVE ANALYSIS. Four credits. Either semester. A continuation of 101. HEATH.

Mineral analysis and special and analytical processes.

104 105 106
111. FOOD ANALYSIS. Four credits. First semester. HINDMAN.

Lectures and laboratory work on the methods of analysis of food products and the federal and state laws regulating the sale of foods and drugs.

111 is repeated in the second semester for home economics students.

~~112. FOOD ANALYSIS. Four credits. Second semester. A continuation of 111. HINDMAN.~~

~~123. ORGANIC ANALYSIS AND GLASS-BLOWING. One to four credits. Either semester. DEHN.~~

141-142. **PHYSIOLOGICAL CHEMISTRY.** Four credits per semester. Prerequisite, 32. **DEHN.**

A course designed for medical, chemical and general science students. The chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes. Special attention is given to the composition and analysis of blood, milk and urine.

144. **PHYSIOLOGICAL CHEMISTRY.** Four credits. Second semester. Primarily for home economics students. Essentially the same as 141. **DEHN.**

146. **URINARY ANALYSIS.** Two credits. Second semester. **DEHN.**

Laboratory work only, on the analysis of normal and pathological urine. Designed especially for students preparing for medical study.

231. **ADVANCED ORGANIC CHEMISTRY.** Four credits. First semester. **ROSE.**

A review of the theories of organic chemistry with special reference to the volatile oils, dye stuffs, alkaloids, sugars, etc. Special laboratory work to be arranged.

232. **ADVANCED ORGANIC CHEMISTRY.** Four credits. Second semester. A continuation of 231. **ROSE.**

ZOOLOGY

(Science Hall)

7. **ELEMENTARY PHYSIOLOGY.** Four credits. Either semester. **SMITH.**

A general survey of the structure and functions of the human body, designed especially for students in home economics, but open to others.

GRADUATE SCHOOL

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), PRESIDENT.

J. ALLEN SMITH, PH. D. (Michigan), Professor of Political Science;
DEAN.

†ORSON BENNETT JOHNSON, LL. B. (Union College of Law), Professor
Emeritus of Zoology.

HENRY LANDES, A. M. (Harvard), Professor of Geology and Mineralogy
and Dean of the College of Science.

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

CAROLINE HAVEN OBER, Professor of Spanish.

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

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

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

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

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

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

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

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

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

DAVID THOMSON, B. A. (Toronto), Professor of Latin and Secretary of
the Graduate Faculty.

CHARLES WILLIS JOHNSON, PH. D. (Michigan), Professor of Pharma-
ceutical Chemistry and 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 EDOUARD MORITZ, PH. N. D. (Strassburg), Professor of Mathe-
matics.

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

HARVEY LANTZ, A. M. (De Pauw), LL. B. (Kent Law School), Professor
of Law.

† Died, March 9, 1917.

- EVERETT OWEN EASTWOOD, C. E., M. A. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.
- FREDERICK WILLIAM MEISNEST, PH. D. (Wisconsin), Professor of German.
- DAVID CONNOLLY HALL, Sc. M., M. D. (Chicago), University Health Officer and Director of Physical Education for Men.
- HERBERT HENRY GOWEN, F. R. G. S., M. R. S. A., D. D. (Whitman), Professor of Oriental History, Literature and Institutions.
- OLIVER HUNTINGTON RICHARDSON, PH. D. (Heidelberg), Professor of European History.
- CARLTON HUBBELL PARKER, PH. D. (Heidelberg), Professor of Economics and Dean of the School of Commerce.
- IVAN WILBUR GOODNER, LL. B. (Nebraska), Professor of Law.
- WALTER GREENWOOD BEACH, A. M. (Harvard), Professor of Sociology.
- IRVING MACKAY GLEN, A. M. (Oregon), Professor of Music and Dean of the College of Fine Arts.
- CHARLES CHURCH MORE, M. S., C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.
- HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry.
- JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
- HUGO WINKENWERDER, M. F. (Yale), Professor of Forestry and Dean of the College of Forestry.
- 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 the Scandinavian Languages.
- COLIN VICTOR DYMENT, B. A. (Toronto), Professor of Journalism.
- EFFIE ISABEL RAITT, B. S. (Columbia), Professor of Home Economics and Director of the Department 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.
- WILLIAM PIERCE GORSUCH, A. B. (Knox), Professor of Public Speaking and Debate.
- CLARK PRESCOTT BISSETT, A. B. (Hobart), Professor of Law.
- ARTHUR RAGAN PRIEST, A. M. (De Pauw), Professor of Debating and Dean of Men.
- ALLEN ROGERS BENHAM, PH. D. (Yale), Professor of English.
- SAMUEL LATIMER BOOTHROYD, M. S. (Colorado Agricultural College), Associate Professor of Astronomy.

- BURT PERSONS KIRKLAND, A. B. (Cornell), Associate Professor of Forestry.
- THOMAS KAY SIDEY, PH. D. (Chicago), Associate Professor of Latin and Greek.
- WILLIAM MAURICE DEHN, PH. D. (Illinois), Associate Professor of Chemistry.
- EDWARD MCMAHON, A. M. (Wisconsin), Associate Professor of American History.
- JACOB NEIBERT BOWMAN, PH. D. (Heidelberg), Associate Professor of European History.
- GEORGE SAMUEL WILSON, B. S. (Nebraska), Associate Professor of Mechanical Engineering.
- GEORGE WALLACE UMPHREY, PH. D. (Harvard), Associate Professor of Spanish.
- OTTO PATZER, PH. D. (Wisconsin), Associate Professor of French.
- CHARLES WILLIAM HARRIS, C. E. (Cornell), Associate Professor of Civil Engineering.
- DAVID ALLEN ANDERSON, PH. D. (Iowa), Associate Professor of Education.
- EDGAR ALLEN LOEW, B. S., E. E. (Wisconsin), Associate Professor of Electrical Engineering.
- EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.
- *HANS JACOB HOFF, PH. D. (Illinois), Assistant Professor of German.
- ELIAS TREAT CLARK, M. F. (Yale), Assistant Professor of Forestry.
- EDWARD GODFREY COX, PH. D. (Cornell), Assistant Professor of English.
- JOSEPH DANIELS, S. B. (Massachusetts Institute of Technology), M. S. (Lehigh), Assistant Professor of Mining Engineering and Metallurgy.
- ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of Zoology.
- †CHARLES MUNRO STRONG, A. M. (Missouri), Assistant Professor of Spanish.
- HENRY LOUIS BRAKEL, PH. D. (Cornell), Assistant Professor of Physics.
- HARVEY BRUCE DENSMORE, A. B. (Oregon), Assistant Professor of Greek.
- CHARLES EDWIN WEAVER, PH. D. (California), Assistant Professor of Geology.
- CLARENCE RAYMOND COREY, M. S. (Columbia), Assistant Professor of Mining and Metallurgy.
- ALLEN FULLER CARPENTER, PH. D. (Chicago), Assistant Professor of Mathematics.

* Absent on leave, 1916-17.

† Absent on leave, second semester, 1916-17.

GEORGE BURTON RIGG, PH. D. (Chicago), Assistant Professor of Botany.
ERNEST GEORGE ATKIN, A. M. (Harvard), Assistant Professor of French.
HORACE JAMES MACINTIRE, M. M. E. (Harvard), Assistant Professor of Mechanical Engineering.

GINO ARTURO RATTI, PH. D. (Grenoble), Assistant Professor of French.
ERNEST OTTO ECKELMAN, PH. D. (Heidelberg), Assistant Professor of German.

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

LEWIS IRVING NEIKIRK, PH. D. (Pennsylvania), Assistant Professor of Mathematics.

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

DALLAS DEVELLO JOHNSON, A. M. (Columbia), Assistant Professor of Education.

FRIEDRICH KURT KIRSTEN, B. S. (E. E.), (Washington), Assistant Professor of Electrical Engineering.

HARLAN LEO TRUMBULL, PH. D. (Chicago), Assistant Professor of Chemistry.

CURT JOHN DUCASSE, PH. D. (Harvard), Assistant Professor of Philosophy.

ERIC TEMPLE BELL, PH. D. (Columbia), Assistant Professor of Mathematics.

BROR LEONARD GRÜNDAHL, M. S. F. (Washington), Assistant Professor of Forestry.

LESLIE FORREST CURTIS, B. S. (Tufts), Instructor in Electrical Engineering.

HJALMAR LAURITS OSTERUD, A. M. (Washington), Instructor in Zoology.

FRANCES EDITH HINDMAN, M. S. (Washington), Instructor in Pharmacy and Assistant State Chemist and Bacteriologist.

EDWIN RAY GUTHRIE, PH. D. (Pennsylvania), Instructor in Philosophy.

ROBERT CHENAULT GIVLER, PH. D. (Harvard), Instructor in Psychology.

HORACE HARDY LESTER, PH. D. (Princeton), Instructor in Physics.

COMMITTEE ON GRADUATE COURSES: Professors OSBORN, HAGGETT, SAYERY, FREIN and MORITZ.

SECRETARY OF GRADUATE FACULTY AND EX-OFFICIO SECRETARY OF COMMITTEE ON GRADUATE COURSES: Professor THOMSON.

ORGANIZATION

The Graduate School was formally organized in May, 1911. The graduate faculty includes:

1. All heads of departments and full professors.
2. All associate professors, assistant professors, and instructors offering graduate work for major students; provided that 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.

GRADUATE FELLOWSHIPS

There are three Loretta Denny fellowships of \$416.66 each, open to graduate students in any department of the University. They are awarded by the faculty on the basis of scholastic excellence and general merit, but only to those who need financial assistance. Fellows are expected to give their undivided attention to the prosecution of graduate work and must pay the regular matriculation and tuition fees. Applications for these fellowships should be made on blanks supplied by the Recorder of the University and must be in his hands on or before March 15th preceding the academic year for which they are granted.

UNIVERSITY HONORARY FELLOWSHIPS

Three honorary fellowships have been established by the University. These, like the Loretta Denny fellowships, are open to students in any department of the University. They carry no stipend, and are designed to furnish recognition of exceptional scholastic excellence in the case of graduate students who are not eligible for the Loretta Denny fellowships, either because they do not need financial assistance or because they are not giving their entire time to their work in the University.

UNIVERSITY TEACHING FELLOWSHIPS

There are also a number of teaching fellowships yielding \$450.00 each. Teaching fellows are expected to give about half time to such work as the head of the department may assign. At the present time teaching fellows are employed in the following departments: Botany, Bacteriology, Chemistry, Electrical Engineering, English, French, German, History, Mathematics, Philos-

ophy, Physics, Political Science, Sociology, Spanish and Zoology. It is possible that fewer teaching fellows will be needed for the academic year 1917-18 on account of the abnormal situation due to the war. An applicant for a teaching fellowship should apply directly to the head of the department in which he is interested.

RESEARCH FELLOWSHIPS IN U. S. BUREAU OF MINES EXPERIMENT STATION AND THE COLLEGE OF MINES

The College of Mines of the University in co-operation 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, beginning July 1, 1917. 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.

Applications are due not later than May 15, and should be addressed to the Dean, College of Mines, Seattle, Washington.

FEEES

Graduate students, including fellows, are required to pay a matriculation fee of \$10.00 and a tuition fee of \$10.00 a semester.

ADMISSION

Three classes of students are recognized in the graduate school:

1. Candidates for the master's degree.
2. Candidates for the doctor's degree.
3. Students not candidates for a degree.

A graduate of this University or of any other institution of equal rank will be given full graduate standing. In case the student is from a college whose requirements for graduation are not regarded by the Dean as equivalent to those of the University of Washington, he must complete the deficiency in undergraduate work as specified by the committee on graduate courses, before being permitted to make application for an advanced degree.

Any graduate student who 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.

DEGREES

Every graduate student who expects to take a degree in June of any given year shall send to the Recorder a written statement to that effect between February 1st and May 1st of that year.

THE MASTER'S DEGREE

Graduate students may receive the degree of master of arts or master of science by complying with the following requirements:

1. At least one year's work must be done in residence in undivided pursuit of the studies elected; or not less than two years in residence, if the candidate is employed as a teacher or regularly engaged in any other occupation or profession. Attendance during four summer sessions may be accepted as the equivalent of one year in residence.

2. The candidate must elect a major subject and either one or two minors. He must earn not less than twenty-four credits in residence, with a grade of A, B or C, at least one-half being in the major subject, and present a thesis which shall embody independent, though not necessarily original research. The requirement of a minor or minors may be waived, but only upon the recommendation of the head of the major department and with the consent of the committee on graduate courses. The total must represent the equivalent of at least thirty hours.

3. No work done in the major subject may be counted toward the master's degree, until the candidate for such degree has complied with the departmental requirement as to previous work in that subject, which in no case shall be less than twelve hours.

4. The first eight credits in a department may not count toward the minor requirement and the teachers' courses may not count toward either the major or minor requirement. A minor requirement may be satisfied by six instead of eight hours when the courses from which it is selected are not four-hour courses.

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 as to form and the cost 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 chemistry, in English, in botany and in other departments as their readiness to undertake this work may be approved by the committee on graduate courses.

Graduate students may receive the degree of doctor of philosophy by complying with the following requirements:

1. At least three years of graduate work, the last year of which must be spent in residence at the University of Washington. If a candidate is otherwise engaged in any regular employment, a correspondingly longer time will be required.

2. Evidence of a reading knowledge of both French and German and such other languages as individual departments may require. Evidence of sufficient attainment in these languages must be presented to the Dean and, upon his approval, filed with the Recorder at least one academic year before the degree is granted.

3. Completion of courses of study in a major and two minor subjects, the work in the minors to constitute one-third of the total course. The major subject, in addition to the regular courses, shall include the preparation of a thesis embodying the results of a research which shall be a positive contribution to knowledge. This thesis must be approved by a committee appointed by the head of the major department of which the instructor in charge of the thesis shall be a member, and also by the committee on graduate courses.

4. Oral examination in each of the minor subjects before a committee of three, including a representative of the major department. Certificates of the satisfaction of this requirement must be given before the candidate may be admitted to his major examination.

5. An exhaustive written examination in the major subject, not less than six hours in duration, no one session of which may exceed five hours.

6. An oral examination before a committee of three or more representatives of the major department, of not less than two hours. This examination must be approved by the entire committee. All examinations are open to members of the faculty.

7. 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 committee on graduate courses, 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.

The doctor's degree will not be granted to graduates of the University of Washington who have not spent two years in graduate work, or three years in undergraduate work, at some other institution.

For the present, instructors in the University of Washington shall not be received as candidates for the doctor's degree.

MASTER OF SCIENCE IN ENGINEERING

Courses leading to the degree of master of science in engineering are provided for students in civil engineering, electrical engineering, mechanical engineering, chemical engineering, and mining engineering.

For further information, see bulletins of 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 the bulletin of the College of Pharmacy.

MASTER OF SCIENCE IN FORESTRY

For the degree of master of science in forestry, the student, in addition to being a graduate of this University or other institution of equal rank, and having a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, shall have been credited at this University with 166 hours of which at least 52 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration, management, lumbering, wood preservation, forest economics, and thesis.

For further information, see the bulletin of the College of Forestry.

MASTER'S DEGREES IN EDUCATION

Advanced work for teachers leading to the master's degree in education is given by the University. See bulletin of College of Education for further information.

ASTRONOMY

(The Observatory)

ASSOCIATE PROFESSOR BOOTHROYD

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. GEODETIC ASTRONOMY. Four credits. First semester. Prerequisite, Astronomy 2 or Civil Engineering 20, Mathematics 11-12 or its equivalent. Must be preceded or accompanied by Mathematics 61 or its equivalent. BOOTHROYD.

After the elements of the subject have been mastered, they are applied to the problems of determination of time, latitude, longitude and azimuth with the sextant and surveyor's transit. The student becomes acquainted in this work with the use of the astronomical transit, clock and chronograph. Especially desirable for navigators and for civil, electrical and mining engineers.

102. GEODESY. Four credits. Second semester. Prerequisite, Astronomy 101. Must be preceded or accompanied by Mathematics 62 or its equivalent. BOOTHROYD.

Precise surveying methods and elements of geodesy, mapping and map projection. Method of Least Squares. This course is planned especially for engineers who desire a knowledge of precise surveying methods such as are used in the survey of the larger cities, in geodetic surveying and in all survey work where a high degree of accuracy is necessary. As much practice in precise surveying methods will be given as the time permits.

105-106. ANALYTICAL MECHANICS. Two credits per semester. Prerequisite, Mathematics 34. BOOTHROYD.

107-108. CELESTIAL MECHANICS. Three credits per semester. Prerequisite, Astronomy 1-2, 3-4, 105-106, and Mathematics 113-114. BOOTHROYD.

*201-202. ADVANCED ASTRONOMY. Two credits per semester. BOOTHROYD.

This work may be taken along any one of three lines as follows: (1) Astro-physics. Prerequisite, Astronomy 2, Physics 101, Mathematics 33-34. (2) Practical astronomy. Prerequisite, Astronomy 102, Mathematics 33-34. (3) Theoretical astronomy. Prerequisite, Astronomy 107-108.

BACTERIOLOGY

(Science Hall)

PROFESSOR WEINZIRL

FOR ADVANCED UNDERGRADUATES AND GRADUATES

102. PUBLIC HEALTH. Two credits. Second semester. Lectures only. Prerequisite, junior standing.

The conservation of health through public agencies. This course is designed primarily for students not majoring in science, but who desire to have a knowledge of the applications of bacteriology and related public health agencies. It is not open to students who have taken a course in bacteriology.

103. GENERAL BACTERIOLOGY. Four credits. First semester. Prerequisite, junior standing; botany or zoology, 1 year; chemistry, 1 year. WEINZIRL.

Methods of growing bacteria and studying their structure, functions and distribution.

104. **SANITARY AND INDUSTRIAL BACTERIOLOGY.** Four credits. Second semester. Prerequisite, Bacteriology, 103. WEINZIRL.

A brief survey of disease bacteria. Most of the time is given to sanitation and industry. Inspection trips.

108. **MEDICAL BACTERIOLOGY.** Four credits. Second semester. Prerequisite, Bacteriology 5 or 103. Required of pre-medical students. WEINZIRL.

The study of pathogenic bacteria.

111. **BACTERIOLOGICAL ANALYSIS.** Two credits. First semester. Laboratory work only. Prerequisite, Bacteriology 103 or equivalent. WEINZIRL.

Analysis of water, sewage, milk, meat, etc.

112. **LABORATORY DIAGNOSIS.** Two credits. Second semester. Prerequisite, Bacteriology 104 or 108. WEINZIRL.

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. **SANITARY PROBLEMS.** Two credits. First semester. Lectures only. Prerequisite, Bacteriology 103 or equivalent. WEINZIRL.

The sanitary problems relating to water, sewage, and food.

114. **DIAGNOSTIC METHODS.** Two credits. Second semester. Lectures only. Prerequisite, Bacteriology 104 or 108. To be taken with Bacteriology 112. WEINZIRL.

The consideration of diagnostic methods and their application.

115-116. **PATHOLOGY.** Four credits per semester. Prerequisite, Bacteriology 103, Zoology 101 and 102. WEINZIRL.

Gross and microscopical study of pathological lesions.

117. **SCHOOL HYGIENE.** See EDUCATION 165. WEINZIRL.

FOR GRADUATES

207-208. **SEMINAR.** Two credits per semester. For graduate students only. With research constitutes a full year's work, and is planned as the regular third year's work in bacteriology. Time to be arranged. WEINZIRL.

209-210. **RESEARCH.** Two or four credits per semester. Open to qualified students after consultation. WEINZIRL.

BOTANY
(Science Hall)

PROFESSOR FRYE, ASSISTANT PROFESSORS RIGG AND HOTSON.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

105. MORPHOLOGY AND EVOLUTION. Four credits. First semester. Prerequisite, sophomore standing, Botany 2 or 10, or Zoology 1 and 2, or senior standing without prerequisites. FRYE.

A morphological study of types to show advances in complexity; the principles upon which advance is based; the general line of evolution.

106. MORPHOLOGY AND EVOLUTION. Four credits. Second semester. Prerequisite, Botany 105, and sophomore standing. Required of all majors unless 11 and 12 were taken in the freshman year. FRYE.

119. PLANT HISTOLOGY. Four credits. First semester. Prerequisite, Botany 12 or 106. FRYE.

Preparation of slides for the compound microscope. Study of plant tissues, and their origin.

137. JOURNAL CLUB. No credit. One meeting per week at time to be arranged. Prerequisite, junior standing; two years of botany. FRYE.

Review of articles in current journals. Suggested for all seniors, graduates and instructors in the department.

141. GENERAL FUNGI. Four credits. First semester. Time to be arranged. Prerequisite, Botany 11 or 105 and junior standing. HOTSON.

Morphology and classification of fungi; designed as a basis for plant pathology.

142. GENERAL FUNGI. Four credits. Second semester. Prerequisite, Botany 141. A continuation of 141. HOTSON.

143. PLANT PHYSIOLOGY. Four credits. First semester. Prerequisites, Chemistry 2; Botany 1, 2 or 10, and junior standing. RIGG.

The fundamental physical and chemical processes in plants.

144. PLANT PHYSIOLOGY. Four credits. Second semester. Prerequisite, Botany 143. RIGG.

The laws underlying growth and movement in plants.

233. RESEARCH. Either semester or both. Credit and time to be arranged. Open to qualified students after consultation. FRYE, RIGG, HOTSON.

250. ALGAE. Four credits. Either semester. Prerequisite, Botany 105 and 106, or 11 and 12. FRYE.

251. BRYOPHYTES. Four credits. Either semester. Prerequisite, Botany 105 and 106, or 11 and 12. FRYE.

252. PTERIDOPHYTES. Four credits. Either semester. Prerequisite, Botany 105 and 106, or 11 and 12. FRYE.

253. GYNOSPERMS. Four credits. Either semester. Prerequisite, Botany 105 and 106, or 11 and 12. FRYE.

254. ANGIOSPERMS. Four credits. Either semester. Prerequisite, Botany 105 and 106, or 11 and 12. FRYE.

261. PLANT PATHOLOGY. Four credits. First semester. Prerequisite, Botany 142. HOTSON.

A study of the diseases of plants and of the fungi which produce them.

262. PLANT PATHOLOGY. Four credits. Second semester. Prerequisite, Botany 1. HOTSON.

271. EXPERIMENTAL MORPHOLOGY. Four credits. First semester. Prerequisite, Botany 12 or 106, 1 year chemistry, junior standing. FRYE.

279. COLLOIDAL BIOLOGY. Four credits. First semester. Prerequisite, Botany 143; Chemistry 32, senior standing. RIGGS.

280. MICROMETABOLISM. Four credits. Second semester. Prerequisite, Botany 12 or 106, 148, senior standing. RIGG.

NOTE: Only a limited number of courses 250-280 will be given in any one semester.

CHEMISTRY

(Bagley Hall)

PROFESSORS BYERS AND BENSON, ASSOCIATE PROFESSOR DEHN, ASSISTANT
PROFESSORS ROSE, TRUMBULL, HEATH, DR. LANGDON.

FOR SENIORS OR GRADUATES

201. PHYSICAL CHEMISTRY. Five credits. First semester.
Prerequisite, Physics 1-2. TRUMBULL.

An elementary course dealing with the fundamental theories of chemistry based upon physical measurements. Three lectures and two laboratory periods per week.

202. ADVANCED PHYSICAL CHEMISTRY. Four credits. Second semester. Prerequisites, 201, and differential calculus. Two lectures and six laboratory hours per week. TRUMBULL.

A course in chemical statics and dynamics with physical chemical measurements.

204. ELECTRO CHEMISTRY. Four credits. Second semester. Prerequisite, 201. BYERS, TRUMBULL.

The lecture course deals with the historical development of electro chemistry and the theories of voltaic and electrolytic cells. The laboratory work deals with the practical methods of electro analysis and electro synthesis and related processes.

211. INORGANIC PREPARATIONS. Four credits. First semester. Twelve laboratory hours per week. BYERS.

The course deals with the methods of preparation of inorganic chemical compounds.

212. ADVANCED ORGANIC PREPARATIONS. Four credits. Second semester. Twelve laboratory hours per week. DEHN.

The course deals with the synthesis of organic compounds.

221-222. CHEMICAL THEORY. Two credits per semester. BYERS.

All graduate students registering in the Department of Chemistry are expected to take this course, which deals with the historical development of the fundamental laws and theories.

223. ACTINO CHEMISTRY. Four credits. Second semester. LANGDON.

A summary of the reactions producing light and produced by light. A resume of the principles and theories of actino reaction with experimental illustration.

231. ADVANCED ORGANIC CHEMISTRY. Four credits. First semester. ROSE.

A review of the theories of organic chemistry with special reference to the volatile oils, dye stuffs, alkaloids, sugars, etc. Special laboratory work to be arranged.

232. ADVANCED ORGANIC CHEMISTRY. Four credits. Second semester. A continuation of 231. ROSE.

241-242. JOURNAL COURSE. One credit per semester. LANGDON.

The course deals with the sources of information through the publications of various sorts and involves the preparations of abstracts of articles in English, French, German and other periodicals.

250. RESEARCH. Credit to be arranged. The work in research offered by the department consists of three types; first, thesis work for the bachelor's degree in chemical engineering. Such work may receive a maximum of six credits. Second, research work for the master's degree. This work is not necessarily laboratory investigation, although the investigation of the literature is ordinarily supplemented by more or less practical development of the subject. Maximum credit, six hours. Third, research for the doctor's degree. Maximum credit, thirty hours. Work for the doctor's degree may be carried on with any member of the staff of the department, on any topic, subject to the approval of the department.

CIVIL ENGINEERING

(Engineering Hall)

PROFESSORS FULLER, MORE, ALLISON, ASSOCIATE PROFESSOR HARRIS,
ASSISTANT PROFESSORS MILLER, MR. RUBEY, MR. WERNECKE,
MR. ROGERS.

FOR SENIORS OR GRADUATES

115. RAILWAY TRANSPORTATION. Two credits. First semester. Senior and graduate C.E. Prerequisite, 112. MILLER.

The economics of railway transportation from an engineering standpoint. Traffic statistics and the choice of routes and motive power.

116. **TUNNELLING AND TRACK ELEVATION.** Two credits. Second semester. Senior and graduate C. E. Prerequisite, 112. **MILLER.**

The problems confronting the engineer in track elevation and the construction of subways.

118. **YARDS AND TERMINALS.** Two credits. Second semester. Senior and graduate C. E. Prerequisite, 112. **MILLER.**

The design and operation of the large yards of modern railway organizations, and the control of trains by means of signaling and interlocking.

125. **HIGHWAY CONSTRUCTION.** Four credits. First semester. Senior and graduate C. E. Prerequisite, 112 and 122. **ALLISON.**

The economics of highway location, construction, and maintenance of the more permanent character, *i. e.*, \$5,000 per mile and up. All standard laboratory tests of highway metals.

126. **CITY STREETS AND PAVEMENTS.** Two credits. Second semester. Senior and graduate C. E. Prerequisite, 125. **ALLISON.**

A study of city streets and pavements, including estimates and inspection; also, a study of the manufacture and testing of materials of paving.

135. **ADVANCED MECHANICS.** Four credits. First semester. Senior and graduate engineers. Prerequisite, C. E. 132 and 138. **MORE.**

General theories of flexure, elasticity and least work, with applications.

145. **HYDRAULIC MOTORS.** Two credits. First semester. Senior and graduate E. E. and M. E. Prerequisite, 142. **HARRIS.**

Development and theory of water wheels and turbine pumps; design of a reaction turbine.

147. **HYDRAULIC POWER.** Three credits. First semester. Senior and graduate C. E. Prerequisite, 142. **HARRIS.**

Stream flow, storage and generation of power. Development and theory of turbines, design of a spillway, penstock and turbines; test of an existing power plant.

153. **WATER SUPPLY AND IRRIGATION.** Three credits. First semester. Senior and graduate C. E. Prerequisite, 142. **ALLISON.**

A study of the principal engineering operations necessary to secure suitable water supplies for cities and towns and water for irrigation. The purification of water supplies.

154. **SANITARY ENGINEERING.** Three credits. Second semester. Senior and graduate C. E. Prerequisite, 153. **ALLISON.**

A study of the design and construction of sewerage systems, both combined and separate. Sewage treatment.

157. **WATER SUPPLY AND IRRIGATION PROBLEMS.** Two credits. First semester. Senior and graduate C. E. **ALLISON.**

Supplementary to 153, with special problems and investigations.

158. **SEWAGE TREATMENT.** Two credits. Second semester. Senior and graduate C. E. and Ch. E. **ALLISON.**

Supplementary to 154, with special problems in matters relating to public health.

161-162. **BRIDGES.** Four credits first semester. Three credits second semester. Senior and graduate C. E. Prerequisite, 138. **FULLER.**

Stresses, design and deflection of simple trusses. Detail drawings. Estimates.

164. **HIGHER STRUCTURES.** Four credits. Second semester. Senior and graduate C. E. Prerequisite, preceded or accompanied by 161-162. **FULLER.**

Primary and secondary stresses. Design.

167. **STRUCTURAL MATERIALS.** Three credits. First semester. Senior and graduate C. E. and M. E. and graduate E. E. Prerequisite, 132. Laboratory deposit, \$3.00. **FULLER, RUBEY.**

An experimental study of the physical properties of materials of construction.

COMMERCE (See Economics)

ECONOMICS
(Commerce Hall)

PROFESSORS PARKER, MILLER; ASSOCIATE PROFESSOR CUSTIS; ASSISTANT
PROFESSORS BERGLUND, MC MAHON, LILLY, MUDGETT,
TUGWELL, LAUBE, AKERMAN.

NOTE: Owing to circumstances over which the University has no control the reorganization of the work in Economics and Commerce has not been completed. The following list of courses must therefore be regarded as tentative.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

106. FOREIGN TRADE AND WATER TRANSPORTATION. Three credits. Second semester. Prerequisite, 1-2. MILLER.

*107. ECONOMIC HISTORY OF WESTERN EUROPE. Three credits. First semester. Prerequisite, 1-2. ———.

108. ECONOMIC HISTORY OF THE UNITED STATES. Three credits. Second semester. Prerequisite, 1-2. BERGLUND.

109-110. ADVANCED ACCOUNTING. Three credits per semester. Prerequisite, 9-10. LILLY.

111. CORPORATION FINANCE. Three credits. First semester. Prerequisite, 1-2. LILLY.

112. INVESTMENTS. Three credits. Second semester. Prerequisite, 1-2. LILLY.

115. RAILWAY ECONOMICS. Three credits. First semester. Prerequisite, 1-2. MILLER.

116. RAILWAY TRAFFIC AND RATE MAKING. Three credits. Second semester. Prerequisite, 1-2, 115. MILLER.

121. INSURANCE. Three credits. First semester. Prerequisite, 1-2. MUDGETT.

122. PRINCIPLES OF LIFE INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.

*124. PRINCIPLES OF PROPERTY INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.

126. PRINCIPLES OF SOCIAL INSURANCE. Two credits. Second semester. Prerequisite, 1-2, 121. MUDGETT.

129. STATISTICAL METHOD. Three credits. First semester. Prerequisite, 1-2. MUDGETT.

*191. THE EVOLUTION OF ECONOMIC THOUGHT. Three credits. First semester. Prerequisite, 1-2, and senior standing. ———.

192. THE FUNDAMENTALS OF ECONOMIC THEORY. Three credits. Second semester. Prerequisite, 1-2 and senior standing. ———.

194. ECONOMICS FOR HIGH SCHOOL, NORMAL SCHOOL AND COLLEGE TEACHERS. Two credits. Second semester. ———.

197. THE TARIFF SYSTEMS AND FOREIGN TRADE. Three credits. First semester. Prerequisite, 1-2. BERGLUND.

198. HISTORY OF COMMERCE AND FOREIGN POLICIES. Three credits. Second semester. Prerequisite, 1-2. BERGLUND.

FOR GRADUATES

Permission of instructor must be obtained before enrolling.

207. RESEARCH COURSE IN ACCOUNTING AND CORPORATION FINANCE. Two credits per semester. LILLY.

221. RESEARCH COURSE IN INSURANCE. Two credits per semester. MUDGETT.

231. RESEARCH COURSE IN MARKETING. Two credits per semester. TUGWELL.

245. RESEARCH COURSE IN TRUSTS AND MONOPOLIES. Two credits per semester. CUSTIS.

261. RESEARCH COURSE ON WOMEN IN BUSINESS AND INDUSTRY. Two credits per semester. ———.

291. SEMINAR IN ECONOMIC THEORY. Two credits per semester. ———.

301. SEMINAR IN RECENT ECONOMIC LITERATURE. Two credits per semester. PARKER.

Research in tariff problems or commerce planned primarily for candidates for higher degrees and seniors whose record warrants their enrollment.

* Not offered in 1917-18.

130. BUSINESS STATISTICS. Three credits. Second semester. Prerequisite, 1-2, 129. ———.

131. MARKETING. Three credits. First semester. Prerequisite, 1-2. TUGWELL.

132. SELLING. Three credits. Second semester. Prerequisite, 1-2, 131. TUGWELL.

135. PSYCHOLOGY OF THE CONSUMPTION OF GOODS AND SERVICES. Three credits. First semester. Prerequisite, 1-2. TUGWELL.

136. THE AMERICAN CONSUMER. Three credits. Second semester. Prerequisite, 1-2, 135. TUGWELL.

140. PUBLIC FINANCE. Three credits. Second semester. Prerequisite, 1-2. ———.

Public expenditures, financial administration, taxation, public debts.

142. TAXATION PROBLEMS OF WASHINGTON. Three credits. Second semester. Prerequisite, 1-2, 141. ———.

145. MONEY AND BANKING. Three credits. First semester. Prerequisite, 1-2. CUSTIS.

146. FOREIGN EXCHANGE AND FOREIGN COLLECTIONS. Three credits. Second semester. Prerequisite, 145. CUSTIS.

147. TRUSTS AND MONOPOLIES. Three credits. First semester. Prerequisite, 1-2. CUSTIS.

148. LEGAL AND ILLEGAL COMBINATIONS IN BUSINESS PRACTICE. Three credits. Second semester. Prerequisite, 147. CUSTIS.

151. BUSINESS ORGANIZATION AND POLICIES. Two credits. First semester. Prerequisite, 1-2 and senior standing. PARKER.

152. WORK, THE EFFICIENCY AND WELFARE OF THOSE ENGAGED IN ECONOMIC ACTIVITY. Two credits. Second semester. Prerequisite, 1-2, and senior standing. PARKER.

153. LABOR PROBLEMS OF THE WESTERN STATES. Two credits. First semester. Prerequisite, 1-2. ———.

161. WOMEN IN BUSINESS AND INDUSTRY. Three credits. First semester. Prerequisite, 1-2. McMAHON.

162. VOCATIONAL OPPORTUNITIES FOR WOMEN IN THE PACIFIC NORTHWEST. Three credits. Second semester. Prerequisite, 1-2, 161. McMAHON.

165. LABOR ORGANIZATIONS. Three credits. First semester. Prerequisite, 1-2. McMAHON.

166. STANDARDS OF LIVING. Three credits. Second semester. Prerequisite, 1-2. McMAHON.

EDUCATION

(Home Economics Hall)

PROFESSOR BOLTON, ASSOCIATE PROFESSORS KOOS, ANDERSON, ASSISTANT PROFESSORS JOHNSON, WOODY, MR. KRUSE.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

151. CO-OPERATIVE AGENCIES OF THE SCHOOL SYSTEM. Two credits. Either semester. Prerequisite, Education 99, 109 and three other hours in education. JOHNSON.

Special study of the relatively distinctive extra-mural activities of the school. Intensive study of the relations of (1) school and home, (2) school and community, (3) school and vocation, (4) school and library, and other co-operative social agencies. Students will report from time to time upon individual problems in this field.

153. SECONDARY EDUCATION II. Two credits. Either semester. Prerequisite, Education 119. KOOS.

Deals with the following problems in secondary education, which are with few exceptions, largely non-curricular in character; elimination and retardation in the high school; vocational guidance and training; social organization and student activities such as athletics, debating, clubs, etc.; moral and religious education; community relations; selection, preparation, assignment, training during service, rating, and promotion of high school teachers; grades and grading; objective standards in high school subjects; health; building, equipment, and the high school library; records and reports; high school costs and support; functions of the principal.

155. CHILDHOOD AND ADOLESCENCE. Two credits. Either semester. BOLTON.

A study of the characteristics of the child to reveal how education is conditioned upon the successive stages of development; hygiene of the school child; child welfare agencies; value of child study for parents and teachers; educational theories and methods of some of the great leaders in child study, including Froebel, Pestalozzi, Hall, Dewey, Montessori. (As the majority of students will be high school teachers, special emphasis is placed upon adolescence or the high school period.)

156. SUPERVISION AND MANAGEMENT. Three credits. Second semester. KOOS.

For those preparing for superintendencies, principalships, and other supervisory and teaching positions. Deals with such topics as: supervisory organization; scientific attitude in supervision, including a consideration of the use of quantitative and qualitative standards; course-making and daily programs; supervision of class instruction; classification of pupils, grading, promotion, retardation, and elimination; attendance; departmentalism; the school and home study problem; preparation, selection, certification, appointment, rating, promotion, and training of teachers during service; the teachers' viewpoint in supervision; moral responsibilities and discipline of the school; health supervision; educational and vocational guidance; the school and co-operative agencies; equipment of the supervisor. Some attention to the problem of rural-school supervision.

157. METHODS OF TEACHING—I. Special problems in methods of teaching of high school subjects. Two credits. Either semester. WOODY.

A study of the applications of psychology to the following problems of high school instruction: specific aims for each subject and the proper methods for realizing these aims; lesson assignments, supervised study, lesson plans; use of the recitation period; individual instruction; teachers' questions; proper summaries, drills and reviews.

158. METHODS OF TEACHING—II. Foundations of Method. Two credits. Either semester. WOODY.

Much attention is given in this course to those selections from Dewey's writings which are fundamental to method. From this point of view such questions as the following are examined:

Relations of the doctrine of interest to education; merits of the "problem" as a factor in learning; proper habits of work. Grammatical versus the direct method of teaching languages; significance of the movement for standard tests and measures.

159-160. HISTORY OF EDUCATION. Two credits per semester. KRUSE.

First semester, ancient and medieval. A study of the development of educational ideals and practices from a typical oriental civilization through Jewish, Greek, Roman, early Christian civilization and the Renaissance period. Second semester, the modern period. The educational forces that have been active since the Middle Ages; the conservative and creative elements in social and educational institutions during the modern period. American education, emphasizing the beginnings and development of the American high school. At every point an effort will be made to trace the origin and development of present-day educational theories and practices. The relation between the civilization of a given people and their education, and the reciprocal effect of education upon national ideals.

161. PRACTICE TEACHING. Three credits per semester. By permission may be taken a second semester as 162. ANDERSON.

The course includes one lecture each week, conferences with the instructor, assigned readings, and one hour each day during the semester 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.

165. SCHOOL HYGIENE. Two credits. First semester. WEINZIRL.

Problems of school hygiene, including heating, lighting and ventilation; school diseases and medical inspection of schools, hygiene of various school activities.

203-204. EDUCATIONAL PROBLEMS OF ADOLESCENCE. Two credits per semester. BOLTON.

A critical consideration of the physical, intellectual, emotional, moral and social characteristics of adolescence, and the educative activities suited to the period of secondary school education. An evaluation of the content of some selected subjects of the high school curriculum to determine their adaptability to the adolescent period. Time especially arranged for teachers of Seattle and vicinity.

205-206. **EXPERIMENTAL EDUCATION.** Two credits per semester. Laboratory deposit \$1.00. KRUSE.

(a) A summary of the literature of recent experimental studies in education. (b) Methods of investigation and interpretation of results. (c) Scales and tests. (d) Problems suitable for class and individual experimentation. A consideration of those problems in the teaching of reading, writing, spelling, arithmetic, etc., which lend themselves to experimental investigation. Data will be obtained from various public schools.

207-208. **PHILOSOPHY OF EDUCATION.** Two credits per semester. BOLTON.

Advanced course. A critical examination of the fundamental principles which underlie a scientific theory of education. The processes and problems of education are examined from the standpoint of biology, psychology, sociology, philosophy and the history of education. An attempt to formulate a philosophical basis for educational theory and practice. Time arranged to accommodate teachers of Seattle and vicinity.

209-210. **ADMINISTRATION OF AMERICAN EDUCATION.** Two credits per semester. KOOS.

First semester: National, state and county (or other local unit) educational administration. Problems in the reorganization of state and county units of administration. Some attention to rural-school administration. Emphasis on the State of Washington. Second semester: a study of the administration of city and village school systems with attention to the following topics: school boards and their functions; the city superintendent and his duties; administrative and supervisory organization; the teaching staff; kinds of schools and courses; buildings, equipment, janitor service, text-books; coordination with other educational agencies of the community; finances; records and reports; measuring the efficiency of a school system to discover proper lines of progress; bringing the public to a consciousness of school needs.

211-212. **COMPARATIVE EDUCATION.** Two credits per semester.

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. Relation between social ideals of nations and their educational systems. Particular emphasis regarding their in-

fluence upon the development of the educational theories and practices in America.

213. FINANCIAL ASPECTS OF SCHOOL ADMINISTRATION. Two credits. First semester. KOOS.

The following aspects of school support, costs and accounting will be studied: units of school support, methods of raising and apportioning funds, city school funds and expenditures, analysis of school costs on various bases, comparative costs, salary schedules, teaching and other costs, accounting systems, budgets, records, and reports.

215-216. ADVANCED EDUCATIONAL PSYCHOLOGY. Two credits per semester. WOODY.

Lectures, readings, discussions and demonstrations. Consideration of typical experimental methods in relation to the present state of exact knowledge involved in definite educational problems.

217-218. EDUCATIONAL MEASUREMENTS. Two credits per semester. Laboratory deposit, \$1.00. WOODY, KRUSE.

Lectures, discussions, reading, class experiments, and projects. Primarily for experienced teachers, principals and supervisors or those preparing for such positions. Practice given in administering all of the standard tests and scales for measuring achievements in the school subjects and in the scoring and evaluating results of such measurements.

249-250. SEMINAR IN MODERN EDUCATIONAL THEORIES. Two credits per semester. BOLTON.

Critical consideration of technical educational literature bearing upon modern educational theories and problems. The evolution of these theories and problems will be traced. Reports on individual topics.

251. SEMINAR IN INDUSTRIAL ARTS EDUCATION. Two credits. First semester. JOHNSON.

The need for a study of industry in the elementary school; typical approaches to the study of industry; relation of industrial arts to other studies of the curriculum; criteria for curriculum making in the industrial arts; problems of supervision and administration. The endpoint of this course is the development of a tentative course of study in industrial arts for the elementary school.

252. SEMINAR IN VOCATIONAL EDUCATION AND GUIDANCE. Two credits. Second semester. JOHNSON.

The need of adequate provision for vocational education; federal and state aid; types of schools; vocational education in relation to junior and senior high schools; the essentials of vocational guidance; the work, play, study, school. Students will report from time to time upon individual problems in these fields.

253-254. SEMINAR IN EDUCATIONAL SURVEYS. Two credits per semester. KOOS.

The development, functions, methods, and results of educational surveys as discovered by a critical examination of all available reports of city, rural, vocational, and state educational surveys and literature of a related character.

*255-256. SEMINAR IN THE ELEMENTARY SCHOOL CURRICULUM. Two credits per semester. ANDERSON.

The function, character, and organization of the elementary school curriculum. A consideration of what subject-matter and experiences are of greatest worth for the individual. Adaptation of the curriculum to growth periods. The curriculum from the standpoint of the immediate interests, needs, and future efficiency of the child. Minimum essentials in and possibilities for the enrichment of the course of study. The time is especially arranged for teachers of Seattle and vicinity.

257-258. SEMINAR IN CRITICISM AND SUPERVISION OF INSTRUCTION. Two credits per semester. ANDERSON.

A study of the function and methods of criticising and supervising the teaching process.

299-300. INDIVIDUAL RESEARCH OR THESIS WORK. Credits to be arranged.

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 different members of the department. Consult head of the department regarding registration.

* Not offered in 1917-18.

ELECTRICAL ENGINEERING

(Engineering Hall)

PROFESSOR MAGNUSSON, ASSOCIATE PROFESSOR LOEW, ASSISTANT PROFESSOR KIRSTEN, MR. CURTIS.

FOR SENIORS AND GRADUATES

164. **ALTERNATING CURRENTS.** Four credits. Second semester. Senior and graduate E. E. Prerequisite, E. E. 161, 163. **MAGNUSSON, KALIN.**

The theory of rotary converters, synchronous and commutator motors, and transmission lines. High tension phenomena. Commercial wave forms. Unbalanced and interlinked polyphase systems.

166. **ALTERNATING CURRENT LABORATORY.** Three credits. Second semester. Prerequisite, E. E. 161, 163. Senior and graduate E. E. To be taken in connection with E. E. 164. **CURTIS.**

A continuation of E. E. 163 with tests on rotary converters, synchronous and commutator motors and transmission lines.

176. **POWER TRANSMISSION.** Two credits. Second semester. Prerequisites, E. E. 161 and 163. Senior and graduate E. E. **KIRSTEN.**

Theory, design and operation of electric power transmission systems.

180. **RADIO ENGINEERING.** Three credits. Second semester. Senior and graduate E. E.

Natural oscillations of condenser circuits. Lineal, open and complex oscillators. Coupled circuits. Resonance. Transmitters. Undamped and quenched oscillations. Receivers. Propagation of waves over the earth's surface.

195-196. **THESIS.** One credit first semester. Three credits second semester. Senior and graduate E. E. **MAGNUSSON, LOEW, KIRSTEN, CURTIS.**

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 semester's or year's work is typewritten and bound and a copy deposited in the University library.

FOR GRADUATES

201-202. TRANSIENT ELECTRICAL PHENOMENA. Two credits per semester. Prerequisite, E. E. 161, 163. Graduate E. E. MAGNUSSON.

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.

211-212. RESEARCH. Four credits per semester. Graduate E. E. MAGNUSSON.

ENGLISH

(Denny Hall)

PROFESSORS PADELFORD, PARRINGTON, BENHAM, ASSOCIATE PROFESSOR MILLIMAN, ASSISTANT PROFESSORS GARRETT, COX, DARBY.

Committee on Graduate Studies: COX, BENHAM, GARRETT, DARBY.

REQUIREMENTS GOVERNING GRADUATE WORK: Supplementary to the general requirements established by the Graduate Faculty, the department has formulated the following rules governing graduate work in English:

1. All graduate students in English come under the immediate supervision of the Departmental Committee on Graduate Studies, who will pass upon their fitness to pursue the work proposed, will have general oversight of their studies and will determine the sufficiency both of the thesis and of the preparation of candidates who wish to be admitted to the examination for an advanced degree.

2. Major students who are candidates for a degree will be required: (1) To satisfy the committee that they possess a fair knowledge of Old English grammar, and some ability in reading simple Old English prose, (2) To pass a qualifying examination in the history of English literature. Such examination will be held on the second Monday in October. In the event of the candidate's failure to pass the examination, he will be permitted to take a second examination during the first week in May, failure to pass which will debar him from the final examination of that year. Candidates who fail in the October examination will be permitted to enroll in English A, but they may not count the

work in computing credits. (3) To satisfy the committee that they possess a sufficient mastery of English prose style.

Graduate work is usually conducted by means of seminars. The time devoted to the meetings is indicated in each case, but the number of credits a student may elect in a given seminar varies from one to six at option. In every case, however, the number elected must be indicated at the time of enrollment.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

NOTE: Credits not to exceed twelve hours may be counted towards an advanced degree, earned in courses 121-192 inclusive.

121-122. OLD ENGLISH. Three credits per semester. GARRETT.

In the first semester stress is laid on acquiring a knowledge of grammar as essential to an understanding of the history of the language. Easy poetical and prose texts are read. In the second semester the *Beowulf* is read.

*123-124. MIDDLE ENGLISH. Three credits per semester. GARRETT.

Middle English grammar and a wide reading in middle English literature. Some of the texts read are *The Owl and the Nightingale*, *King Horn*, *The Pearl*, *The Vision of Piers*, the *Plowman*.

131. ENGLISH LITERATURE FROM ALFRED TO CHAUCER. Two credits. First semester. GARRETT.

Wide reading in order to gain an appreciation of medieval culture. No knowledge of old or middle English is necessary.

132. ENGLISH LITERATURE FROM CHAUCER TO SHAKESPEARE. Two credits. Second semester. GARRETT.

A study of the late medieval and early renaissance literary production.

*133-134. MEDIEVAL LITERATURE AND MEDIEVAL REVIVAL. Two credits per semester. GARRETT.

135-136. MAIN TENDENCIES IN ENGLISH LITERATURE FROM 1590 TO 1900. Three credits per semester. PARRINGTON.

A study in national ideals, with a consideration of significant literary figures and works.

* Not offered in 1917-18.

*137-138. ENGLISH LITERATURE IN THE SEVENTEENTH CENTURY. Two credits per semester. BENHAM.

139-140. ENGLISH LITERATURE IN THE EIGHTEENTH CENTURY. Three credits per semester. DARBY.

A study of the literary and social movements of the period.

141-142. SOCIAL IDEALS IN ENGLISH LITERATURE. Three credits per semester. GREGG.

A study of model commonwealths, and of such other literature as illustrates the growth of English social and economic thought.

161. EARLY NINETEENTH CENTURY LITERATURE IN AMERICA. Three credits. First semester. PARRINGTON.

A study in national ideals. The course will deal with the literature of the Constitution, early poetry, fiction, and essays, and the controversy over slavery.

162. MIDDLE NINETEENTH CENTURY LITERATURE IN AMERICA. Three credits. Second semester. PARRINGTON.

A study primarily in the New England school and Whitman, with some consideration of other writers.

163. AMERICAN LITERATURE FROM 1870 TO 1890. Two credits. First semester. PARRINGTON, MILLIMAN.

An introduction to current literary ideals and tendencies in America, as exemplified particularly by Twain, Howells, Lanier and Riley.

164. AMERICAN LITERATURE FROM 1890 TO 1917. Two credits. Second semester. PARRINGTON, MILLIMAN.

A consideration of our recent literary output, exclusive of the drama, with the emphasis laid upon tendencies of thought.

165. GREAT AMERICAN WRITERS. Two credits. First semester. MILLIMAN.

A critical study of the works of Emerson, Whitman, Hawthorne and Poe.

166. GREAT AMERICAN WRITERS. Three credits. Second semester. MILLIMAN.

A critical study of the works of Longfellow and Lowell.

171. BROWNING. Three credits. First semester. PADEL-FORD.
A study of Browning as an artist, and as an intellectual and spiritual force.

172. SHAKESPEARE. Three credits. Second semester. PADEL-FORD.

An attempt primarily through the study of Shakespeare to catch the spirit of the English Renaissance.

173. THE GEORGIAN POETS. Three credits. First semester. DARBY.

A study of the English romantic movement: Wordsworth, Coleridge, Shelley, Keats and Byron.

174. THE VICTORIAN POETS. Three credits. Second semester. DARBY.

A study of English poetry since 1830.

175. VICTORIAN ESSAYISTS. Two credits. First semester. COX.

Studies in Carlyle and Ruskin.

176. VICTORIAN ESSAYISTS. Two credits. Second semester. COX.

Studies in Arnold and Newman.

*177-178. THE NOVEL. Three credits per semester. MILLI-MAN.

179-180. THE ENGLISH DRAMA. Three credits per semester. HARRISON.

A study of representative examples of English drama of various periods from the beginnings to the present.

181-182. GENERAL LITERATURE. Three credits per semester. JOHANSON.

Studies in representative European writers.

183-184. TEACHER'S COURSE. Two credits per semester. Re-quired of major students who wish the recommendation of the department for the normal diploma. GARRETT.

A consideration of methods and problems in the teaching of English in the high school.

185-186. PHILOSOPHY IN CONTEMPORARY DRAMA. (Philosophy 113-114.) Two credits per semester. BENHAM.

Social and philosophical ideas in the contemporary drama.

191-192. SENIOR CONFERENCE. One-half credit per semester. JOHANSON.

Individual conferences with senior major students for the purpose of effecting a correlation of studies, and for guidance in original investigation. Each student is expected to meet the instructor in a conference of at least a half hour each week.

FOR GRADUATES

201-202. ENGLISH LITERARY HISTORY.

A. THE MEDIEVAL PERIOD. One to six credits per semester. From the beginnings to 1550. GARRETT.

For 1917-18 the subject-matter will be Chaucer and his age.

B. ENGLISH LITERATURE FROM 1550-1660. PADEFORD.

For 1917-18 the subject-matter will be the Tudor and Jacobean drama. The first semester will be given up to the study of the general history of this drama and to the reading of a large number of plays; the second semester, to the detailed study of problems connected with the drama.

C. ENGLISH LITERATURE FROM 1660-1830. DARBY.

The work of this seminar is conducted by means of individual conferences. Each student selects his own reading in this field. Suggested readings for 1917-18: Milton and the Puritans, the Queen Anne classicists, Dr. Samuel Johnson and his circle, the eighteenth century novel, the revolutionary period.

211-212. AMERICAN LITERATURE. One to six credits per semester. PARRINGTON.

The field of this work is determined by the wishes of the class. During the past two years the period from 1890-1914 has been studied.

221-222. MODERN ENGLISH LITERATURE. Two to six credits per semester. BENHAM.

The emphasis is placed on nineteenth century prose with a view to determining, if possible, the influence of the industrial revolution on modern English literature.

231-232. COMPARATIVE ENGLISH LITERATURE. One to six credits per semester.

A. THEORIES OF POETRY AND CRITICISM. COX.

Readings for background in esthetic, philosophic, and poetic theories from Plato and Aristotle down to the present. Special investigations in tragedy and comedy, lyric and narrative poetry and critical theories.

B. RENAISSANCE TYPES IN ENGLAND, FRANCE AND ITALY. PADEL FORD.

A review of the history of the Renaissance and the Reformation; followed by a comparative study of the more notable Renaissance literature in England, France and Italy.

241-242. THE ENGLISH LANGUAGE. One to six credits per semester. GARRETT.

For 1917-18 the subject will be historical English grammar. Certain far-reaching problems in modern English will be made the subject of research.

251-252. RHETORIC. Two credits per semester. MILLIMAN.

A study of the elements of style in thought, unit, rhetorical foot, tone color, suppressed predication, and sentence shortening.

261-262. THE TECHNIQUE OF THE DRAMA. Three credits per semester. HARRISON.

A course in the practice of dramatic composition, together with the study of dramatic technique. Open to undergraduates with the permission of the instructor.

271-272. GENERAL LITERATURE. One to six credits per semester. JOHANSON.

Readings in European literatures, with conferences. Each student should be prepared to submit for approval a systematic plan of reading.

FORESTRY

(Forestry Hall)

PROFESSOR WINKENWERDER, ASSOCIATE PROFESSOR KIRKLAND, ASSISTANT PROFESSORS CLARK, GRÖNDAL, MR. ZIMMERMAN.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. WOOD TECHNOLOGY. Four credits. First semester. Required of juniors and graduate students. Prerequisite, 8 credits in college botany. Laboratory deposit, \$2.00. WINKENWERDER, GRÖNDAL.

Wood structure, leading to the identification of the commercial timbers of the United States. The physical properties of wood. Each student is required to prepare permanent microscopic mounts of fifty species. Text: Record's Economic Woods.

102. SILVICULTURE. Six credits. Second semester. Required of all juniors and graduates. Four recitations, one-half day field work. Prerequisite, 1, 51, and 52. Laboratory deposit, \$1.00. KIRKLAND.

A study of the individual tree; forest ecology; the forest as a whole; treatment of the forest regions; forest types; silvical characters of trees; seed collecting; nursery practice; transplanting. Text: Graves' Principles of Handling Woodlands.

151-152. FOREST MANAGEMENT. Five credits first semester, three credits second semester. Required of all students in senior or graduate year. Prerequisite, 51, 52, and 102. Additional preliminary courses recommended, 156 and Economics 9, 10. KIRKLAND.

Forest finance, including theoretic discussion of values, outlay, income and valuation of assets, as applied to forest lands; forest valuation; general financial aspects of forest production and timber investment; application of compound interest to forest investment; profits from timber investment and forest production; appraisal of damages; stumpage values and appraisal in the field; comparison of forest with agricultural values.

Forest organization in public or private owned forests, either for immediate exploitation or continuous forest production, examination and report on forest properties; basis of determination whether tract shall be used for immediate exploitation or continuous forest production; organization in each case; in case of

continuous production methods of silviculture; the rotation; regulation of annual cut; protection, improvements, special consideration of correct procedure in the Pacific Northwest on private, state, or national forests; forest administration. Texts: Chapman, Forest Valuation; Roth, Forest Regulation; Rechnagel, Working Plans.

153. GENERAL LUMBERING. Four credits. First semester. For seniors or graduate students only. Prerequisite, 51, 52. CLARK and special lecturers.

Comparative methods of logging on the Pacific Coast and in other lumbering regions of the United States. Study of machinery, organization, methods and costs of sawmill operations. Grading of lumber, transportation, lumber associations and general points connected with lumber industry. Text: Bryant's Logging.

*155. ADVANCED SILVICULTURE. Two credits. First semester. For seniors and graduates. Prerequisite, 102. KIRKLAND.

Advanced work for students who desire to specialize in silviculture and management.

157. FOREST HISTORY AND POLICY. Two credits. First semester. Prerequisite, 102. KIRKLAND.

Forest policy of the United States; forestry in the states and our island possessions; the rise of forestry abroad. Text: Fernow, History of Forestry.

301. ADVANCED DENDROLOGY. Three credits. First semester. Primarily for graduate students. WINKENWERDER.

An extension of course 1 covering the identification and distribution of all important commercial tree species of the United States. Text: Sargent's Manual Trees of North America.

302. NATIONAL FOREST ADMINISTRATION. Two credits. Second semester. CLARK.

Objects of forest administration; regulations and instructions governing disposal of timber, range, and all other forest resources; use and disposal of land; rights-of-way; protection against fire, and trespass; improvement work; fiscal matters; principles and details of each subject, including investigations, reports, permits, use of all forms, supervision of work; suggestions and demonstrations.

303. TIMBER PHYSICS. Three credits. First semester. For senior and graduate students. Prerequisite, Mathematics 55-56. Deposit, \$1.00. ZIMMERMAN.

Various stresses which wood must resist; methods of making tests; theory of flexure; relation between moisture and strength; between specific gravity and strength; mechanical properties of wood.

304. WOOD PRESERVATION. Three credits. Second semester. Required of seniors and graduates. Prerequisite, 101 and one year of chemistry. Laboratory deposit, \$2.00. GRÖNDAL.

Nature of the decay of timber. Preservative processes. Design and practical operation of wood preserving plants. Commercial testing of preservatives. Economics of wood preservation. Laboratory work with College of Forestry treating plant and report work on local creosoting plants.

305-306. LOGGING ENGINEERING. Four credits first semester, six credits second semester. Primarily for graduates. Prerequisite, 51, 52, C. E. 108, M. E. 82. Laboratory deposit, second semester, \$2.00. CLARK.

The construction and use of types of logging machinery and equipment. The organization of logging companies, capital required. Construction of logging railroads, landings, camps, water systems, etc. Topographic and railroad surveying applied to logging operations. Organization and cost of operations. Lectures, demonstrations at plants manufacturing logging machinery, field work in nearby logging camps. During the second half of the second semester the work is transferred to the field where extensive work in logging engineering is carried on.

307-308. SEMINAR. One credit per semester. For seniors and graduates. WINKENWERDER, KIRKLAND, GRÖNDAL.

Reviews, assigned readings, reports, and discussions on current periodical literature and the more recent Forest Service publications.

309-310. ADVANCED FOREST PRODUCTS. Two credits per semester. For seniors and graduates. Prerequisite, 101 and 304. Laboratory deposit, \$2.00 per semester. GRÖNDAL.

Advanced studies in wood preservation and wood technology. Special problems with reference to the needs of the individual student.

311. **FOREST UTILIZATION.** Four credits. First semester. For seniors and graduates. Prerequisite, 101 and one year of chemistry. GRÖNDAL.

Lumber and its economic uses. Building materials and buildings. Proper uses of treated wood blocks. Wood pipe, silos, veneers, etc. Paper making, wood distillation, tanbark, naval stores and other secondary forest products.

313-314. **RESEARCH.** Two credits per semester. May be taken as a semester or a year course. For seniors and graduates. Laboratory deposit will depend on nature of the work.

315. **SCIENTIFIC MANAGEMENT.** Two credits. First semester. KIRKLAND.

Fundamental principles of scientific management, with special reference to the lumber industry.

316. **ADVANCED FOREST MANAGEMENT.** Three credits. Second semester. For graduate students only. Prerequisite, 151-152. KIRKLAND.

Advanced studies. 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.

318. **FIELD FOREST MENSURATION.** Two credits. Second semester. For seniors or graduates. Prerequisite, 305. Laboratory deposit, \$2.00. CLARK.

This course will be given in the field the second half of the semester in connection with the field work in logging engineering. It supplements and enlarges upon the work of timber estimating and mapping as given in courses 51 and 52.

FRENCH
(Denny Hall)

PROFESSOR FREIN, ASSOCIATE PROFESSOR PATZER, ASSISTANT PROFESSORS
ATKIN, RATTI, HELMLINGE, MR. WHITTLESEY.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101-102. **ADVANCED READING.** Three credits per semester. Three sections. Prerequisite, 4. See also under 3-4. Assistant professors.

Reading of more advanced modern texts and a few of the best plays of Corneille, Molière and Racine.

Course 101 is repeated the second semester for those who finish course 4 in February, and for those who enter at that time with sufficient French from the high school.

Course 102 is repeated in the first semester.

103-104. **COMPOSITION AND CONVERSATION.** Three credits per semester. Prerequisite, 4. RATTI, HELMLINGE.

105. **PHONETICS.** Two credits. Either semester. Prerequisite, 1. ATKIN.

This course is intended to furnish the student an opportunity to acquire a reasonably accurate pronunciation, based upon rules which will give him self-assurance in reading ordinary French. Those who have not been trained in phonetics in the high school should enter this course.

107-108. **MASTERPIECES OF FRENCH LITERATURE.** Two credits per semester. No prerequisite. FREIN.

This course is planned especially for those who have been unable to study French literature in the original texts. It will be given in English and some of the masterpieces will be assigned to be read in the best English translations. This course is intended to give a general survey of French literature, with special emphasis placed upon the important works.

109-110. **THE FRENCH NOVEL.** Two credits per semester. Prerequisite, 102. HELMLINGE.

History of the French novel from its beginning. Some of the most representative novels will be read in class, and others assigned for outside reading.

111-112. LYRIC POETRY. Two credits per semester. Prerequisite, 102. WHITTLESEY.

History of lyric poetry. Considerable attention paid to the structure of modern forms of lyric poetry. Canfield's French Lyrics.

113-114. THE FRENCH DRAMA. Two credits per semester. Prerequisite, 102. PATZER.

History of the drama from its origin. Some of the masterpieces are read in class, and some are assigned for individual reading and report.

115-116. THE SHORT STORY. Two credits per semester. Prerequisite, 102. ATKIN.

History of the development of the French short story. Reading of some of the best short stories, both in class and for individual assignments.

117-118. HISTORY OF THE FRENCH LITERATURE OF THE NINETEENTH CENTURY. Two credits per semester. Prerequisite, 102. RATTL.

Lectures in French. Some of the masterpieces assigned for individual reading and report.

119-120. HISTORY OF THE FRENCH LITERATURE OF THE EIGHTEENTH CENTURY. Two credits per semester. Prerequisite, 102.

Lectures in French; assigned reading.

*121-122. HISTORY OF THE FRENCH LITERATURE OF THE SEVENTEENTH CENTURY. Two credits per semester. Prerequisite, 102.

Lectures in French; assigned reading.

123-124. TEACHER'S COURSE. Two credits per semester. Prerequisite, 102 and 104. FREIN.

Special emphasis on the methods of teaching French pronunciation. Oral and written exercises. Review of grammar, with students conducting the recitations.

FOR GRADUATES

201-202. HISTORY OF THE FRENCH LITERATURE OF THE SIXTEENTH CENTURY. Two credits per semester. Prerequisite, 102. PATZER.

Lectures in French. Some texts of the sixteenth century will be assigned for outside reading, and some will be read in class.

* Not offered in 1917-18.

The French Renaissance will be compared with that of other countries.

203-204. MIDDLE FRENCH. Two credits per semester. FREIN.

Lectures on the history of the fourteenth and fifteenth centuries will be given in French. Some texts will be read in class, and others will be assigned to be read out of class and reports made to the class. Course conducted in French.

205-206. OLD FRENCH READINGS. Four credits per semester. FREIN.

Elements of Old French grammar, and translation from Old French into modern French of texts in Bartsch, *Chrestomathie de l'Ancien Français*, and a few of the old texts will be read in complete editions.

207-208. HISTORY OF OLD FRENCH LITERATURE. Two credits per semester. FREIN.

Open only to those who have a reading knowledge of Old French. Those who have had course 203-204 will ordinarily be prepared to follow the work. Course given in French.

GEOLOGY

(Science Hall)

PROFESSOR LANDES, ASSISTANT PROFESSORS SAUNDERS, WEAVER, CULVER.

201-202. FIELD WORK OR ADVANCED WORK IN GENERAL GEOLOGY. Credits and hours to be arranged. LANDES, SAUNDERS, CULVER.

211-212. RESEARCH OR ADVANCED WORK IN PHYSIOGRAPHY. Credits and hours to be arranged. SAUNDERS.

221-222. RESEARCH OR ADVANCED WORK IN PETROGRAPHY, OR ECONOMIC GEOLOGY. Credits and hours to be arranged. WEAVER.

231-232. RESEARCH OR ADVANCED WORK IN PALEONTOLOGY. Credits and hours to be arranged. WEAVER.

GERMAN

(Home Economics Hall)

PROFESSOR MEISNEST, ASSISTANT PROFESSORS HOFF, ECKELMAN,
MR. ERNST, DR. TRESSMANN.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

119. HISTORY OF GERMAN LITERATURE. Three credits. First semester. ECKELMAN.

A general survey for students specializing in German.

120. LYRICS AND BALLADS. Three credits. Second semester. ECKELMAN.

Characteristic lyrics and ballads of Goethe, Schiller, Uhland, Gelbel, Moerike, Heine.

121-122. CLASSIC PERIOD. Two credits per semester. ERNST.

A study of the origin and development of German humanism from 1766 to 1832 as represented by Lessing, Herder, Wieland, Goethe, Schiller and the romantic writers.

123. LESSING. Three credits. First semester. MEISNEST.

Life and works. Early dramas, Emilia Galotti, Nathan der Weise, Hamburgische, Dramaturgie or Laokoon.

124. GOETHE'S FAUST, PARTS I AND II. Three credits. Second semester. MEISNEST.

Interpretation, genesis, plan and purpose of the drama. Faust legend and Faust theme in literature.

125-126. TEACHERS' COURSE. Two credits per semester. MEISNEST.

First Semester: Review of German grammar and syntax from the standpoint of teaching; coaching of underclassmen in elementary classes.

Second Semester: Aims and methods of teaching German; lesson plans, courses of study for high schools, text-books and aids in teaching, observation and some practice teaching in the University and city high schools.

FOR GRADUATES

*201-202. GOETHE'S LYRICS AND LETTERS. Two to four credits per semester. MEISNEST.

An interpretative study and analysis of Goethe's lyrics and letters, a study of verse-forms, rythm and meter.

* Not offered in 1917-18.

203-204. STORM AND STRESS PERIOD. Two to four credits per semester. MEISNEST.

*205-206. ROMANTIC SCHOOL. Two to four credits per semester. MEISNEST.

207-208. NINETEENTH CENTURY: Two to four credits per semester. ECKELMAN.

Study of the drama and novel. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer.

*209-210. INTER-RELATIONS OF GERMAN AND ENGLISH LITERATURE. Two to four credits per semester. MEISNEST.

First semester: Shakespeare in Germany and his influence on German literature. Second semester: The influence on German literature of Milton, Young, Addison, Ossian, Pope, Thomson, Swift, Richardson, Fielding, Sterne and Goldsmith.

251-252. HISTORY OF THE GERMAN LANGUAGE. Two credits per semester. TRESSMANN.

A study of the origin and development of the German language, historical German grammar, formation and derivation of words.

253-254. MIDDLE HIGH GERMAN. Three credits per semester. HOFF.

*255-256. OLD HIGH GERMAN. Two credits per semester. HOFF.

257-258. GOTHIC. Two credits per semester. HOFF.

GREEK

(Denny Hall)

PROFESSOR HAGGETT, ASSOCIATE PROFESSOR SIDNEY, ASSISTANT PROFESSOR DENSMORE.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101-102. DRAMATIC POETRY. Two credits per semester. Prerequisite, 3-4. DENSMORE.

Selected plays from Euripides, Sophocles, and Aristophanes.

*103. LYRIC POETRY. Two credits First semester. Prerequisite, 3-4. HAGGETT.

Selections from the elegaic, iambic, and melic poets.

*104. ORATORY. Two credits. Second semester. Prerequisite, 3-4. HAGGETT.

Selections from Lysias and Demosthenes.

105. EPIC POETRY. Two credits. First semester. Prerequisite, 3-4. HAGGETT.

Rapid readings of selections from Homer and Hesiod.

106. HISTORICAL PROSE. Two credits. Second semester. Prerequisite, 3-4. HAGGETT.

Selections from Herodotus and Thucydides.

107-108. ADVANCED READING. Three credits per semester. Prerequisite, 101-102. HAGGETT.

Rapid reading of the entire work (or a considerable portion) of some one author, or extensive work in some one department of Greek literature.

109. GREEK ANTIQUITIES. Two credits. First semester. SIDEY.

HISTORY

(Denny Hall)

PROFESSORS MEANY AND RICHARDSON, ASSOCIATE PROFESSORS

MC MAHON AND BOWMAN, ASSISTANT PROFESSOR LUTZ,

MR. DAVID.

Students must have had at least one year of history to elect any course in this group. Candidates for the master's degree must have taken major work in history in the University of Washington, or its equivalent elsewhere, before any graduate credits may be counted. The final examination for the master's degree will cover medieval and modern European history (the equivalent of History 1-2 in the College of Liberal Arts); the history of the thesis field (American or European, including English history); and the history of the field of the thesis subject.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

105-106. ENGLISH CONSTITUTIONAL HISTORY. Three credits per semester. Open to juniors and seniors who have taken or are taking 5-6, and to pre-law students with consent of the instructor. RICHARDSON.

The development of the legal and governmental institutions of the English people to the present time.

109. HISTORY OF THE MIDDLE AGES. Three credits. First semester. Prerequisite, 1-2. BOWMAN.

An advanced course dealing with economic and social developments.

112. MEDIEVAL CIVILIZATION. Three credits. Second semester. Prerequisite, 1-2. BOWMAN.

A study of the medieval civilization and culture down to the thirteenth century.

114. MEDIEVAL FRENCH INSTITUTIONS. Two credits. Second semester. Prerequisite, 1-2. Open to seniors, and to others with the consent of the instructor. DAVID.

The development of the legal and governmental institutions of medieval France.

*115. THE RENAISSANCE. Three credits. First semester. Prerequisite, 1-2. BOWMAN.

A study of the origin and development of the Renaissance and its spread among the European peoples.

*116. THE REFORMATION. Three credits. Second semester. Prerequisite, 1-2. BOWMAN.

A study of the origin and development of the Reformation, and of its spread among the European peoples.

121-122. PRUSSIA AND NORTHERN EUROPE. Two credits per semester. Prerequisite, 1-2. RICHARDSON.

This course deals with Sweden as a great power, its rise, progress, and decline; the rise of Russia and Prussia; the partition of Poland; and the beginnings of the Eastern question. Special attention is paid to the economic, political and military development of the Prussian state from its foundation to the acquisition of world-power by Frederick the Great.

123-124. HISTORY OF FRANCE FROM THE REFORMATION TO THE FRENCH REVOLUTION. Two credits per semester. Prerequisite, 1-2. RICHARDSON.

An advanced course, which deals not only with the internal history of France, but also with its relations to the larger problems of European history.

* Not offered in 1917-18.

***127-128. HISTORY OF ENGLAND SINCE THE ACCESSION OF GEORGE III. Two credits per semester. Prerequisite, 1-2 or 5-6. LUTZ.**

A study of the development of recent English institutions, and of social reform, foreign relations and imperialism from 1760 to the present day.

129. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. Three credits. First semester. Prerequisite, 1-2. LUTZ.

Among the principal topics considered are the following: The material conditions out of which, in France, the Revolution emerged, and the nature of the ideals which inspired it; contemporary conditions in the European states system which facilitated the extension of the Revolution over Europe; the epoch of International Wars, with especial reference to the territorial redistribution of Europe, the beginnings of modern liberalism, and the career of Napoleon.

130. EUROPE SINCE 1814. Three credits. Second semester. Prerequisite, 1-2. LUTZ.

Mainly political, introductory to European politics of the present time. The course deals with the fundamental principles and policies of the Era of Reaction under Metternich and the subsequent triumph of liberalism. The chief emphasis is laid upon the establishment of constitutional government and national unity in Germany, Italy and the other states of Western Europe, and upon the careers of great leaders, notably Bismarck and Cavour. The world war is included in the course.

***135-136. THE DEVELOPMENT OF INTERNATIONAL ARBITRATION AND CONCILIATION. Two credits per semester. LUTZ.**

***139-140. ECONOMIC AND SOCIAL HISTORY OF THE AMERICAN COLONIES. McMAHON.**

143. HISTORY OF THE UNITED STATES, 1787-1828. Three credits. First semester. McMAHON.

144. HISTORY OF THE UNITED STATES, 1828-1860. Three credits. Second semester. McMAHON.

147. CIVIL WAR AND RECONSTRUCTION. Three credits. First semester. McMAHON.

A general study of the Civil war and the period of reconstruction.

148. THE HISTORY OF NATIONAL DEVELOPMENT. Three credits. Second semester. McMAHON.

A continuation of course 147, in which the development of the American nation will be traced from the close of the reconstruction period to the present time.

153. SPAIN IN AMERICA. Three credits. First semester. MEANY.

A study of the rise and fall of Spanish power in the new world, and an outline of the history of the Spanish-American republics.

154. DEVELOPMENT OF THE PACIFIC. Three credits. Second semester. MEANY.

History of the countries bordering upon the Pacific ocean, with special reference to the changes now in progress of development.

157-158. HISTORY OF AMERICAN DIPLOMACY. Two credits per semester. MEANY.

A study of the treaties and foreign policy of the United States. Open to those who have taken a narrative course in American history.

163-164. NORTHWESTERN HISTORY. Two credits per semester. MEANY.

From the earliest voyages to the settlement and organization of the territories.

185. THE HISTORY AND LITERATURE OF CHINA. Two credits. First semester. GOWEN.

190. THE HISTORY AND LITERATURE OF JAPAN. Two credits. Second semester. GOWEN.

195. METHODS OF TEACHING HISTORY. Two credits. Required of advanced students who expect to teach history. McMAHON.

Text-books, assigned readings, courses of study and methods of presentation will be considered.

FOR GRADUATES

*205-206. HISTORIOGRAPHY. One credit per semester. Open to graduate students and to seniors by permission. BOWMAN.

A study of the general history of the writing of history.

*209-210. METHODS OF HISTORICAL RESEARCH AND CRITICISM. One credit per semester. RICHARDSON.

213-214. SEMINAR IN EUROPEAN HISTORY. Two credits per semester. BOWMAN.

217-218. SEMINAR IN ENGLISH HISTORY. Two to four credits per semester. Open to graduates and a few seniors by permission. RICHARDSON.

A graduate course which lays more stress upon the constitutional than upon the political side of the subject. The course will deal with topics in the Tudor and Stuart period, and with the antecedents of the Puritan Revolution.

221-222. SEMINAR IN AMERICAN HISTORY. Two credits per semester. McMAHON.

This course is primarily for graduates or other advanced students who may be admitted by permission.

227-228. JOINT SEMINAR. Two credits per semester. Open to graduate students and to a limited number of seniors on recommendation of their major professors. MEANY, SMITH, CONDON.

Designed for study and reports upon the problems in the historical, political, and legal developments of the State of Washington and the Pacific Northwest.

HOME ECONOMICS

(Home Economics Hall)

PROFESSOR RAITT, ASSISTANT PROFESSORS DENNY AND JUDY,
MISS ELLIOTT, MISS HEVERLO, MISS MARTINDALE.

FOR GRADUATES

200. SPECIAL FOOD PROBLEMS. Three credits. Second semester. Prerequisite, home economics 5-6, 103, 107, 109; chemistry 33 and 113. RAITT.

Investigation of local food products.

202. SEMINAR. Four credits. Either semester. Prerequisite, 30 credits in home economics, including 145-146. RAITT.

A study of the present status of home economics education with special attention to the work in the elementary and high schools of the State of Washington.

203. RESEARCH. Credits to be arranged. Either semester. MARTINDALE.

Investigations of recent discoveries in the biological or physical sciences of immediate value to the housewife and consideration of methods for their utilization.

LATIN

(Denny Hall)

PROFESSOR THOMSON AND ASSOCIATE PROFESSOR SIDEY,
ASSISTANT PROFESSOR CLARK.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. ROMAN DRAMA. Two credits. First semester. Prerequisite, 5, 6. THOMSON.

102. ROMAN DRAMA (continued). Two credits. Second semester. Prerequisite, 5, 6. THOMSON.

103-104. TEACHERS' COURSE. Three credits per semester. Prerequisite or concurrent, 5-6. SIDEY.

Selected portions of Caesar, Bell. Gall. V-VII and Bell. Civile; Cicero's Orations and Letters; Vergil, Bucolics and Georgics; Ancient Lives of Vergil. Review of the Caesar, Cicero and Vergil usually read in high schools. Methods of teaching Latin and discussion of the problems likely to arise in the classroom. Teaching by members of the class, under the supervision of the instructor. Visits to schools where Latin is taught and reports on the teaching observed.

106. ROMAN ANTIQUITIES. Two credits. Second semester. For classical majors. SIDEY.

107-108. LATIN PROSE COMPOSITION. Two credits per semester. Required of Latin majors and those who intend to teach Latin. Prerequisite, four years of preparatory Latin. CLARK.

FOR GRADUATES

201. LUCRETIVS, Books I and III. CICERO, De Finibus I and II. Two credits. First semester. THOMSON.

202. VERGIL, Georgics and Aeneid VII-XII. Two credits. Second semester. THOMSON.

203. MEDIEVAL LATIN. Einhard's Life of Charlemagne, Bede's History of England. Two credits. First semester. SIDEY.

204. TACITUS, Histories I, II. Two credits. Second semester. SIDEY.

205. LATIN OF THE EMPIRE. Gudeman's Selections. Two credits. First semester. THOMSON.

206. TACITUS, Dialogus. QUINTILIAN, Book I. Two credits. Second semester. THOMSON.

MATHEMATICS

(Science Hall)

PROFESSOR MORITZ, ASSOCIATE PROFESSOR MORRISON, ASSISTANT PROFESSORS GAVETT, CARPENTER AND NEIKIRK, DRs. BELL, SMAIL, WEAR AND KUSCHKE.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

111-112. APPLICATIONS OF MATHEMATICS TO PHYSICS AND CHEMISTRY. Two credits per semester. Prerequisite, 34 or 62. KUSCHKE.

113-114. ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS. Two credits per semester. Prerequisite, 34 or 62. NEIKIRK.

Introductory course. Solutions of the equations of the first and second order. Determination of constants of integration from initial conditions. Application to physics, chemistry, astronomy, and engineering.

*115-116. VECTOR ANALYSIS. Four credits per semester.

117-118. PROJECTIVE GEOMETRY. Two credits per semester. Prerequisite, two years of college mathematics. CARPENTER.

119-120. NON-EUCLIDEAN GEOMETRY. Two credits per semester. Prerequisite, two years of college mathematics. GAVETT.

This course will include a study of the geometries built on the three hypotheses that may be made if Euclid's "axiom of parallels" is omitted. The possibility of geometries built on other sets of axioms will be considered and discussed. The history of the subject will be reviewed. The building up of a Four-Dimensional Geometry from actual axioms and definitions will receive

* Not offered in 1917-18.

considerable study. The course should be of value in broadening the student's conception of a consistent geometry and thus clarify the processes and methods of the ordinary Euclidean Geometry.

121-122. THEORY OF FUNCTIONS OF A REAL VARIABLE. Two credits per semester. Prerequisite, 34 or 62. SMALL.

Rational and irrational numbers, the general function concept, continuity, integrability, and differentiability of functions, discontinuous functions, infinite series and products, series of functions, uniform convergence, multiple series, definite integrals, curvilinear integrals.

124. TEACHER'S COURSE. Four credits. Second semester. Prerequisite, 34. Required of those who make mathematics their major study and who are applicants for the teacher's certificate. BELL.

FOR GRADUATES

201-202. ELLIPTIC AND THETA FUNCTIONS WITH APPLICATIONS. Two to four credits. Two lectures per week and seminar. Prerequisite, one year of graduate work. BELL.

The theory will be developed in the lectures and amplified in the seminar by a study of the classical memoirs in the subject. The seminar will aim to develop the applications of the theory to research in the theory of numbers. Credit for seminar to be determined in each case.

*203-204. DIFFERENTIAL GEOMETRY. Three credits per semester. Prerequisite, 34 or 64. ———.

205. THEORY OF EQUATIONS. Three credits. First semester. Prerequisite, 34 or 64. MORITZ.

206. MODERN ALGEBRA. Three credits. Second semester. Prerequisite, 205. MORITZ.

*207-208. INFINITE SERIES. Three credits per semester. Prerequisite, 15-16, and 34. MORITZ.

Convergence of infinite series and infinite products. The binomial, exponential, logarithmic, and trigonometric series for complex values of the variable. Summation and transformation of series. Power series, hyper-geometric series and Fourier series.

209-210. ALGEBRAIC INVARIANTS AND COVARIANTS. Two credits per semester. Prerequisite, 34. WEAR.

* Not offered in 1917-18.

*211-212. FOUNDATIONS OF MATHEMATICS. Two credits per semester. Prerequisite, 34. WEAR.

*213-214. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. Two credits per semester. Prerequisite, 33 and 34. SMALL.

251-252. MATHEMATICAL JOURNAL AND RESEARCH CLUB. Meets on the second Tuesday of each month in Science Hall, room 2, at 8 p.m. The club consists of advanced students and teachers in the department of mathematics. The purpose of the club is primarily to discuss the research work carried on by members of the club, and secondarily to review important recent mathematical literature.

MECHANICAL ENGINEERING

(Engineering Hall)

PROFESSOR EASTWOOD, ASSOCIATE PROFESSOR WILSON, ASSISTANT PROFESSOR MACINTIRE.

101. DESIGN OF SPECIAL MACHINERY. Two credits. First semester. Senior M. E. Prerequisite, M. E. 91 and C. E. 131. MACINTIRE.

Special problems in the design of hoisting and pumping machinery.

102. ADVANCED MACHINE DESIGN. Two credits. Second semester. Senior and graduate M. E. Prerequisite, M. E. 101 and C. E. 132. MACINTIRE.

Special problems in the design of machine tools, and automatic machinery.

140. EXPERIMENTAL ENGINEERING. Two credits. Either semester. Junior and senior E. E., junior and graduate Ch. E. Prerequisite, preceded or accompanied by M. E. 82. WILSON.

Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine. One complete engine and boiler test with report.

141. EXPERIMENTAL ENGINEERING. Three credits. First semester. Junior and senior M. E. Same as M. E. 140 except an additional laboratory period is provided. WILSON.

151. **EXPERIMENTAL ENGINEERING.** Three credits. First semester. Senior M. E. Prerequisite, M. E. 141. WILSON.

A continuation of M. E. 141, involving more extended and complete investigations. Special attention is given to the theory involved and previous experiments. Gas and fuel analysis.

152. **EXPERIMENTAL ENGINEERING.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, M. E. 151. EASTWOOD, WILSON.

An advanced course in commercial testing.

179. **STEAM TURBINES.** Two credits. First semester. Senior and graduate M. E. and E. E. Prerequisite, M. E. 82. EASTWOOD. The theory, construction and design of steam turbines.

180. **MECHANICAL REFRIGERATION.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, Physics 96 and 98. MACINTIRE.

The theory and application of mechanical refrigeration.

182. **HEATING AND VENTILATING.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, M. E. 82. EASTWOOD.

The various systems of heating and ventilating, methods of design and tests.

201. **GAS ENGINE DESIGN.** Two credits. Second semester. Graduate M. E. Prerequisite, M. E. 188. WILSON.

Calculations and plans for the design of a given type of gas engine.

MINING ENGINEERING AND METALLURGY

(Mines Hall)

PROFESSOR ROBERTS, ASSISTANT PROFESSORS DANIELS AND COREY.

I. MINING ENGINEERING

FOR SENIORS OR GRADUATES

152. **ORE DRESSING.** Four credits. Second semester. Prerequisite, Mining 101. Senior or graduate. Laboratory deposit, \$5.00. ROBERTS, DANIELS, JOHNSON.

Two lectures and two laboratory periods. A detailed study of certain branches of ore dressing followed by a full test of ores by mill run checked by assays. Flotation.

153. **THESIS OUTLINE.** One credit. First semester. One laboratory period. ROBERTS, DANIELS, COREY.

The outlining of senior thesis, the gathering of material, study of references, making of drawings, maps, etc. See Mining 154. Senior or graduate.

154. **THESIS.** Two credits. Second semester. Two laboratory periods. ROBERTS, DANIELS, COREY.

A continuation of Mining 153. Weekly consultation and seminars. A deposit of \$5.00 or \$10.00 will be required to cover cost of materials and equipment in thesis work involving the use of mining or metallurgical equipment.

301. **MINING METHODS.** Three credits. First semester. Senior or graduate. ROBERTS.

Two lectures and one laboratory period. A detailed study of certain branches of mining.

302. **MINE OPERATION.** Three credits. Second semester. Senior or graduate. ROBERTS.

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.

II. METALLURGY.

157. **DESIGN OF PLANT.** Three credits. Either semester. Three drafting periods. Senior or graduate. ROBERTS, DANIELS.

The designing of a piece of equipment or a structure for mining, milling or metallurgical purposes.

MINING AND METALLURGICAL RESEARCH

(Mines Hall and Bureau of Mines Hall)

THE TECHNICAL STAFF OF THE NORTHWEST STATION, UNITED STATES

BUREAU OF MINES: DORSEY A. LYON, METALLURGIST IN CHARGE;

GEORGE WATKIN EVANS, COAL MINING ENGINEER; FRANCIS C.

RYAN, ELECTRO-METALLURGIST; HARLAN A. DEFEW,

CHEMIST; ———, JUNIOR CHEMIST.

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. Electro-metallurgical processes.
2. Beneficiation of coal and non-metallic minerals.
3. Clay industry and ceramics.
4. General problems affecting the ores and the mining industry of the state.
5. The development of metallurgical industries.

ORIENTAL HISTORY, LITERATURE AND LANGUAGES

(Denny Hall)

PROFESSOR GOWEN

FOR ADVANCED UNDERGRADUATES AND GRADUATES

103-104. SANSKRIT. Four credits per semester. Hours to be arranged.

105-106. SEMITIC LANGUAGES. Four credits per semester. Hours to be arranged.

Section 1. HEBREW (for beginners).

Section 2. HEBREW (advanced) or ARABIC.

107. THE LITERATURE OF THE HEBREW PEOPLE. One credit. First semester.

The formation of the Old Testament canon, summary of Hebrew history, the Torah, the prophetic order and literature, the poetry of Israel, the Wisdom books, post-exilic reorganization, apocryphal and apocalyptic books.

PHARMACY

(Bagley Hall)

PROFESSOR JOHNSON, ASSOCIATE PROFESSOR LINTON, MISS HINDMAN,
MR. PLATT.

FOR JUNIORS, SENIORS AND GRADUATES

101-102. PHARMACEUTICAL CHEMISTRY. Two credits per semester. JOHNSON.

The lecture work includes a review of inorganic and organic chemistry with special reference to their application to pharmacy,

a study of the chemistry of alkaloids, glucosides, volatile oils, indicators and other organic compounds of pharmaceutical importance.

103-104. MANUFACTURING PHARMACY. Credit to be arranged. Deposit, \$5.00 or \$10.00 per semester, according to hours. PLATT.

An advanced course in pharmaceutical manufacturing, including the manufacturing of some of the more difficult of pharmacopœial and national formulary preparations, as well as a number of inorganic and organic compounds used in pharmacy and medicine.

105-106. ADVANCED PRESCRIPTIONS. Three credits per semester. Prerequisite, pharmacy 5 and 6. Deposit, \$10.00 per semester. LINTON.

Extensive practice in difficult and incompatible prescriptions, also a study of special problems. One lecture and two laboratory periods.

107-108. CURRENT PROBLEMS. One credit per semester. LINTON.

A lecture and recitation course on current scientific problems of pharmaceutical importance.

109-110. TOXICOLOGY. Credit to be arranged. Deposit according to credit. JOHNSON.

A course on the study of the action, detection and estimation of inorganic and organic poisons. Laboratory work may be taken in the separation of inorganic and organic poisons from tissue and in alkaloidal analysis.

111-112. FOOD ANALYSIS. Four credits per semester. Laboratory three times per week. Deposit, \$10.00 per semester. HINDMAN.

Laboratory and class work in the study of methods of analysis of food products and the study of federal and state laws regulating the sale of food and drug products. Methods of the Association of Official Agricultural Chemists are used. Graduate students, if prepared, may elect a research problem in food analysis.

111 is repeated in the second semester for home economics students.

201-202. INVESTIGATION. Credit to be arranged. Deposit, \$5.00 or \$10.00, according to hours.

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.

PHILOSOPHY

(Denny Hall)

PROFESSOR SAVERY, ASSISTANT PROFESSOR DUCASSE, DR. GUTHRIE.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101-102. HISTORY OF PHILOSOPHY. Four credits per semester. GUTHRIE.

Ancient, medieval and modern. The views of the classical philosophers on the nature of the universe and man, the values of life, the ideal form of society, the origin and limits of knowledge, the relation of the individual to the world, etc. Portions of the most important works of the greater philosophers will be read. Some of the more recent philosophical movements, such as pragmatism and neo-realism will be very briefly touched upon at the end of the course.

103-104. METAPHYSICS. Three credits per semester. Prerequisite, 8 credits in philosophy and psychology. SAVERY.

A course in systematic philosophy. (1) The meaning and tests of truth, with special reference to pragmatism. (2) The construction of a theory of the universe, including an account of the nature of the human self, its relation to the body, the nature of matter, the problem of the freedom of the will. Study of idealism. (3) The foundation of morality, pessimism and optimism, the evolution and destiny of man.

105-106. PHILOSOPHY OF SCIENCE. Two credits per semester. Prerequisite, 1 or 101-102. SAVERY.

An account of scientific method; and of the fundamental laws and concepts of the sciences—mathematical, physical and biological. Interpretation of the scientific view of the world and its place in the human economy. Primarily for majors in science.

107-108. HISTORY OF RELIGION. Two credits per semester. Same as Oriental Literature 3-4. GOWEN.

First semester, primitive religious ideas, ghost worship, nature worship, divination, the religions of the Euphrates Valley,

China, Japan, India, and Persia. Second semester, Judaism, Mohammedanism, and Christianity.

109-110. PHILOSOPHY OF RELIGION. Two credits per semester. Prerequisite, one course. SAVERY.

(1) The religious experience: the origin, nature and types of religion, and its effect on individual happiness and morality. The social aspect of religion and the religion of democracy. Study of mystical experiences. (2) The truth of religion: the proofs of the existence of God, the basis of faith, pessimism, optimism and meliorism, immortality. Discussion of agnosticism.

*111-112. PHILOSOPHY IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY. Two credits per semester. Prerequisite, one course previous or concurrent. Alternates with 113-114 as requirement for seniors in library training course. SAVERY.

Conceptions of the universe, evolution, the destiny of man, the individual and social ideal in Wordsworth, Shelley, Emerson, Browning, Tennyson, Fitzgerald's Omar Khayyam, James Thompson, Arnold, Swinburne, Meredith and Whitman. An account of the social ideals of Carlyle, Ruskin, Morris, Shaw, Dickinson, Wells and Chesterton.

113-114. PHILOSOPHY IN THE MODERN DRAMA. Two credits per semester. Prerequisite, one course previous or concurrent. Alternates with 111-112 as requirement for seniors in library training course. BENHAM.

Philosophical, ethical and social ideals in Ibsen, Strindberg, Hauptmann, Sudermann, Maeterlinck, Brieux, Bernard Shaw, Galsworthy and other recent dramatists. Introductory study of similar ideas in the Greek drama, the book of Job and Shakespeare.

115-116. ESTHETICS. Two credits per semester. Required for seniors in music. DUCASSE.

The origin and motives of art, and the esthetic principles of architecture, sculpture, painting, music, poetry, the drama, and the decorative arts. The nature of beauty, the sublime, the comic, the tragic. Standards of criticism. Social and democratic theories of art.

* Not offered in 1917-18.

118. **ADVANCED LOGIC.** Two credits. Second semester. Prerequisite, 3 or calculus. GUTHRIE.

The development of symbolic logic and the logic of mathematics, with a discussion of logical theory.

121-122. **PLATO AND ARISTOTLE.** Two credits per semester. Prerequisite, 1 or 101-102. GUTHRIE.

A study of the philosophical works of Plato and Aristotle with a brief account of Greek philosophy before Plato.

*123-124. **CONTEMPORARY PHILOSOPHY.** Two credits per semester. Prerequisite, 1 or 101-102. GUTHRIE.

Readings from authors representing the main tendencies in contemporary philosophy, including Haeckel, Mach, Bradley, Royce, Bergson, James, Dewey, Poincare, Russell, and the American neo-realists.

125-126. **SEMINARY. HUME AND KANT.** Two or three credits per semester. Open to students upon approval of instructor. One two-hour period each week. DUCASSE.

Hume's Treatise of Human Nature and Kant's Critique of Pure Reason will be read and discussed.

*131-132. **SEMINAR IN LOGIC.** Two or three credits per semester. Prerequisite, 3. DUCASSE.

The course is a direct continuation of the elements of logic.

PHYSICS

(Denny Hall)

PROFESSOR OSBORN, ASSISTANT PROFESSORS BRAKEL AND ANDERSON,
DR. LESTER.

FOR GRADUATES

201-202. **DYNAMICS.** Two credits per semester. Prerequisite, 113 and calculus. ANDERSON.

A rigorous mathematical treatment of the fundamentals.

203-204. **THEORETICAL ELECTRICITY AND MAGNETISM.** Two credits per semester. Prerequisite, 116 and calculus. BRAKEL.

A rigorous mathematical treatment of the fundamentals.

*206. ADVANCED OPTICS. Two credits. Second semester. Prerequisite, 102 and calculus. OSBORN.

Polarization phenomena and modern theories of light.

*207-208. THERMODYNAMICS AND KINETIC THEORY OF GASES. Two credits per semester. Two class periods. Prerequisite, 101, 118 and calculus. LESTER.

*209. ELECTRON THEORY. Two credits. First semester. Prerequisite, 116. ANDERSON.

The important researches leading to the electron theory are presented, and the application of the theory in explaining the facts of electrostatics, electrical and thermal conduction, magnetism, and chemical valency is considered.

*210. ELECTRICAL THEORY. Two credits. Second semester. Prerequisite, 209, and calculus. ANDERSON.

A mathematical treatment of the electron theory of conduction, thermal and electrical, optical phenomena, atomic structure, etc.

211-212. SEMINAR. Credits to be arranged. For senior majors and graduate students.

213-214. INVESTIGATION. Credits to be arranged. Any student who can show that he is qualified may undertake original investigation under the direction of one of the instructors.

POLITICAL SCIENCE

(Denny Hall)

PROFESSOR J. ALLEN SMITH

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. AMERICAN GOVERNMENT. Three credits. First semester. SMITH.

The origin and development of the governmental system of the United States.

102. STATE GOVERNMENT IN THE UNITED STATES. Three credits. Second semester. SMITH.

The making and amendment of constitutions; the extension of the suffrage; apportionment of representation; conflict between rural and urban interests; recent democratic changes.

*103. MUNICIPAL GOVERNMENT. Three credits. First semester.

A comparative study of the modern city as a governmental institution; types of city government; state interference in municipal affairs.

*104. COLONIAL GOVERNMENT. Two credits. Second semester.

Systems of colonial government and administration.

*105. THE GOVERNMENT OF ENGLAND. Two credits. First semester.

*106. PUBLIC INTERNATIONAL LAW. Two credits. Second semester.

*107-108. POLITICAL THEORIES. Two credits per semester. SMITH.

A study of the political ideas that have influenced constitutional development and legislation in England and the United States.

201-202. SEMINAR IN POLITICAL SCIENCE. Two to four credits per semester. SMITH.

Open to graduate students and to seniors by permission.

PSYCHOLOGY

(Science Hall Attic)

PROFESSOR SMITH, MR. WILCOX.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. PHYSIOLOGICAL PSYCHOLOGY. Four credits. First semester. Prerequisite, 1. One lecture, one recitation, two laboratory periods. Laboratory deposit, \$1.00. WILCOX.

The structure and function of the nervous system in relation to consciousness and behavior. Dissection and microscopic study of the human brain, spinal cord, and sense organs.

102. EXPERIMENTAL PSYCHOLOGY. Four credits. Second semester. Prerequisite, 1. One lecture, one quiz, and six laboratory hours. Laboratory deposit, \$1.00.

Students taking this course receive training in laboratory methods, are made familiar with all the more important kinds

* Not offered in 1917-18.

of psychological apparatus and perform many of the classical experiments in psychology.

103-104. PRINCIPLES OF PSYCHOLOGY. Three credits per semester. Prerequisite, 1.

An advanced course in general psychology. James' Principles of Psychology will be used as a text. Some account of the history of psychology will be given. Students are advised to precede this by physiological or experimental psychology.

*105. ANIMAL BEHAVIOR. Three credits. First semester. Prerequisite, 1. SMITH.

This course is an analytic study of the behavior of lower animals. The principles of experimentation in this field will be determined. The various conceptions of mechanism and vitalism will be considered in their relation to genetic psychology.

110. ABNORMAL PSYCHOLOGY. Three credits. Second semester. Prerequisite, 1. For pre-medical students, and others by permission of instructor.

Sleep, dreams, hypnotism, possessions, insanity, motor automatisms, multiple personality, the subconscious, and psycho-analysis.

114. METHODS OF MENTAL AND PHYSICAL TESTS AND METHODS OF MEASUREMENT. Two credits. Second semester. Prerequisite, 1. Laboratory fee, \$1.00. SMITH.

Laboratory course with conferences. Students will be given extensive training in applying tests for general intelligence and for mental analysis. The principles of experimental procedure, methods of measurement, and statistical treatment of results form a major part of this course. The course is essential to work in clinical psychology and is advised as preparatory to all other laboratory research in this department.

201-202. RESEARCH. Either semester. Prerequisite, 102, 114. SMITH.

Opportunity for original investigation.

* Not offered in 1917-18.

SCANDINAVIAN
(Law Building)

PROFESSOR VICKNER

FOR ADVANCED UNDERGRADUATES AND GRADUATES

201-202. OLD ICELANDIC. Two credits per semester.

Grammar, prose selections, poems from the Edda, lectures on Scandinavian mythology and antiquities, Scandinavian philology.

*203-204. HISTORY OF THE SWEDISH LANGUAGE. Two credits per semester.

FOR GRADUATES

205-206. SCANDINAVIAN LITERATURE IN THE NINETEENTH CENTURY. Two credits per semester.

*207-208. SCANDINAVIAN LYRIC POETRY. One credit per semester.

209-210. HISTORY OF SCANDINAVIAN LITERATURE. One credit per semester.

Lectures in Scandinavian. Some of the masterpieces assigned for outside reading and report.

Other graduate work with the consent of the head of the department.

SOCIOLOGY
(Denny Hall)

PROFESSOR BEACH, MR. MASON.

Students majoring in sociology may count courses from the department of political science in making up the number of credits required in the major department.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101-102. PRINCIPLES OF SOCIOLOGY. Two credits per semester. Prerequisite, 4 hours in sociology or political science. BEACH, MASON.

A study of the principles underlying the organization and development of society.

103-104. **SOCIAL AMELIORATION.** Three credits per semester. Prerequisite, 4 hours in sociology or political science. MASON.

A study of the attempt of society to effect improvement in the life of the less fortunate classes. The work of the first semester centers in the problem of poverty. That of the second semester centers in the problem of crime.

*105. **THE FAMILY.** Three credits. First semester. Prerequisite, 4 hours in sociology. BEACH.

*106. **SOCIAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 4 hours in sociology. BEACH.

The growth and nature of custom and convention and the formation of public opinion. It is desirable that the student should have had a course in general psychology.

*107. **IMMIGRATION.** Two credits. First semester. Prerequisite, 1 or political science 1. BEACH.

A study of migration as a social phenomenon, followed by an analysis of the American immigration problem, including questions of race, economic condition and conflicting social standards, and leading up to a consideration of Oriental immigration and the social and political questions arising from the meeting of Eastern and Western civilizations bordering the Pacific.

109-110. **SOCIAL RESEARCH.** Two or three credits per semester. Time to be arranged. BEACH.

This course is intended to afford opportunity for investigation of special social problems. It is open only to graduate or advanced students, and in each case consent of the instructor is necessary. The topic for 1917-18 will be Social Legislation.

SPANISH

(Denny Hall)

PROFESSORS OBER, OYARZUN, ASSOCIATE PROFESSOR UMPHREY, ASSISTANT PROFESSOR STRONG, MR. PHILBRICK.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

131-132. **SPANISH LITERATURE OF THE "SIGLO DE ORO."** Two credits per semester. Prerequisite, 61. OBER.

Selected texts, collateral reading, lectures. First semester, Cervantes. Second semester, Lope de Vega, Calderon, etc.

151. **TEACHERS' COURSE.** Two credits. First semester. **OBER.**

161-162. **THE NOVEL.** Three credits per semester. Prerequisite, 61. **PHILBRICK.**

The origins of the Spanish novel and its development. Reading of selected texts; collateral reading and reports.

*163-164. **THE DRAMA.** Three credits per semester. Prerequisite, 61. **UMPHREY.**

*171. **LYRIC POETRY.** Two credits. First semester. Prerequisite, 61. **UMPHREY.**

*172. **THE SPANISH POPULAR BALLAD.** Two credits. Second semester. Prerequisite, 61. **UMPHREY.**

181, 182. **SPANISH-AMERICAN LITERATURE.** Two credits per semester. Prerequisite, 61. **UMPHREY.**

Representative writings of Spanish-American authors. Collateral reading and reports. Lectures.

FOR GRADUATES

209-210. **OLD SPANISH.** Two credits per semester. **UMPHREY.**

History of Spanish literature to the sixteenth century. Reading of the Poema del Cid and selections from other early Spanish writings. Reports on special topics.

ZOOLOGY

(Science Hall)

PROFESSOR KINCAID, ASSISTANT PROFESSOR E. VICTOR SMITH,
MR. OSTERUD, DR. FASTEN.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. **NORMAL HISTOLOGY.** Four credits. First semester. Prerequisite, 1-2. **OSTERUD.**

Mammalian histology, especially for pre-medical students, but open to others.

102. **EMBRYOLOGY.** Four credits. Second semester. Prerequisite, 1-2. **OSTERUD.**

Comparative developmental history of vertebrates. Especially for pre-medical students.

* Not offered in 1917-18.

103-104. **ADVANCED PHYSIOLOGY.** Four credits per semester. Prerequisite, one year each of college chemistry, physics, and zoology. SMITH.

Adapted to meet the needs of medical students.

105. **NEUROLOGY.** Four credits. First semester. Prerequisite, 101. SMITH.

Comparative structure and genesis of sense organs and central nervous system.

107-108. **PISCICULTURE.** Two credits per semester. Prerequisite, 1-2 and 11-12. SMITH.

The developmental history and artificial propagation of economic fishes.

109-110. **GENERAL ENTOMOLOGY.** Four credits per semester. Prerequisite, 2. KINCAID.

The structure, classification, and economic relations of insects.

111-112. **VERTEBRATE ANATOMY.** Four credits per semester. Prerequisite, 1-2 or 5-6. OSTERUD.

Comparative structure of vertebrates.

113. **CYTOLOGY.** Four credits. First semester. Prerequisite, 1-2. FASTEN.

A study of the anatomical, physical and chemical properties of the animal cell. The germ cell will be discussed with special reference to the problems of development and inheritance.

114. **PARASITOLOGY.** Four credits. Second semester. Prerequisite, 1-2. FASTEN.

A study of animal parasites. This course is designed to meet the needs of students in medicine, fisheries, and those interested in problems of public health.

FOR GRADUATES

201-202. **MUSEUM AND FIELD WORK.** Four credits per semester. Prerequisite, at least two years of zoology. KINCAID.

Systematic investigation of the local fauna, including studies based upon material in the state museum.

203-204. **RESEARCH.** Credits to be arranged. Either semester. Students capable of carrying on independent research will be allowed to do so under the direction of the instructors in charge.

SUMMER SESSION

DIRECTOR

FREDERICK E. BOLTON, PH. D., University of Washington.

The thirteenth annual Summer Session will be held from June 18th to July 27th, 1917. The date of opening has been placed late enough for teachers coming from long distances or from schools which close late to reach the University in time for the opening.

ADMISSION

Formal entrance examinations are not required. Applicants, however, must give evidence of sufficient maturity and preparation to profit by the work offered.

CREDITS

A maximum of six semester hours of credit may be obtained during the session. Students registering after July 1st will not be permitted except under unusual circumstances to secure the maximum number of hours.

TEXT BOOKS

Text books may be purchased at reduced rates at the University bookstore, which is located on the campus near Denny Hall.

FOR WHOM INTENDED

The Summer Session is designed to meet the needs of the following classes of persons:

1. College graduates who wish to specialize or to work for advanced degrees.
2. Superintendents and principals who wish to acquaint themselves with recent progress in education or to study special problems.
3. High school teachers who wish to advance in their special lines of work.
4. Grammar school and junior high school teachers who wish to work towards a collegiate degree.

5. Undergraduates who for some good reason find it necessary to shorten the period of their college course.

6. Candidates for certificates who need special courses in education and psychology or other subjects.

7. Persons who are preparing to become specialists in college and normal school positions.

8. Persons who desire practical field work in botany, geology, and zoology.

9. Persons who wish special instruction in music, drawing, manual training or physical education.

FACILITIES

The Summer Session is especially designed to be of assistance to teachers who cannot be in attendance during the regular sessions. The University places at the service of teachers practically all of the facilities of the colleges of Liberal Arts, Science, Education, Fine Arts, and the Graduate School. In addition, there is work offered in manual training, music, drawing, and physical education. The laboratories, libraries, and museum are open and the various departments offer both undergraduate and graduate work equal in quality to that offered during the rest of the year. In a very large number of cases heads of departments are in charge of the work. In addition to regular members of the faculty, several prominent lecturers from outside the University will give courses.

REGISTRATION

Saturday, June 16th, and Monday, June 18th, will be regular registration days. As many as possible should plan to register on Saturday. Class work will begin on Tuesday, June 19th, at 8 o'clock.

FEEES

The regular tuition fee of ten dollars (\$10) is required of all students, and admits to all the privileges of the Summer Session, except certain laboratory courses and to special music courses requiring individual instruction. See the statements of these courses for the special fees. No reduction of fees will be made because of late registration or early withdrawal. Open lectures are free to all students regularly registered in the Summer Session.

MASTER'S DEGREE THROUGH SUMMER SESSIONS

At each succeeding Summer Session a larger number of graduate students are in attendance. In 1916 one-third of the whole number of attendants were graduate students. Many were planning definitely to apply their work toward higher degrees. The University will accept four summer sessions of work as a fulfillment of the year of required residence, provided the student does work between the sessions under regulations prescribed by the graduate faculty and the departments concerned. With the new opportunities for extension work many will doubtless be enabled to secure master's degrees in the above manner.

CORRESPONDENCE COURSES

The University has established correspondence courses in many departments. These will be of special advantage to students who have been in attendance at summer sessions and who wish to go forward to degrees. The correspondence work can be very advantageously planned as a continuation of the regular Summer Session. For detailed information concerning correspondence courses write Director Edwin A. Start.

COLLEGE OF EDUCATION

The Summer Session and the College of Education stand in very close relations to each other. Doubtless a large number who plan to secure a degree, or a normal diploma, through the College of Education will accomplish much of the work in summer sessions. The work of the Summer Session being especially arranged for teachers will make it possible to accomplish this.

For bulletin of the Summer Session address Recorder E. N. Stone. For other information address Frederick E. Bolton, Director of the Summer Session.

PUGET SOUND MARINE STATION

FRIDAY HARBOR, WASHINGTON

June 25—August 4, 1917.

DIRECTOR

THEODORE CHRISTIAN FRYE, PH. D., University of Washington.

COUNCIL

WILLIAM J. BAUMGARTNER, University of Kansas.

TREVOR KINCAID, University of Washington.

This institution is the outgrowth of work in marine exploration carried on for many years by the University of Washington and other institutions. In 1904 a marine station was definitely established in rented quarters at Friday Harbor in the San Juan archipelago, and sessions have been regularly held since that date. A number of universities and colleges are co-operating with the University of Washington in its organization.

The chief purposes of the Marine Station are these: (a) To enable biologists to pursue their researches on marine life in one of the richest fields for biology on the coast of the United States. (b) To enable teachers and students to study animals and plants in their natural habitats. (c) To serve the state and the Northwest through the study of its commercial forms of marine animals and plants. (d) To serve as a meeting place for biologists, to afford mutual inspiration and exchange of ideas, thus bettering the teaching of biology.

The location of the Station in the midst of the picturesque islands of the San Juan archipelago, which lie in the northern section of Puget Sound, surrounded by waters unrivaled for their wealth of ocean life, makes the site an ideal one for the study of marine organisms; while the land flora and fauna of the islands are also of great interest, and present favorable opportunities for the study of many striking species of birds, plants and insects.

In the spring of 1910 a commodious building was constructed upon a site donated by Mr. Andrew Newhall of Friday Harbor.

This structure contains upon its main floor a general laboratory for class work, the office of the director, a store room for two large salt water aquaria. The second floor is occupied by a lecture room and by nine rooms for the convenience of persons engaged in research work. The third story is utilized as a store room and drying loft. The laboratory is abundantly supplied with running fresh and salt water and is lighted by electricity.

The equipment of the Station includes microscopes and general laboratory glassware, also a small library bearing upon the biology of the Pacific Northwest. A steamer is employed to transport parties to points of vantage among the islands, as well as to manipulate the dredge used in exploring the deep waters of the channels and bays in search of bottom forms. Plankton nets are also available, as well as material for quantitative work along this line.

The cost of living is minimized as far as possible for those taking courses at the Station. Tent houses are provided as sleeping quarters at about \$6.00 for the six weeks, whether occupied by one or more persons. The tents are 10x12 feet. Table board is furnished at \$4.00 or \$4.50 per week. This is gauged in such a manner that over a period of years the Station neither gains nor loses. The same is true of the tents and their equipment.

The expense attached to a stay of six weeks at the Station, including the tuition fee of ten dollars, board, lodging and incidentals, need not exceed fifty dollars.

A maximum of one credit per week may be earned at the Station.

For more detailed information apply to the director, Dr. T. C. Frye, University of Washington, Seattle, Wash.

UNIVERSITY EXTENSION DIVISION

OFFICERS OF ADMINISTRATION

HENRY SUZZALLO, PH. D., PRESIDENT.

EDWIN A. START, A. M., Director of the Extension Division.

EVERETT F. DAHM, A. B., Assistant Director of the Extension Division.

HERMAN A. BRAUER, PH. D., Chief, Bureau of Municipal Research.

*LEO JONES, A. M., Chief, Bureau of Debate and Discussion.

OTHER OFFICERS

MALCOLM CARTER BRUCE, A. B., Business Manager, Better Business.

VIOLET WILHELMINA KEITH, A. B., Secretary to the Director.

AGNES MOBECK, A. B., Secretary, Department of Instruction.

LYDIA M. McCUTCHEN, A. B., Reference Librarian, Bureau of Debate and Discussion.

ANNA F. HALL, Assistant, Bureau of Municipal Research.

ZELLA STEELE, Stenographer.

HOPE WILLIS, Stenographer.

The University Extension Division was organized in May, 1912, as an integral part of the University of Washington, to extend the usefulness of the University, both as a teaching institution for those who cannot avail themselves of the ordinary opportunities of resident study, and as a source of research and information for the state, its communities, and its people. Its activities are organized in:

- I. The Department of Instruction.
- II. The Bureaus of
 - (a) Municipal Research
 - (b) Debate and Discussion
 - (c) Lectures.
- III. The Department of Publication.

The main offices of the Division are in the Administration Building of the University. A branch office and downtown classroom are in Rooms 1041-1044, Henry Building, Fourth Avenue.

*Absent on leave, 1916-17.

I. DEPARTMENT OF INSTRUCTION

FACULTY

EDWIN A. STARR, A. M., Director.

The Extension Faculty is composed of instructors in the general faculty who give extension courses, and of the following who are attached to the Extension staff:

EVERETT F. DAHM, A. B., Assistant Director, in charge of Extension Business Courses.

MARY F. RAUSCH, B. S., Assistant Professor of Home Economics.

*LEO JONES, A. M., Instructor in Political Science.

CHARLES A. GUERARD, B. L., Instructor in French.

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

CARL BUSH, Lecturer in Business Administration.

JAMES P. ROBERTSON, C. P. A., Lecturer in Accounting.

B. LETCHER LAMBUTH, Lecturer in Real Estate.

MALCOLM CARTER BRUCE, A. B., Lecturer in Commercial Correspondence.

WAYNE EDGAR BUTTERBAUGH, B. S., Lecturer in Transportation.

H. S. GAUNCE, Lecturer in Credits and Collections.

E. G. LINDBERG, Lecturer in Credits and Collections.

EXTENSION TEACHING

Extension teaching is carried on by means of:

(1) Correspondence courses, through which individual students may be reached in any part of the state.

(2) Lecture courses with class work at different centers out in the state.

Extension study is not to be regarded as a quick and easy means of obtaining a degree. Its last and least important use is to obtain formal university credit. Primarily the service of the Extension Division in its courses of instruction is for those who are unable to come to the University but who need and desire some of the advantages which university teaching offers. There are offered in the Department of Instruction:

1. Regular university studies which may, under certain conditions, be offered for credit toward a degree.

2. Advanced courses to assist graduates and others in professional or business life to keep in touch with the progress of knowledge.

3. Preparatory studies for those who may not be able to attend the secondary schools.

*Absent on leave, 1916-17.

4. Vocational courses to supply knowledge or training which will directly affect the student's efficiency in his occupation.

CORRESPONDENCE STUDY

The University Extension Division publishes circulars describing in detail the courses offered by the Department of Instruction and the method of entering upon and carrying them on. Any student contemplating taking extension work should send to the Division for information in regard to the subjects in which he is interested.

The instruction in these courses is prepared and given by members of the University Faculty, and each course represents a definite amount of work equivalent to work done in residence at the University, or in the standardized schools of our educational system.

To make the work thorough and permanent, the various courses are arranged, whenever practicable, in co-ordination with the regular residence work, the short courses, and the Summer Session.

Correspondence courses may be begun at any time during the year.

REQUIREMENTS FOR ADMISSION.—No preliminary examination is required for admission to correspondence courses, but the student will be required to give at the time of registration evidence that he is capable of pursuing the desired studies with advantage to himself. Those taking correspondence courses with a view to university credit must comply with the requirements that are imposed upon the resident students for a degree.

EXPENSES.—Fees are charged for all extension courses. The basis of this fee is \$16.00 for a course of thirty-two assignments, or a proportionate charge for shorter courses. Each eight assignments covers work equivalent to that required for one credit hour in a resident class. This charge pays for the instruction and postage one way. Text books, apparatus, and supplies of any kind that are required for any course in addition to the text furnished by the Division must be purchased by the student. When these supplies cannot be obtained of local dealers they may be ordered through the University Extension Division.

UNIVERSITY CREDIT.—Correspondence students who have had the required preparation for admission to the University and whose program has been approved, will, upon satisfactory completion of a course of correspondence study, be awarded a certificate of credit in the University, but the maximum university credit for work done by correspondence may not exceed one-half of the units required of resident students for graduation. Records of credit for correspondence study are filed until the student has satisfactorily completed one year in residence, when, if the requirements have been satisfied, the credits may be applied toward a degree.

The requirement of residence may often be satisfied, in whole or in part, by attendance at the Summer Session of the University. Four summer sessions are accepted for a year of residence.

CLASSES

A few courses, necessarily limited as to number and locality, are given in accessible centers as lecture courses, accompanied with the usual class exercises. Ninety-two such classes with an aggregate attendance of 1,474 students were held in Seattle and six other cities during the four years, 1912-1916.

Short courses of lectures may be arranged to run parallel with correspondence courses. The lectures may be open to others besides those carrying on the correspondence course, and two objects thus served.

Fees for courses given to classes are adjusted according to the number of students in the class and the distance from Seattle.

COURSES OF INSTRUCTION

The list of extension courses at present offered is subject to change at any time, and additions are frequently made; therefore, if courses are desired in departments not mentioned in this list, inquiry should be made. Full descriptions of the courses will be found in the circulars of information issued by the Division from time to time.

ASTRONOMY. Two credit courses in general astronomy.

BOTANY. Four credit courses in botany.

BUSINESS ADMINISTRATION. Correspondence courses in accounting, selling and business methods and cost accounting for printers.

Classes in accounting, advertising, commercial correspondence, commercial law, credits and collections, foreign trade, real estate, selling and business methods, transportation.

ECONOMICS. One correspondence course (credit) in economics.

EDUCATION. One lecture course and four correspondence courses, all credit, are offered in the College of Education.

ENGINEERING. Seven courses in civil engineering and seven in mechanical engineering are offered in the College of Engineering. All of these may be credit courses.

ENGLISH. Twenty-six correspondence courses are offered in this department. Four are of high school grade, and the remainder university credit courses.

FORESTRY. Five credit courses in forestry are offered.

FRENCH. Twelve credit courses in French are offered.

GEOLOGY. Five correspondence credit courses in geology.

GERMAN. Nine credit courses in German.

GREEK. Ten correspondence credit courses, covering high school as well as college subjects.

HISTORY. Two credit courses in American history are offered by this department.

HOME ECONOMICS. The extension work in home economics takes the form chiefly of special short courses, with a limited number of classes.

JOURNALISM. One correspondence course is offered in the Department of Journalism.

LATIN. The Latin Department offers six credit courses, covering elementary and advanced work of high school and college.

MATHEMATICS. Five credit and one non-credit courses in mathematics are offered.

PHILOSOPHY. One class and two correspondence courses in philosophy and logic. A class in child psychology. Credit.

POLITICAL SCIENCE. Two correspondence courses, which may be taken for University credit, are offered.

PHYSICS. One correspondence credit course in mechanics.

SPANISH. Nine credit courses in Spanish are offered.

II. COMMUNITY SERVICE

BUREAU OF MUNICIPAL RESEARCH

HERMAN G. A. BRAUER, CHIEF.

This bureau in the University Extension Division is for the purpose of collecting, classifying, indexing, and making available for the work of the University, for state and municipal officers, and for others as far as practicable, accurate data on questions of municipal government, administration and comparative legislation.

The public official is at a disadvantage owing to lack of time for adequate investigation of the question with which he has to deal. It is the duty of the people whom he serves to provide him with expert aid for the study of legislative and administrative problems. This cannot be done better than through the University with its already large corps of experts and its established and steadily growing libraries.

The headquarters are at the University, where the chief of the bureau may be consulted. The two libraries of the University—general and law—are here available and the bureau has likewise accumulated a special library of material of immediate value—laws, ordinances, charters, reports, etc.—all of which is classified and indexed for quick reference.

The bureau is in close touch with the municipalities of the state and aids their officers in dealing with the problems of municipal government. These problems are various and are often closely involved with state legislation. There are questions of health and sanitation, of traffic and transportation, of street paving, street cleaning, water supply, garbage and sewage disposal, milk and food inspection, public works, public utilities, and public service rates; questions of municipal employment, city planning, parks and playgrounds, civic centers, art commissions, schools, charities and corrections, accounting methods, commission government and the hundred and one other subjects of municipal interest which now exist or from time to time may arise.

It will be seen that the bureau aims to be a clearing house for municipal and legislative experiments and experience all over the world, so that our public men may be placed in a position to profit both by the wisdom and by the mistakes of states and cities in this and other countries.

The work of this bureau is a natural development of the public service function of the state university. As such public service, it is rendered without fee or charge at any time, except traveling expenses when it is necessary for a representative of the bureau to visit any locality.

It is non-partisan, non-political, and absolutely confidential. Its function is not to convert or convince, nor even to recommend or to offer advice, but to give information in a purely non-partisan spirit, so that facts may speak for themselves. Its services are equally open to those on all sides of any question, its sole object being to provide them with the necessary data for intelligent action.

A circular of information setting forth more in detail the plans and work of the bureau may be had upon application to the Extension Division, Bureau of Municipal Research.

BUREAU OF DEBATE AND DISCUSSION

LEO JONES, CHIEF.

The purpose of this bureau is to foster and assist the practice of debating and open discussion of public questions. There is no more wholesome way of developing habits of right thinking and open-mindedness than through full and fair discussion, in which both sides of important questions may be adequately presented. It is, indeed, a most valuable means of general education.

This bureau promotes and extends this practice, not only in the high schools, but in civic, women's and farmers' clubs, and in any other organizations interested in such work, by advice, guidance and assistance in obtaining references and materials.

The work of this bureau is closely allied to that of municipal research, but it covers the field of information upon public questions in a somewhat different manner and for a different but related purpose.

PUBLICATIONS

The bureau has published a practical manual of the principles of debate, organization and procedure which have been widely distributed to schools throughout the state. There are also published from time to time bulletins on subjects of public discussion. The range of subjects is wide and growing wider; the need of thorough and intelligent discussion of them in a country like ours, where the people are taking the control of

affairs more and more into their own hands, is obvious. These bulletins contain adequate working reference lists of published material which is likely to be available or can be furnished by the bureau. Seven bulletins have already been published by the bureau. In addition to the printed bulletins, the bureau has furnished upon request typewritten outlines similar to the bulletins relating to several subjects which have been debated in certain localities.

PACKAGE LIBRARIES

Much of the most serviceable material upon these public questions is contained in magazines, newspapers, and government documents, which are not always and everywhere accessible. With the co-operation and assistance of the University Library, the bureau will collect and classify much of this material, preparing it in convenient package libraries, which may be borrowed without charge for a period not to exceed fourteen days, which time may in some cases be extended upon request. Particular paragraphs or chapters of books will in some cases be copied and the copies included in the package libraries.

HOW THIS SERVICE IS OBTAINED

The services of this bureau are rendered without charge to all citizens of the state. For any information in regard to this work not here given and for publications of the bureau, application should be made to the University Extension Division, Bureau of Debate and Discussion, University of Washington, Seattle.

BUREAU OF LECTURES

The University Extension Division will provide university lectures, when possible, single or in courses, some of them popular in character, others designed primarily for those having special interests. The lectures listed by this bureau are, however, distinct from the lecture classes mentioned under the Department of Instruction. As most of the lecturers are members of the University Faculty, the securing of dates for lectures will have to be limited by the prior demands of their university engagements. When arrangements are made sufficiently far in advance, it may be possible to group appointments to the advantage of the lecturer and the local organizations.

The ordinary fee for Extension Lectures is ten dollars (\$10.00) and expenses. This is intended to provide, in addition to traveling expenses, only a moderate personal fee for the lecturer. The service of the Extension Division is rendered without charge. For illustrated lectures there will sometimes be additional expense, but this is slight, as the Bureau of Lectures provides its own apparatus, reducing the cost of illustration to a minimum.

Arrangements can best be through some local organization which can secure the audience and the necessary local work.

The bureau will also provide commencement and teachers' institute speakers when desired.

III. PUBLICATION

This is an important department of Extension work. The Division published in 1914 the UNIVERSITY EXTENSION JOURNAL (quarterly), and numerous bulletins and circulars of information. The Journal has been temporarily suspended.

ADMINISTRATIVE ANNOUNCEMENTS

Division announcements are now issued in small circulars, covering special fields, and convenient for mailing and the pocket. They are issued at irregular intervals as required.

DEBATING BULLETINS

A MANUAL FOR DEBATERS. By Leo Jones. A guide to the principles, organization, and practice of public debating. Pp. 81. Price 15 cents.

STATE ROADS AND PERMANENT HIGHWAYS. An outline for debate. Pp. 16. Price 10 cents.

THE RECALL OF JUDGES. An outline for debate. Pp. 16. Price 10 cents.

THE SINGLE TAX. An outline for debate. Pp. 16. Price 10 cents.

IMMIGRATION. An outline for debate. Pp. 20. Price 10 cents.

GOVERNMENT OWNERSHIP OF TELEPHONE AND TELEGRAPH. An outline for debate. Pp. 12. Price 5 cents.

TAXATION OF LAND VALUES. A bibliography. Pp. 20. Price 10 cents.

BULLETINS RELATING TO JOURNALISM

THE MAKING OF A NEWSPAPER. (1913.) Pp. 120. Price 25 cents.

THE BETTER NEWSPAPER. (1914.) Pp. 181. Price 30 cents.

NEWSPAPER PRODUCTION. (1915.) Pp. 72. Price 25 cents.

SUPPLEMENTARY LECTURES IN JOURNALISM, 1913-14. Pp. 83. Price 25 cents.

SUPPLEMENTARY LECTURES IN JOURNALISM, 1914-15. Pp. 122. Price 25 cents.

ETHICAL ASPECTS OF JOURNALISM. (1916.) Pp. 55. Price 25 cents.

SUPPLEMENTARY LECTURES IN JOURNALISM, 1915-16. Pp. 116. Price 25 cents.

TAXATION

TAXATION IN WASHINGTON. The proceedings of the state tax conference held in May, 1914. Pp. 302. Price 50 cents.

THE STATE TAX SYSTEM OF WASHINGTON. By Vanderveer Custis, Ph. D., Associate Professor of Economics. Pp. 142. Price 75 cents.

MISCELLANEOUS BULLETINS

THE SOCIAL AND CIVIC CENTER. Pp. 12.

A SURVEY OF THE PORT TOWNSEND PUBLIC SCHOOLS. Pp. 112. Price 25 cents.

MANUAL OF SCHOOL OF MINES COLLECTION OF WASHINGTON MINERALS. In preparation. Price 25 cents.

UNIVERSITY EXTENSION JOURNAL

THE UNIVERSITY EXTENSION JOURNAL was published quarterly during 1914. It is temporarily suspended. Leading papers in the four numbers published were as follows:

Seaport Studies by Charles Evan Fowler. No. 1, January, 1914.

Sanitation Papers by E. J. McCaustland. No. 2, April, 1914.

A Survey of the Blaine Public Schools by Herbert G. Lull and others. No. 3, July, 1914.

University Extension Papers by Edwin A. Start and others. No. 4, October, 1914.

Copies of these numbers as far as available may be had for 10 cents each, except No. 3, which is sold at 25 cents.

BETTER BUSINESS

A practical educational magazine of business, established in March, 1916, as an outgrowth of the service work of the extension courses in business. Issued monthly. This is furnished to subscribers only.

Any of these publications, not out of print, may be obtained by anyone in the State of Washington, without charge except where a price is indicated, on request to the Director, Extension Division, University of Washington, Seattle. The smaller publications, priced at not over 10 cents, are distributed free to citizens of Washington.

DEGREES

Degrees Conferred June 14, 1916.

(For degrees conferred at the end of the Summer Session, see pages 466-470.)

BACHELOR DEGREES

College of Liberal Arts

Bachelor of Arts

Alben, Ellen Gerda	Denny, Madge Decatur
Alben, Nellie Edna	Dill, Daniel George
Aller, Curtis Cosmos	Dowling, Grace Thompson
Alverson, Vida	Draper, Edgar Marian (<i>cum laude</i>)
Andrews, Etta	Dubuque, Emily
Armstrong Irene Margaret	Dysart, Lloyd Butler
Baker, Anna Leland (<i>cum laude</i>)	Easton, Martin Hamilton
Barter, Etta Elizabeth	Frederickson, Ellen Josephine
Baxter, Catherine Colony	Freyd, Bernard
Bowie, Frances	Giberson, Albert Lee
Bown, Robert Frederick (<i>cum laude</i>)	Greene, Gaylard Wilson
Bronson, Deming	Hall, Leola Merle
Brown, Leland Pennock	Haynes, Rhea Rachel
Brown, Marian Dora	Hedges, Birdie (<i>cum laude</i>)
Callow, Russell Stanley	Heermans, Jerome Townsend
Christensen, Hans	Henderson, Lloyd Putnam
Christensen, Iolean Ruth	Herzog, Sol Alexander
Clarke, Florence Roberta	Hofmeister, Lillie Margaret
Coe, Charles Rollit	Holen, Olaf
Cohrs, Marion Theodore	Holland, Kathleen
Cole, Eva Marsden	Hooper, Mary Virginia
Coleman, Rachel Esther	Huston, Helen Harriett
Collins, Marie Anna	Ivey, Ethel Pearl
Collins, Opal Helena	Johnson, Fannie
Conner, Lewis Charles	Johnson, Minnie Lorna (<i>magna cum laude</i>)
Cooper, Mary Blanche	Johnston, Rolland Burns
Costello, Mary Cecilia	Kellogg, Charlotte Estelle
Craig, Frances Anne	Kelly, Samuel Patrick
Crippen, Mary Inez	Kibbe, Lynus Alonzo
Darrin, Dorothy de Lepine	Kittrell, Beatrice
Davis, Ruth Genevieve	Kolstad, Arthur
Davison, Dorothy	Kraus, Ethel Margaret
Delkin, Frederick Ladd	Lathe, Helen Richards

La Violette, Ethel Josephine
 McEntee, Mary Elizabeth
 McIntyre, Enola Frances
 McKay, Iva Virginia
 McLean, Victoria
 McPhail, Zora Laird
 McPhee, Aletha Sophia
 Macdonald, Helen (*cum laude*)
 Malloy, Ralph Willard
 Malmo, Clarence Oliver
 Meerscheidt, Erna
 Mercer, Beatrice
 Millay, Lottie Elsie
 Minahan, Cletus Lipps
 Miner, Grace Edith
 Mongerson, Valeda Louise
 Moody, Miriam Isabelle
 Morehead, Elizabeth
 Morrison, Elizabeth
 Naimy, Michael Joseph
 Neighbors, Nancy Celia
 Norton, John Eugene
 Norton, Joseph Edward
 O'Connell, Agnes Elizabeth
 Oleson, Carrie Elvida
 Oliphant, James Orin (*magna cum laude*)
 O'Neill, James Phillip
 Ooghe, Arthur Edward
 Pedersen, Frederick Louis
 Perine, Esther Stewart

Pryde, Joel J.
 Reynolds, Ruth Margaret
 Richards, John Stewart
 Robinson, Estella Erdine
 Rupert, Rhea
 Salisbury, Frank Sealy
 Seal, Irene May
 Selbert, Marjorie Dee
 Selig, Isabel
 Sheehan, Mary Madeline
 Shivers, Clarence Hopkins
 Silverstone, Libbie M.
 Simson, Lillian Louise
 Smith, Harriet
 Southard, Marion
 Spencer, Eunice Annie
 Squire, Clark
 Thomas, Gezina
 Thompson, Agnes Salisbury
 Thompson, Guy William
 Thompson, Ruth
 Turner, Ruth
 Whitlock, Marion Allen
 Wilkie, Florence Matilda
 Winslow, Ella Patton (*magna cum laude*)
 Winter, Henry Earle
 Woodworth, Madeline Emmons
 Worthington, Mariette (*cum laude*)
 Yerger, Bessie Pearl

College of Science

Bachelor of Science

Ake, Claire Lail
 Breck, Margaret
 Caffrey, Genevieve Elizabeth
 Campbell, Lois (*cum laude*)
 Carroll, Emmett Robert, Jr.
 Christensen, Elnora
 Condron, Lulu Alice
 Coughlin, Frances Gertrude
 Crawford, Edward Irwin
 Davis, Charlotte Grace
 Dunbar, Camilla Kennon
 Eaton, Mary Margaret
 Entz, Ruth
 Fitts, Isabel

Frame, Paul Warren
 Fredson, Dora Elizabeth
 Gerhardt, Celia Louise
 Gleason, Ruth
 Minnis, Wesley (*magna cum laude*)
 Morgan, Mona Margaret
 Olson, Oscar E.
 O'Neill, Hertha Jessie
 Paige, Susie Boone (*cum laude*)
 Parker, Roscoe Stewart
 Parr, Marie Flowers
 Patton, Ysabel

Pennell, Elisabetta Carina (<i>magna cum laude</i>)	McBride, Lois (<i>magna cum laude</i>)
Peterson, Geneva Vashti	Merling, Ruth Evelyn (<i>cum laude</i>)
Powell, Sargent Gastman	Sifton, Edith
Rehmke, Antonia Maria	Soule, Kenneth Jesse (<i>cum laude</i>)
Rose, Gertrude May	Sowers, Joseph Mark
Saboe, Grace Martha	Stewart, May Anna
Shipley, Ethelyn	Sutter, Pearl Etta
Gray, Isabel Martin	Thomas, Lucile
Gunn, Arthur, Jr.	Thompson, Leonard Ramsey
Heath, Harry French (<i>cum laude</i>)	Todd, Mary Catherine
Hess, Dorothy Ann	Wade, Dorothy (<i>cum laude</i>)
Higgins, Hubert Gridley	Walsh, Mary Catherine
Jacobson, Julia Anna	Warren, Ruth Easterday
Jerbert, Arthur Rudolph (<i>cum laude</i>)	Weaver, Ralph Bowen
Kraus, Ada Maud	Willard, Ethel Combs
Lee, Vaughn Watson	von Wold, Helmer Parell Albertsen
Lungreen, Edith Charlotte	

College of Education

Bachelor of Education

Bryan, Clara Moody	Lacock, Helena Gertrude
Clark, Frank Jones	Miller, Alice
Hoffman, Edward William	Walsted, Mary Blanche

College of Fine Arts

Bachelor of Music

French, Eilene (<i>cum laude</i>)	Lohman, Mary Loretto
Horton, Persia Margaret	Lovely, Nell Frances
Liska, Olga	Schumaker, Elizabeth

College of Engineering

Bachelor of Science in Chemical Engineering

Ellison, Robert Waldemar	(<i>cum laude</i>)
Nelson, Victor	Osterberg, Arnold Erwin
O'Neill, Raymond Edward, Jr.	Toy, James

Bachelor of Science in Civil Engineering

Cameron, James Fraser
 Chin, Kee Ham
 Deggeller, Martin Ney
 Farmer, Albert Merrill
 Fowler, Harold Doyle
 Hill, Howard Norman (*cum laude*)
 Johnson, George Edward
 Maryatt, Roy Lincoln

Peters, Howard Warren
 Ring, Russell Burton
 Roberts, George Braden
 Robinson, Ralph Conrad
 Stead, Arthur John
 Strandberg, Arthur Morris
 Strandberg, Charles Henry
 Van Horn, Robert Bowman

Bachelor of Science in Electrical Engineering

Bardin, Harry Melvin
 Brown, Robert Quixote
 Canfield, Herbert Florian
 Carr, Ernest Clifford
 Dashley, Leo Hubert
 Gillette, Roswell Strough
 Gustafson, Herman Milton
 Hallan, Claude
 McKeen, Ernest Edward

McRobbie, Henry William
 Miller, E. Clarence
 Pyle, Carl Weston
 Shanley, Walter Earl
 Smith, George Sherman
 Snoddy, Benjamin Luther
 Tuttle, Walter William
 Yoshioka, Masa Nobu

Bachelor of Science in Mechanical Engineering

Anderson, Woodworth
 Beisel, Rex Buren
 Dean, Ernest Perry (*cum laude*)

Dennis, Wolcott (*cum laude*)
 Kelliher, John Waldrip
 Schively, Edward Dixon
 Thomson, Alexander

Bachelor of Science

Brokaw, Clyde Whitfield
 Gailey, Walter Raymond (*cum laude*)

Ryan, Roger William
 Williams, William Walter

College of Mine**Bachelor of Science in Geology and Mining**

Bridgman, Ethan Allan, Jr.
 Pilgrim, Earl Richard

Wilson, Alfred Snyder Reed
 (*magna cum laude*)

Bachelor of Science in Mining Engineering

Crandall, Seamore Arthur
 Porter, Fred Samuel
 Schofield, George Joseph

Whittier, William Harrison
 Will, Edward Clark

*College of Forestry***Bachelor of Science in Forestry**

Hancock, Virgil Kinney

Sternberg, Henry Benson

Bachelor of Science

Broxon, Donald Rich
 Durfee, Harold Atkinson
 Faulkner, Ralph Bearce
 Foran, Harold George

Hutton, James Ferdinand
 Westerberg, Joshua Fredrik
 Young, James Arthur

*College of Pharmacy***Bachelor of Science**

Palmer, James Clarence

Sewell, Hugh Finis

Pharmaceutical Chemist

Beck, Floyd Joseph
 Biggs, Loddie Maurine
 Boyce, Arthur Yesler
 Ferry, Cecile Worthen
 Gauss, Raymond Paul
 Geil, La Roy H.
 Harris, Carl Ellsworth
 Henry, Margaret Dale
 Hutchison, Earle Camden
 Johnson, Eugene Gregory
 Larsen, John Joseph

Leverich, Jesse Francis
 Loan, Thomas Henry
 Norman, Harry Emanuel
 Ostrander, Carl Eugene
 Ostrander, Henry Sage
 Ottesen, May Sophia
 Pingrey, George S.
 Rawson, Merrill Oliver
 Smith, Truman Wheeler
 Van Cott, Albert Barthols

*School of Law***Bachelor of Laws**

Anderson, Clarence Ray
 Chambers, Clarence Conrad
 Cushing, Melzar Hardin
 Dickson, Gordon Hunt
 Donworth, Charles Tenney
 Driver, Samuel Marion
 Easton, Martin Hamilton
 Franklin, Edward Stafford
 King, Erman Alfred
 Laughlin, James Adelbert
 Leader, Edwin Oscar
 Leader, Elmer Winfield
 Lindburg, Arthur Redding
 McDonald, Grace
 MacLean, Edwin Lockwood
 McMurtrey, Joseph Patton

Major, Archie Moyer
 Major, Ralph Day
 Malloy, Frank Blaine
 Mathieu, George Eugene
 Morrison, Henry Lorne
 Naimy, Michael Joseph
 Norris, Stuart Matthew
 Norton, Joseph Edward
 Prins, Johan Willem
 Roberts, George Wilmont
 Sandall, Robert Franklin
 Totten, William Phelps
 Tracy, Joseph Platt
 Wallin, James R.
 Winter, Henry Earle

GRADUATE DEGREES

*Graduate School***Civil Engineer****William Elmhirst Duckering****A. B., University of Washington, 1903**

B. S. in Civil Engineering, University of Washington, 1909
Thesis: Review of Designs submitted for Highway Crossing,
 Tokul Creek, Redmond-Snoqualmie Road,
 King County, Washington

Frank Melvin Johnson**B. S. in Civil Engineering, University of Washington, 1911****Thesis:** The Ravenna Park Steel Arch Bridge**Electrical Engineer****Benjamin Guy Flaherty****B. S. in Electrical Engineering, University of Washington, 1909**

Thesis: Testing for Defective Insulation on High Tension
 Transmission Lines

Master of Arts**Elizabeth Margaret Benthien (Education)****Ph. B., University of Chicago, 1915****Thesis:** The Educational System of Mexico**Raoul Alphonse Brinck (French)****A. B., University of Washington, 1915**

Thesis: Une comparaison de l'Amphitryon de Moliere avec les
 Sosies de Rotrou et l'Amphitryon de Plaute

Lucille Elizabeth Culbertson (English)**A. B., University of Michigan, 1918**

Thesis: Studies in Comedy: An Historical Survey of Temper,
 Motives and Situations

Frances Elva Farnham (German)**A. B., University of Washington, 1912**

Thesis: The Menaechmi of Albrecht von Eyb: A Translation and
 Comparison with the Menaechmi of Plautus

Nuinosuke Kobayashi (History)**A. B., University of Washington, 1915****Thesis:** Abraham Lincoln and Slavery**Marie Claridge Waltmeyer (English)****A. B., University of Colorado, 1908**

Thesis: Economic Tendencies in Certain Phases of Recent
 American Literature

UNIVERSITY OF WASHINGTON

Master of Science

Herman Abraham Felder (Bacteriology)

B. S., University of Washington, 1915

Thesis: A Comparative Study of the Methods for Determining
Manurial Pollution in Milk

Mattie Jane Lincoln (Physics)

B. S., University of Washington, 1915

Thesis: An Experimental Study of Struck Strings

Earl Burdette Newton (Bacteriology)

A. B., University of Washington, 1907

Thesis: A Bacteriological Study of Hamburger Meat

Vinnie Arah Pease (Botany)

B. S., University of Puget Sound, 1907

Thesis: The Duration of Leaves in Evergreens

Henry Schmitz (Botany)

B. S. in Forestry, University of Washington, 1915

Thesis: The Diseases of the Rhododendron in Western Washington

Master of Arts in Education

Alice Howes

A. B., University of Washington, 1910

Master of Science in Electrical Engineering

Leslie Forrest Curtis

B. S., in Electrical Engineering, Tufts College, 1910

Thesis: The Effect of Delta and Star Connections upon
Transformer Wave Forms

Master of Science in Forestry

Erwin Henry Rengstorff

B. S. in Forestry, University of Washington, 1915

Thesis: Revision of Methods in Computing Volumes of Piling

Master of Science in Pharmacy

Earl Milliron Platt

B. S., University of Washington, 1914

Thesis: Digitalis

Doctor of Philosophy

Kate Leila Gregg

A. B., University of Washington, 1908

Graduate School, Yale University, 1911-12

Thesis: Thomas Dekker: A Study of Economic Influences
in Literature

NORMAL DIPLOMAS

University Life Diploma

Albitz, Alice Blanche	Kennedy, Nellie May
Anderson, Ada Charlotta	Lee, Jessie Louisa
Andrews, Elsie	McPhee, Aletha Sophia
Asker, William	Marsh, Olivemay
Beeler, Hazel Margaret	Millican, Charles Wesley
Benthien, Elizabeth Margaret	Mitchell, Edith Beatrice
Carpenter, Clifford	Mohn, Esther
Child, Laura Theo	Moore, Elsie Virginia
Church, Edith Estelle	Mullemeister, Hermance
Clark, Pearl	Paige, Caroline Tucker
Clark, Frank Jones	Reding, Eugenia
Diamond, Rose Elizabeth	Robertson, Katharine Constance
Edwards, Katherine Livingston	Schumacher, Herman Joseph
Elliott, Annabelle	Sorenson, Beatrice
Fleming, Florence Elizabeth	Studebaker, Herbert Earl
Goodnow, Marian	Stuen, Ole Johnson
Greene, Gaylard Wilson	Sully, Bernice Agnes
Hanson, Mathea	Tanner, Beth Edrie
Hensel, Emelle Theresea	Therkelsen, Eric
Houlahan, Annie Eileen	Walsted, Mary Blanche
Huntington, Imo Josephine	Welsh, George Bernard
Iffland, Kathryn Margaret	West, Irene
Iffland, Nellie	Westerburg, Ivar Sigurd

University Normal Diploma

Alben, Ellen Gerda	Dunbar, Camilla Kennon
Alben, Nellie Edna	Eaton, Mary Margaret
Andrews, Etta	Entz, Ruth
Baker, Anna Leland	Fitts, Isabel
Barter, Etta Elizabeth	Gabel, Marie
Bickford, Ethel	Gerhardt, Cella Louise
Bowie, Frances	Gleason, Ruth
Breck, Margaret	Hall, Leola Merle
Brown, Leland Pennock	Haynes, Rhea Rachel
Brown, Marian Dora	Heath, Harry French
Callow, Russel Stanley	Hedges, Birdie
Christensen, Elnora	Henderson, Lloyd Putnam
Christensen, Iolean Ruth	Hess, Dorothy Ann
Clarke, Florence Roberta	Hoffman, Edward William
Coleman, Rachel Esther	Hofmeister, Lillie Margaret
Collins, Opal Helena	Holland, Kathleen
Costello, Mary Cecelia	Hooper, Mary Virginia
Crawford, Edward Irwin	Hopkins, Olive Fay
Denny, Madge Decatur	Huston, Helen Harriett
Dill, Daniel George	Ivey, Ethel Pearl
Draper, Edgar Marian	Jacobson, Julia Anna

Jerbert, Arthur Rudolph
 Kellogg, Charlotte Estelle
 Kittrell, Beatrice
 Kraus, Ethel Margaret
 La Violette, Ethel Josephine
 McEntee, Mary Elizabeth
 McIntyre, Enola Frances
 McLean, Victoria
 Meerscheldt, Erna
 Miller, Alice
 Morehead, Elizabeth
 Morgan, Mona Margaret
 Myers, Margaret
 Neighbors, Nancy Celia
 O'Connell, Agnes Elizabeth
 Ohlson, David
 Oleson, Carrie Elvida
 Oliphant, James Orin
 Ooghe, Arthur Edward
 Paige, Susie Boone
 Parker, Alice Leila
 Parr, Marie Flowers
 Perine, Esther Stewart
 Peterson, Geneva Vashti
 Pryde, Joel J.
 Ratcliffe, Ruth Eloise
 Rahmke, Antonia Maria

Robinson, Estalla Erdine
 Rose, Gertrude May
 Rupert, Rhea
 Saboe, Grace Martha
 Schumaker, Elizabeth
 Seal, Irene May
 Seibert, Marjorie Dee
 Selig, Isabel
 Sheehan, Mary Madeline
 Sifton, Edith
 Sowers, Joseph Mark
 Spencer, Eunice Annie
 Spessard, Lester Lewis
 Stewart, May Anna
 Sutter, Pearl Etta
 Thomas, Vera Anna Nina
 Thompson, Luciole May
 Todd, Mary Catherine
 Turner, Ruth
 Wade, Dorothy
 Walsh, Mary Catherine
 Whitlock, Marion Allen
 Wilkie, Florence Matilda
 Willard, Ethel Combs
 Worthington, Mariette
 Yerger, Bessie Pearl

Degrees Conferred July 27, 1916.

BACHELOR DEGREES

College of Liberal Arts

Bachelor of Arts

Baisden, Leo Bernard
 Fraser, Mabel
 Jacobson, Wilhelmina Emelia
 Jones, Nancy Emerson
 Lindstrom, Mary Elizabeth
 Minnis, Marjorie Elizabeth
 Myers, Margaret
 Nichols, William Robert
 Norton, Parker Lavella
 Olmsted, Amy Catherine

Olswang, Cecelia
 Potter, Mabel Idella
 Prins, Johan Willem
 Scudder, Beth Bertha North
 Simmons, Elma
 Smith, Adelina Naomi
 Thomle, Gudveig Marie
 Upper, Euart Steele
 Wallace, Howard Smithson

DEGREES

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College of Science

Bachelor of Science

Boucher, Jessie Louisa	Robinson, Maude Isabel
De Merchant, Leo Alexander	Saunders, Lucille
Lansen, A. Mae Pratt	Warren, Anna Pixlee
McClellan, Helena Rilla	

College of Education

Bachelor of Education

Gist, Arthur Stanley	White, Addie
----------------------	--------------

College of Fine Arts

Bachelor of Music

Thompson, Alice Genevieve

College of Engineering

Bachelor of Science in Chemical Engineering

Lord, William Clifford

Bachelor of Science in Electrical Engineering

Nakasawa, George Kuniyoshi	Yamada, Fred Takiyi
McDougall, James Clinton	

Bachelor of Science

Davis, Lloyd Lincoln

School of Law

Bachelor of Laws

Aronow, Boris S.	Mount, Wallace, Jr.
MacDougall, Joseph Bruce	

GRADUATE DEGREES

Graduate School

Master of Arts

Agnes Katherine Anderson (English)

Ph. B., University of Chicago, 1913

Thesis: Essays and Plays

William Asker (Education)

Candidate in Philosophy (Chemistry), University, Lund, Sweden, 1905

Thesis: An Experimental Investigation of the Influence of the Study of Foreign Language on English

Martelle Elliott Davis (Education)

B. L., Ohio Wesleyan University, 1897

Thesis: The Educational System of India

Albert Newton French (Education)

A. B., University of Washington, 1911

Thesis: A Social Science Core in the High School Curriculum;
or, An Introduction to the Social Sciences

Leo Jones (Political Science)

A. B., University of Washington, 1912

Thesis: Municipal Home Rule in Washington

Lynus Alonzo Kibbe (Education)

A. B., University of Washington, 1916

Thesis: Apportionment of School Funds in the State of Washington

John Brooks Moore (English)

A. B., Harvard University, 1914

Thesis: Experiments in Comedy

George Huge Roe O'Donnell, Jr., (German)

A. B., University of Idaho, 1912

Thesis: Die Einsamkeit als Entwicklungsfaktor im Charakter
des Menschen—eine Fauststudie

Robert Creighton Wright (English)

A. B., University of Washington, 1914

Thesis: Plays: Prose and Verse

Master of Science

James Alvin Gilbreath (Physics)

M. A., Whitman College, 1907

Thesis: The Photo-electric Action of Potassium Vapor

Esther Zalia Jencks (Chemistry)

B. S., University of Chicago, 1913

Thesis: A Study in the Electrolysis of Acid Sulphate and
Dichromates

David Hjalmar Johnson (Zoology)

B. S., Whitworth College, 1913

Thesis: The Osteology of the Ventral Sucker Disk of
Caularchus Maendricus

Joanne Laura Karrer (Botany)

B. S., University of Washington, 1915

Thesis: Sugar and Starch Relationship in Evergreen Leaf

Martin William Lisse (Chemistry)

B. S., Pennsylvania State College, 1914

Thesis: A Study of the Decay of Douglas Fir from a Commercial Standpoint

Wesley Minnis (Chemistry)

B. S., University of Washington, 1916

Thesis: Molecular Weights by Velocity Methods

George Sutton Parks (Chemistry)

B. S., University of Washington, 1915

Thesis: The Solution of Copper in Nitric Acid

Sargent Gastman Powell (Chemistry)

B. S., University of Washington, 1916

Thesis: Reactions of Piperidine with Halogen Derivatives

Winfield Scott, Jr. (Chemistry)

A. B., Oberlin College, 1912

Thesis: Studies in the Reduction of Anhydroximes

Noel Finley Thompson (Botany)

B. S., University of Washington, 1915

Thesis: Apple Rosette

Helmer Parell Albertson von Wold (Zoology)

B. S., University of Washington, 1916

Thesis: A Study of the Nudibranchiate Mollusc, *Melibe leonina*

Master of Science in Education

Addie White

B. Ed., University of Washington, 1916

NORMAL DIPLOMAS

University Life Diploma

Ault, Lila

Burnett, Mollie

Child, Elsie

Cline, Effie Mabel

Corbet, Margaret

David, Blanche Cora

David, Grace Emily

Day, Veronica Courtney

Dalquest, Emma Christine

Georgeson, Rosemary

Greffoz, Hortense Perrine

Harty, Melvin E.

Jacobson, Wilhelmina Emelia

Kibbe, Lynus Alonzo

Lacock, Helena Gertrude

Lively, John William

Luce, Anne Elizabeth

MacNaughton, Corabel

Mills, Minnie B.

Quigley, Agnes E.

Randall, Laura

Skirls, Ethel

Simmons, Elma

Statler, Gladys Gertrude

Whitworth, Sidney E.

Willson, Lovina Eliza

University Normal Diploma

Ake, Claire Lail
Alverson, Vida
Armstrong, Irene Margaret
Barash, Leah
Bohn, Herman Carl
Boucher, Jessie Louisa
Caffrey, Genevieve Elizabeth
Fox, Viva
Frame, Paul Warren
Kenward, Hazel De Etta
Kolstad, Arthur
Lee, Vaughn Watson
McClellan, Helena Rilla
McKay, Iva Virginia
Malloy, Ralph Willard
Norton, Parker Lavella
Olmsted, Amy Catherine

Patton, Ysabel
Potter, Mabel Idella
Reavis, Nan Preston
Robinson, Maude Isabel
Saunders, Lucille
Scudder, Beth Bertha North
Shawler, Florence
Shipley, Ethelyn
Silverstone, Libbie M.
Simson, Lillian Louise
Swartz, Leo
Swope, Helen
Thomas, Lucile
Thompson, Guy William
Williams, William Walter
Woodworth, Madeline Emmons
Young, Frederic Harold

SCHOLARSHIPS AND PRIZES AWARDED

June 14, 1916.

The John Walter Ackerson Prize for Women of \$100.00
Katie Eva Ludgate

The Judge Alfred Battle Debating Prize of \$75.00
Raymond Ephraim Dumett Matthew William Hill

The Philo Sherman Bennett Essay Prize of \$25.00
Sol Alexander Herzog

The E. F. Blaine Oratorical Prize of \$100.00
Lewis Baxter Schwellenbach

The Vivian W. Carkeek Law Essay Prize of \$25.00
Charles Tenney Donworth

A Scholarship in Chemistry (Anonymous) of \$100.00
Curtiss Thing

The Jacob Furth Electrical Engineering Prize of \$100.00
George Sherman Smith

The Chi Omega Social Service Prize of \$15.00
Dudley Warner Woodbridge

The Columbia University Fellowship of \$250.00 in Mining,
Engineering and Chemistry
George Joseph Schofield

The Judge Kenneth Mackintosh Debating Prize of \$75.00
Floyd Ellis Lewis Baxter Schwellenbach

The N. Paoletta Gold Medal for Excellence in Italian
Roma Marie Sartoris

The Allen Dale Debating Cup
Stevens Debating Club

The Sarah Loretta Denny Fellowships for 1916-17
Annie May Hurd (Botany)
Arthur Rudolph Jerbet (Mathematics)
Elisabetta Carina Pennell (Home Economics)

REGISTER OF STUDENTS

GRADUATE SCHOOL

<i>Name of Student</i>	<i>Home Address</i>
Allen, David Justin.....	Seattle
Ph. B., Brown University, 1908.	
Aller, Curtis Cosmos.....	Wapato
A. B., University of Washington, 1916.	
Anderson, Ethel Way (Mrs.).....	Seattle
A. B., University of Washington, 1908.	
Anderson, Herman Carl.....	Mount Vernon
A. B., University of Washington, 1915.	
A. M., University of Washington, 1915.	
Anderson, Victoria	Seattle
A. B., University of Washington, 1914.	
Athen, Sara Jane (Mrs.).....	Seattle
B. S., Fremont College, Nebraska, 1893.	
Bagley, Walter Ethan.....	Seattle
B. S., University of Washington, 1915.	
Baker, Harold James Manning.....	Seattle
B. S., University of Washington, 1900.	
Bardin, Harry Melvin.....	Seattle
B. S., in E. E., University of Washington, 1916.	
Barlow, Russel Calvin.....	Tacoma
B. S., University of Washington, 1915.	
Barnes, Lucy Rowena.....	Seattle
A. B., University of Washington, 1908.	
A. M., University of Washington, 1909.	
Bedell, Mary Elizabeth.....	Seattle
B. S., University of Washington, 1914.	
Bender, Jacob Roy.....	Uhricksville, Ohio
A. B., Ohio University, 1916.	
Bernhard, Carl Louis.....	Newport, Ky.
B. S. in Agriculture, State University of Kentucky, 1916.	
Bessesen, Ben Burton.....	Seattle
B. S. in E. E., University of Washington, 1915.	
Billings, Oscar Harold.....	Harrington
A. B., Whitworth College, 1913.	
Bliss, Charles King.....	Seattle
A. B., University of Chicago, 1897.	
A. M., University of Illinois, 1909.	
Bloomquist, Ernest C.....	Tacoma
A. B., Gustavus Adolphus College, 1901.	
Blough, Allie	Seattle
A. B., University of Washington, 1913.	
A. M., University of Washington, 1915.	

Boland, Margaret Wells.....	Grass Lake, Mich.
A. B., Vassar College, 1916.	
Bonham, Almira Kelshaw (Mrs.).....	Seattle
A. B., University of California, 1901.	
Bouillon, Victor Joseph.....	Seattle
A. B., University of Washington, 1913.	
Bown, Robert Frederick.....	Tacoma
A. B., University of Washington, 1916.	
Brillinger, Harry Edward.....	Emigsville, Penn.
B. S., Pennsylvania State College, 1915.	
Bryan, Agnes Sarah.....	Seattle
B. A., University of Minnesota, 1910.	
Busby, Evelyn	Seattle
A. B., Thiel College, 1914.	
Bush, Helen Taylor (Mrs.).....	Seattle
A. B., University of Illinois, 1902.	
Buss, Bessie	Spokane
B. A., Washington State College, 1916.	
Caffrey, Genevieve Elizabeth.....	Seattle
B. S., University of Washington, 1916.	
Cales, Tony Foster.....	Seattle
B. S. in E. E., University of Washington, 1908.	
Carroll, Emmett Robert, Jr.....	Butte, Mont.
B. S., University of Washington, 1916.	
Cassidy, F. L.....	Seattle
A. B., Upper Iowa University, 1897.	
Cave, Gordon Luther.....	Seattle
A. B., Bates College, 1913.	
Chin, Kee Ham.....	Seattle
B. S. in C. E., University of Washington, 1916.	
Clark, Lois	Seattle
A. B., University of Washington, 1907.	
A. M., University of Washington, 1910.	
Clerk, Frederick Edson.....	Seattle
Ph. B., Yale (Sheffield Scientific School), 1903.	
Cole, Eva Marsden.....	Seattle
A. B., University of Washington, 1916.	
Collins, Marie Anna.....	Seattle
A. B., University of Washington, 1916.	
Cramlet, Clyde Mryon.....	Seattle
A. B., Walla Walla College, 1916.	
Dalgity, Anne D.....	Seattle
A. B., University of Washington, 1907.	
Davenport, Noah Cleveland.....	Seattle
A. B., University of Washington, 1914.	
Davis, Lloyd Lincoln.....	Bellingham
B. S., University of Washington, 1916.	
Davis, Martelle Elliott (Mrs.).....	Tacoma
B. L., Ohio Wesleyan University, 1897.	
A. M., University of Washington, 1916.	

- Davis, Maude Margaret.....Kalamazoo, Mich.
B. S., Columbia University, 1916.
- Deane, Luna Athen (Mrs.).....Portland, Ore.
A. B., University of Washington, 1912.
- Diez, RodrigoSantiago, Chile
Bachiller de Humanidades, Universidad de Chile, 1911.
Ingeniero Agronomo, Instituto Agrícola de Chile, 1915.
- Dowling, Grace Thompson (Mrs.).....Seattle
A. B., University of Washington, 1916.
- Dunn, Elizabeth Moore.....Bellflower, Ill.
A. B., University of Illinois, 1915.
- Eddy, Addie Cornwall (Mrs.).....Seattle
A. B., Simpson College, 1907.
A. M., University of Washington, 1915.
- Ellert, William Herman.....Seattle
B. S., Carleton College, 1903.
- Emerson, Albert Theodore.....Seattle
B. S. in E. B., University of Washington, 1907.
- Engstrom, Ella Catherine.....Seattle
B. S., University of Washington, 1915.
- Farrar, MaymeSeattle
B. S., University of Washington, 1914
- Ferguson, Mary Elizabeth.....Colby, Kan.
A. B., Washburn College, 1914.
- Fitch, Harry Holland.....Seattle
A. B., University of Iowa, 1902.
A. M., University of Iowa, 1906.
- Frank, Samuel Christian.....Seattle
B. S. in Education, Ohio State University, 1910.
B. A., Ohio State University, 1913.
- Frederickson, Ellen Josephine.....Seattle
A. B., University of Washington, 1916.
- Freyd, BernardSeattle
A. B., University of Washington, 1916.
- Froula, V. K.....Seattle
A. B., Northwestern University, 1898.
- Galley, Walter Raymond.....Seattle
B. S., University of Washington, 1916.
- Gazzam, LeaCrystal Springs
A. B., Smith College, 1913.
- Gibb, Mary Walker.....Seattle
A. B., University of Idaho, 1909.
- Gille, MadellSeattle
B. S., University of Washington, 1915.
- Gilman, Helen Clare.....Seattle
B. S., Columbia University, 1916.
- Gist, Arthur Stanley.....Seattle
B. Ed., University of Washington, 1916.
- Glockler, GeorgeSeattle
B. S., University of Washington, 1915.
M. S., University of Washington, 1915.

Golisch, Edward Herman.....	Seattle
Ph. B., Simpson College, 1907.	
Goodrich, Forest Jackson.....	Seattle
Ph. C., University of Washington, 1913.	
B. S., University of Washington, 1914.	
Goold, Howard Ralph.....	Tacoma
B. S., Northwestern University, 1908.	
Greene, Gaylard Wilson.....	Seattle
A. B., University of Washington, 1916.	
Grindrod, Ione	Seattle
A. B., University of Washington, 1911.	
Hannon, Rose Gladys.....	Newberg, Ore.
A. B., Pacific College, 1915.	
Hardick, Caroline Cowles.....	Butte, Mont.
A. B., New York State College for Teachers, 1915.	
Hardwick, Francis Tiley.....	Everett
A. B., University of London, London, England, 1892.	
Hart, Richard Franklin.....	Seattle
A. B., Park College, 1900.	
Hays, William Henry.....	Seattle
A. B., University of Missouri, 1903.	
Hendrix, Herman E.....	Everett
A. B., Northwestern College, 1901.	
A. M., Northwestern College, 1903.	
Hill, Grace Alma.....	Seattle
A. B., University of Washington, 1913.	
Hipkoe, George August.....	Seattle
A. B., University of Washington, 1913.	
Huff, Floyd Ernest.....	Rochester, N. Y.
A. B., Butler College, 1916.	
Hurd, Annie May.....	Seattle
B. S., University of Washington, 1915.	
Jackson, George B.....	Tacoma
A. B., Yale University, 1902.	
A. M., Leander Clark College, 1905.	
Jacobson, Wilhelmina Emelia.....	Devils Lake, N. Dak.
A. B., University of Washington, 1916.	
Jencks, Esther Zalia.....	Ottawa, Ill.
B. S., University of Chicago, 1913.	
M. S., University of Washington, 1916.	
Jennerson, M. Leah.....	Seattle
A. B., University of Kansas, 1916.	
Jerbert, Arthur Rudolph.....	Seattle
B. S., University of Washington, 1916.	
Karlstram, Otto Reinhold.....	Seattle
A. B., Augustana College, 1909.	
Karrer, Clara Bernice.....	Seattle
A. B., University of Washington, 1913.	
Karrer, Joanne Laura.....	Seattle
B. S., University of Washington, 1915.	
M. S., University of Washington, 1916.	

- Kemper, Augusta H. (Mrs.) Seattle
 A. B., University of Kansas, 1901.
 B. S., Columbia University, 1911.
- King, Grace Elizabeth Seattle
 A. B., University of Washington, 1910.
- Kirschner, Earl E. Seattle
 Ph. B., University of Wooster, 1911.
- Kiso, Daijiro Japan
 Waseda University, 1915.
- Koberle, Albert Seattle
 E. M., Washington University, 1890.
- Koch, Samuel Seattle
 B. L., University of Cincinnati, 1899.
 M. A., University of Cincinnati, 1901.
 Rabbinical Certificate, Hebrew Union College, 1902.
- Korstad, Mary Greene Fiske (Mrs.) Seattle
 A. B., University of Washington, 1911.
 M. S., University of Washington, 1915.
- Kraus, Ethel Margaret Seattle
 A. B., University of Washington, 1916.
- Laird, Allie Luella Seattle
 A. B., Northwestern University, 1906.
- Lansen, A. Mae Pratt (Mrs.) Seattle
 B. S., University of Washington, 1916.
- Larrabee, Louise Monroe Honolulu, T. H.
 B. S., Pennsylvania State College, 1910.
- Lawler, Lillian Donovan (Mrs.) Seattle
 A. B., University of Washington, 1907.
- Lawrence, Alfred Johnson Seattle
 A. B., Augustana College, 1900.
- Lind, Tennie Algodt Seattle
 A. B., University of Washington, 1912.
- Liska, Olga Seattle
 B. M., University of Washington, 1916.
- Lothrop, Daniel John Seattle
 B. A., University of Minnesota, 1899.
 M. A., University of Minnesota, 1903.
- McCarney, Margaret Seattle
 A. B., University of Washington, 1909.
 A. M., University of Washington, 1911.
- McClure, Worth Seattle
 A. B., Simpson College, 1908.
- McGaudy, Grace L. Tacoma
 Ph. B., University of Puget Sound, 1907.
- McKeehan, Charles F. Seattle
 A. B., Indiana University, 1909.
- McKeen, Ernest Edward Ridgefield
 B. S. in E. E., University of Washington, 1916.
- McNamara, Eugene James Seattle
 A. B., University of Washington, 1914.
 A. M., University of Washington, 1914

McSweeney, Albert	Seattle
A. B., Upper Iowa University, 1911.	
M. A., University of Montana, 1915.	
Macintire, Elizabeth Jelliffe (Mrs.)	Seattle
A. B., Mount Holyoke College, 1902.	
Mackie, Ransom Andrew	Pullman
M. A., Clark University, 1912.	
Magillicuddy, Martha Anselm	Seattle
A. B., University of Washington, 1915.	
Martin, Margaret Belle	Seattle
A. B., Whitman College, 1913.	
Maske, William, Jr.	Seattle
Ph. C., University of Washington, 1915.	
B. S., University of Washington, 1915.	
Mason, Elizabeth	Seattle
A. B., University of Washington, 1913.	
Mayer, Mabel McClarren (Mrs.)	Seattle
B. S., University of Washington, 1914.	
Merling Ruth Evelyn	Centralia
B. S., University of Washington, 1916.	
Miller, Alice	Seattle
B. Ed., University of Washington, 1916.	
Miller, Dorothea	Cheyenne, Wyo.
A. B., Colorado College, 1906.	
Moore, John Brooks	Seattle
A. B., Harvard University, 1914.	
A. M., University of Washington, 1916.	
Morgan, Miles Evan	Seattle
B. S., University of Washington, 1915.	
Morgan, Flora	Dayton
A. B., Whitman College, 1907.	
Mullon, Barbara	Columbia City, Ind.
A. B., University of Wisconsin, 1913.	
Mykland, Albert A.	Everett
A. B., St. Olaf College, 1913.	
Nelson, Ellen Eustina	Randolph, Kan.
B. S., Kansas Agricultural College, 1911.	
Nelson, Esther Ruth	Clearbrook, Minn.
B. S. in Home Economics, University of Minnesota, 1914.	
Nichols, William Hobert	Tacoma
A. B., University of Washington, 1916.	
Null, Marion Michael	Seattle
B. S., University of Illinois, 1900.	
M. D., University of Illinois, 1903.	
Olswang, Cecelia	Seattle
A. B., University of Washington, 1916.	
Osburn, William Q.	Tacoma
A. B., University of Washington, 1908.	
Palmer, James Clarence	Everett
B. S., University of Washington, 1916.	
Patten, Stephen Jefferson	New York City, N. Y.
Ph. B., Brown University, 1914.	

Pennell, Elisabetta Carina.....	Seattle
B. S., University of Washington, 1916.	
Pennell, Louise Farrar.....	Seattle
A. B., University of Washington, 1915.	
Platner, Goldie	Seattle
B. S., University of Washington, 1915.	
Poole, Jessie Lee.....	Seattle
A. B., University of Washington, 1915.	
Prins, Johan Willem.....	Seattle
A. B., University of Washington, 1916.	
LL. B., University of Washington, 1916.	
Prosser, Margaret Helen.....	Seattle
A. B., Vassar College, 1909.	
Rawson, Ralph F.....	Seattle
A. B., University of Washington, 1915.	
Raymond, Rena Bowne.....	Seattle
A. B., University of Michigan, 1900.	
Regnier, Miles A.....	Seattle
B. S. in Engineering, Oklahoma Agricultural and Mechanical College, 1911.	
Rennie, William Jacob.....	Seattle
A. B., Hillsdale College, 1915.	
Richardson, Dlo	Seattle
A. B., University of Colorado, 1913.	
Roberts, Alexander Crippen.....	Everett
A. B., University of Wisconsin, 1906.	
Roberts, Estelle	Seattle
A. B., Grinnell College, 1895.	
Roberts, Helen Grace.....	Monticello, Ind.
A. B., Indiana University, 1908.	
Rupert, Rhea	Aberdeen
A. B., University of Washington, 1916.	
Sandborn, Lynne Jewel.....	Blue Rapids, Kan.
B. S. in Domestic Science, Kansas Agricultural College, 1910.	
Scheer, Alfred E.....	Howard Lake, Minn.
Ph. B., Hamline University, 1911.	
Schmalle, Amos Lincoln.....	Seattle
A. B., University of Iowa, 1910.	
Schwartz, George Lewis.....	Seattle
B. S., University of Washington, 1915.	
Scott, Winfield, Jr.....	Seattle
A. B., Oberlin College, 1912.	
M. S., University of Washington, 1916.	
Schowalter, Mary Ellen.....	Medford, Ore.
A. B., University of Iowa, 1906.	
Shull, Renata M.....	St. Joseph, Mo.
B. Ph., University of Chicago, 1903.	
Simson, Lillian Louise.....	Nome, Alaska
A. B., University of Washington, 1916.	
Sinclair, Olive Vida.....	Port Huron, Mich.
A. B., University of Michigan, 1909.	

Smith, Christina D. (Mrs.)	Seattle
A. B., University of Illinois, 1905.	
Smith, William Merrill	Seattle
A. B., De Pauw University, 1911.	
Sorensen, Beatrice Marie	Everett
A. B., University of Washington, 1913.	
Spessard, Lester Lewis	Seattle
A. B., Lebanon Valley College, 1911.	
Staeger, David Arthur	Seattle
A. B., University of Washington, 1911. 1908	
Stanton, Edgar Adolphus	Granite Falls
A. B., University of Washington, 1911.	
Stork, Sophie Wilhelmina Louise	Seattle
A. B., University of Wooster, 1908.	
Streator, Gertrude Inez	Seattle
A. B., University of Washington, 1909.	
A. M., University of Washington, 1912.	
Sully, Bernice Agnes	Seattle
A. B., University of Washington, 1913.	
Talbot, Nellie M.	Seattle
A. B., University of Washington, 1907.	
Thing, Curtiss W.	Seattle
B. S., Lenox College, 1914.	
Thomas, Ruth Katharine	Walla Walla
A. B., Whitman College, 1911.	
Thompson, Claude Sims	Seattle
B. S. in Min. E., University of Washington, 1910.	
Thompson, Noel Finley	North Yakima
B. S., University of Washington, 1915.	
M. S., University of Washington, 1916.	
Thompson, Thomas Gordon	Seattle
A. B., Clark College, 1914.	
M. S., University of Washington, 1915.	
Trathen, Sidney Polmere	Seattle
A. B. in Education, Ypsilanti Normal School, 1907.	
Trumbull, Dorothy Drake (Mrs.)	Seattle
A. B., University of Washington, 1912.	
Turnbull, George Stanley	Seattle
A. B., University of Washington, 1915.	
Van Orden, Mary	Alameda, Cal.
B. L., University of California, 1906.	
M. L., University of California, 1914.	
Vansaw, Ralph P.	Seattle
B. Ph., University of Chicago, 1916.	
Velasco, Ernesto	Seattle
Bachiller de Humanidades, Universidad de Chile, 1911.	
Vickner, Bertha A. (Mrs.)	Seattle
A. B., Gustavus Adolphus College, 1910.	
Walsted, Mary Blanche	Neillsville, Minn.
B. Ed., University of Washington, 1916.	
Way, Evelyn Dorothy	Seattle
A. B., University of Washington, 1908.	

- Way, William Floyd.....Seattle
B. S. in C. E., University of Washington, 1912.
- Wetteland, Rolf Theodore.....Camas
B. S. in M. E., Oregon Agricultural College, 1916.
- White, ChrisSeattle
B. S., in C. E., University of Washington, 1915.
- White, Robert James.....Port Angeles
A. B. in Education, University of Minnesota, 1911.
- Whitelaw, William Neill.....Seattle
A. B., Yale University, 1905.
LL. B., Kansas City School of Law, 1905.
- Whiteneck, Hosea A.....Tacoma
A. B., Indiana University, 1909.
- Whittier, William Harrison.....Seattle
B. S. in Min. E., University of Washington, 1916.
- Willard, Grace Kindig (Mrs.).....North Bend
A. B., University of Washington, 1910.
- Williams, Beulah MacFarland (Mrs.).....Seattle
B. Ph., The State University of Iowa, 1897.
- Williams, Harmon Porter.....Spokane
A. B., University of Iowa, 1895.
- Williams, Lawrence Johnson.....Orosi, Cal.
B. S., University of Washington, 1913.
- von Wold, Helmer Pareli Albertsen.....Trondhjem, Norway
B. S., University of Washington, 1916.
M. S., University of Washington, 1916.
- Wood, Wilma Barclay.....Seattle
A. B., University of Washington, 1915.
- Woodworth, Frances Mary.....Vancouver, B. C.
A. B., King's University, Windsor, Nova Scotia, 1897.
- Worthington, DorothySheridan, Wyo.
A. B., University of Wyoming, 1912.
- Wright, Robert Creighton.....Seattle
A. B., University of Washington, 1914.
A. M., University of Washington, 1916.
- Young, James Arthur.....Seattle
B. S., University of Washington, 1916.
- Young, Lukens Peirce.....Seattle
B. S., University of Washington, 1915.
- Zabel, Edwin Adolph.....Seattle
A. B., Leland Stanford, Jr., University, 1916.

COLLEGE OF LIBERAL ARTS

ABBREVIATIONS

Classes

Sr.—Senior
Jr.—JuniorSo.—Sophomore
Fr.—Freshman

<i>Name of Student and Rank</i>	<i>Home Address</i>
Abbott, George F.; Fr.....	Anaconda, Mont.
Abel, Lena Blanche; Fr.....	Hoquiam
Abel, Robert; So.....	Hoquiam
Adams, Adelaide; So.....	Seattle
Adams, Frances True; Jr.....	Seattle
Adams, Jeannette Adair; Fr.....	Spokane
Adams, Lucile Elizabeth; Jr.....	Waitsburg
Adams, Violette Beatrice; Sr.....	Seattle
Agassiz, Florence Mary; Jr.....	Seattle
Ahrens, Linda Claire; Fr.....	Seattle
Aitchison, Irene; Jr.....	Spokane
Albee, Archie; So.....	Seattle
Allan, Helen Frances; So.....	Seattle
Allen, Frank Elwell; Fr.....	Bellingham
Allen, George Frank; Fr.....	Tacoma
Allen, Harold Beckwith; Sr.....	Seattle
Allen, John M.; So.....	Seattle
Allen, John Wesley; So.....	Hood River, Ore.
Allen, Joseph Mills; Fr.....	Tacoma
Allison, Roy Gordon; So.....	Seattle
Ament, Dorothy; Fr.....	East Seattle
Anasawa, Seichi; Sr.....	Seattle
Andersen, Anna Marie; Fr.....	Everett
Andersen, James Arthur; So.....	Tacoma
Andersen, Gudrun Cecilia; Jr.....	Seattle
Anderson, Arlie Maude; Sr.....	Bellingham
Anderson, Arthur Joel; Fr.....	Seattle
Anderson, Esther Margarite; Fr.....	Republic
Anderson, Helen Dorothy; So.....	Seattle
Anderson, Mary; Fr.....	Seattle
Anderson, Pearl Adella; So.....	Seattle
Anderson, Rex W.; Fr.....	Spokane
Anderson, Serina; Fr.....	Silvana
Anderson, Virgil L.; Fr.....	Tacoma
Andrew, Alice Verna; Sr.....	Coeur d'Alene, Idaho
Angle, Joseph Eber; Jr.....	Shelton
Aono, Frank Ouseke; Jr.....	Seattle
Appel, Margaretha; Fr.....	Seattle
Armstrong, Ruth; Fr.....	Seattle
Armstrong, Spencer; So.....	Everett
Arney, Mary; Jr.....	Thomas

Arnold, Mercy Eggleston; Sr.....	Grand Rapids, Mich.
Arthun, Amber Bertha; Fr.....	Seattle
Arthur, Agnes; Jr.....	Canon City, Col.
Ashland, Roy R.; So.....	Seattle
Ashton, Theresa; Jr.....	Seattle
Aubuchon, Elsie Hermina; So.....	New Lisbon, Wis.
Ayer, Elizabeth; Fr.....	Tumwater
Ayer, John; Fr.....	Tumwater
Bachrach, Herbert; Jr.....	Tacoma
Badger, Edwin Hill; So.....	Seattle
Baler, (Mrs.) Grace; So.....	Seattle
Bailey, Ethel Field; Fr.....	Tacoma
Baird, Russell; Fr.....	Everett
Baker, Alfred L.; So.....	Seattle
Baker, Alice Harriett; Jr.....	Seattle
Baker, Dorothy Jesa; Fr.....	Seattle
Baker, Ella Graham; Jr.....	Seattle
Baker, Mildred Elizabeth; Sr.....	Tacoma
Baker, Ray L.; Jr.....	Hoquiam
Baker, Richard William; Fr.....	Seattle
Bakewell, Edna Georgie; Fr.....	Seattle
Baldwin, David Edward; Fr.....	Cedarhurst
Baldwin, William Joseph; Fr.....	Seattle
Ball, Allen; Fr.....	Seattle
Ball, Pauline; Fr.....	Republic
Ballinger, Douglas T.; Fr.....	Seattle
Banks, Laura Mae; Fr.....	Everett
Bahnwarth, Charles Gustave; Fr.....	Seattle
Barbee, Peyton Elias; Fr.....	Seattle
Barker, Stanley F.; Sr.....	Seattle
Barlow, George William; Fr.....	Hoquiam
Barnes, Creston W.; So.....	Kokomo, Ind.
Barr, Helen Mary; Sr.....	Seattle
Barron, Fred A.; Fr.....	Seattle
Bartley, Georgia Lulu; Jr.....	Waterloo, Iowa
Bash, Carolyn; Jr.....	Seattle
Bateman, Amy Rachel; So.....	Helena, Mont.
Bateman, Stella; So.....	Helena, Mont.
Bates, Bernard R.; Jr.....	Tacoma
Bates, Kenneth O.; Fr.....	Tacoma
Bath, Gerald H.; So.....	Tacoma
Baumgartner, Alfred Joseph; Fr.....	Townsend, Mont.
Bean, Frances Lorraine; Jr.....	Seattle
Beauchamp, Owen W.; Jr.....	O'Neill, Neb.
Becker, Gladys Aileen; So.....	Seattle
Beckwith, Hortense; So.....	Seattle
Beezley, Phona Cassius; Jr.....	Oakland, Iowa
Bell, Albert H.; So.....	Portland, Ore.
Bell, Bonnie; Fr.....	Seattle
Bell, Doris Lillian; So.....	Everett
Bell, John Karl; Fr.....	N. Yakima

Bellingham, Norman; So.....	Tacoma
Bender, Robert William; So.....	Tacoma
Benjamin, Hazel Leigh; Jr.....	Seattle
Bennett, Helen Marcia; Jr.....	Cashmere
Benson, Albert Clarence; Fr.....	Seattle
Benson, Thomas Arthur; Sr.....	Newberg, Ore.
Benson, Willis Clendenning; Fr.....	Seattle
Bentley, Leslie Randolph; Fr.....	Ozawie, Kans.
Bergh, May Alice; So.....	Seattle
Bergoust, Charlotte; Fr.....	Tacoma
Bergman, Dorothy Helen; Fr.....	Everett
Bernard, Melvin Tim; Fr.....	Prosser
Bernard, Wallace H.; Fr.....	Kalispell, Mont.
Best, Elva; Sr.....	Newberg, Ore.
Bevans, William B.; Fr.....	Stevenson
Bevis, Dorothy True; So.....	Lewiston, Idaho
Blenerth, Marie Dorothy; Fr.....	Randall, Minn.
Binnings, Mildred Olive; Sr.....	Tacoma
Bjorkman, Frank Walfred; Jr.....	Tacoma
Blair, Anna Clio; So.....	Seattle
Blakeslee, Helen A.; Fr.....	Olympia
Blue, Eugene; Fr.....	Woodland
Blumenfeld, Herman N.; So.....	Seattle
Boardman, Angela Elizabeth; Fr.....	Olympia
Bock, Vera Eleanor; Fr.....	Seattle
Bogert, Josephine; So.....	Seattle
Bolles, Betsy Babcock; Fr.....	Seattle
Bollman, Dean S.; Jr.....	Seattle
Bolster, Edna Ellsworth; So.....	Seattle
Bolster, Helen; Sr.....	Seattle
Bordeaux, Wilfred; Fr.....	Seattle
Bothwell, Belle; Jr.....	Seattle
Bouck, Gordon Maynard; So.....	Hillyard
Bowdoin, Blanche Virginia; Sr.....	Bremerton
Boyce, Leila M.; So.....	Kirkland
Boyle, George Louis; Fr.....	Seattle
Brace, John Ben; Fr.....	Seattle
Brackett, Anson Wendell; Jr.....	Seattle
Bragdon, Ruth Alwin; Fr.....	Seattle
Brakel, Anna Elnora; Sr.....	Portland, Ore.
Brakel, Marguerite Bell; Sr.....	Portland, Ore.
Brand, Margaret M.; Fr.....	Seattle
Brandenthaler, Arthur A.; So.....	Seattle
Brawley, Edith M.; Jr.....	Seattle
Brazier, John M.; Fr.....	Seattle
Breazeale, I. Edna Marie; Sr.....	Sandon, B. C.
Brennesholtz, Linder Allen; Fr.....	Waterville
Brett, M. Genevieve; Fr.....	Lewiston, Idaho
Brevick, Conrad; So.....	Seattle
Brewster, Helen Gertrude; Jr.....	Seattle
Brickell, Duncan Walter; Fr.....	Spokane

Bricker, William Albert Lee; Fr.....	Seattle
Brobst, Leona Jeanette; So.....	Seattle
Brockman, Thelma Frances; Fr.....	Seattle
Brokaw, Bernice Ethel; So.....	Stanwood
Bronson, Marshall Webb; Fr.....	Seattle
Brooks, LeRoy Wagar; Jr.....	Seattle
Broulette, James Barnes; So.....	Seattle
Brown, Erma G.; So.....	Seattle
Brown, Ford K.; Jr.....	Seattle
Brown, Francis L.; Fr.....	N. Yakima
Brown, Jessie Katherine; Fr.....	Seattle
Brown, Leroy E.; Fr.....	Seattle
Brown, Ralph N.; Fr.....	Seattle
Browne, Clarence H.; So.....	Seattle
Browne, Elva; Fr.....	Seattle
Bruce, Helen Roslyn; Fr.....	Seattle
Brueggerhoff, Anna Marie; Jr.....	Seattle
Brueggerhoff, Marguerite; So.....	Seattle
Bryan, Helen Agnes; Sr.....	Seattle
Bryant, Cassie Lawrence; Sr.....	Seattle
Bucher, Neva Marguerite; Sr.....	Spokane
Burcham, Marie Antoinette; Fr.....	Seattle
Burdick, Don; Fr.....	Centralia
Burke, Howard Mason; Fr.....	Shelton
Burke, Walter D.; Fr.....	Seattle
Burns, Lillian Frances; Sr.....	Kalispell, Mont.
Burnside, Catharine; Jr.....	Raymond
Burr, George D., Jr.; Fr.....	Seattle
Burton, Alma A.; Fr.....	Seattle
Burton, Mabel; Jr.....	Denver, Col.
Bush, Agnes S.; Sr.....	Seattle
Bush, Lyle Kenneth; Sr.....	Bay Center
Bushnell, Helen; So.....	Seattle
Butler, Benjamin Fox; So.....	Seattle
Butler, John; Fr.....	Seattle
Butterworth, Walter; Fr.....	Roche Harbor
Cain, Mary Margaret; So.....	Azusa, Cal.
Caley, Katharine; Sr.....	South Bend
Callaghan, John J.; Fr.....	Seattle
Calvert, Lawrence; So.....	Seattle
Campbell, Donald M.; So.....	Seattle
Campbell, Earl Folgate; Fr.....	Omak
Campbell, Ernest William; Jr.....	Seattle
Campbell, Florence Elizabeth; Fr.....	Chelan
Campbell, Preston Dunnett; Fr.....	Seattle
Campbell, Robert H.; So.....	Seattle
Campion, Cyrus Ranke; Fr.....	Seattle
Canfield, Clerice; Sr.....	Seattle
Cardwell, Frances; Fr.....	Pomeroy
Carlisle, Isabelle; Jr.....	Seattle
Carlson, Iver Walter; Fr.....	Seattle

Carlton, Frances W.; Sr.....	Seattle
Carpenter, Vance Raymond; So.....	Canton, Mass.
Carrigan, John Beardslie; Jr.....	Seattle
Carroll, Joseph D.; Jr.....	Seattle
Carufel, Edward J.; Fr.....	Seattle
Cary, Miles Elwood; Sr.....	Edmonds
Case, Edson M.; So.....	Puyallup
Cathey, Mary Althea; Fr.....	Snohomish
Cation, Everell Lorraine; Fr.....	Walla Walla
Catton, Lois Jane; Sr.....	Tacoma
Chadwick, Elizabeth; Fr.....	Olympia
Chambers, Lucile; Jr.....	Seattle
Chandler, Elsie; Jr.....	Seattle
Chase, Helen Pitman; Fr.....	Dupree, S. D.
Cheney, Joseph C.; Fr.....	Montesano
Chilberg, Carl Edward; Fr.....	Seattle
Christensen, Agnes B. G.; So.....	Parkland
Christian, Byron Hunter; So.....	Spokane
Churchill, Norman Eugene, Jr.; Fr.....	Friday Harbor
Clague, Ewan; Sr.....	Dayton
Clare, Ethel Regina; Sr.....	Selleck
Clark, Elizabeth Roulston; Fr.....	Ellensburg
Clark, (Mrs.) Alvide Lee; Jr.....	Seattle
Clark, Ermine; So.....	Bellingham
Clark, Marjorie; Fr.....	Spokane
Clark, Virginia Caroline; Sr.....	Wrangell, Alaska
Clausen, Ada; So.....	Twin Falls, Idaho
Clausen, Elva; Fr.....	Seattle
Cleary, Helene; Fr.....	Everett
Cleaves, Edith Lorena; Jr.....	Seattle
Cleeland, David Long, Jr.; So.....	Butler, Pa.
Clements, Colin C.; Sr.....	Seattle
Clyde, Paul D.; Jr.....	Seattle
Cochran, Avadana Millett; Fr.....	Seattle
Cochran, Vilma; Fr.....	Seattle
Coe, Winifred Elizabeth; Sr.....	Seattle
Coffee, John Main; Jr.....	Tacoma
Coffin, Mabel M.; Fr.....	Seattle
Coffman, John Britton; Fr.....	Chehalis
Coffman, Willow H.; Sr.....	Seattle
Colbert, William; Fr.....	Prosser
Cole, Miriam Elizabeth; So.....	Seattle
Cole, Orlan H.; Fr.....	Missoula, Mont.
Coleman, Clarence J.; So.....	Everett
Coleman, Donald John; Jr.....	Seattle
Coleman, Louise; Jr.....	Seattle
Coleman, Montie R.; So.....	Seattle
Collard, Benjamin V.; Fr.....	Spokane
Collins, Dan Marshall; Fr.....	Great Falls, Mont.
Collins, James M.; Jr.....	Seattle
Collins, Kenneth Roger; Fr.....	Spokane

Collins, Lenore M.; So.....	Dupont
Combs, Ulalla Ruth; Jr.....	Seattle
Condlon, Edward J.; Sr.....	Seattle
Connell, Helen Loretta; Sr.....	Seattle
Conner, Eva M.; Fr.....	Seattle
Constantine, Dorothy Edna; Jr.....	Seattle
Cook, Erving S., Jr.; Fr.....	Anacortes
Cook, Horace Lockwood; Sr.....	Aberdeen
Cook, Marie Joy; Fr.....	McKenna
Cooper, Frances Drake; Sr.....	Seattle
Copeland, Mildred Frances; So.....	Portland, Ore.
Copeland, William Harold; Fr.....	Portland, Ore.
Copps, Henry Charles; Fr.....	Everett
Corbiere, Anthony S.; Jr.....	Kapowsin
Corbin, Louise Ellen; So.....	Portland, Ore.
Corbitt, Helen D.; Jr.....	Seattle
Corcoran, William W.; So.....	Tekoa
Cordz, Ollie; Fr.....	Seattle
Corner, William Watson; Fr.....	Wallace, Idaho
Cornett, Imogene; So.....	Seattle
Cornett, Rita Powell; Jr.....	N. Yakima
Cornett, William; Fr.....	N. Yakima
Cornue, Donald; So.....	Selah
Cortright, Bernice; Jr.....	Loon Lake
Council, Elizabeth; Fr.....	Goldendale
Countryman, Eva A.; Fr.....	Methow
Courtney, C. Edwin; So.....	Seattle
Covey, Walter Howard; Sr.....	Seattle
Crahan, Margaret; Jr.....	Seattle
Craib, Margaret Cumming; So.....	Seattle
Crain, Leota; Jr.....	Seattle
Cram, Winfield Reynolds; Fr.....	Raymond
Cramer, Xora Rhoda; Fr.....	Seattle
Craven, Leonard Thomas; Fr.....	Spokane
Crawford, William Randall, Jr.; Fr.....	Seattle
Crippen, Maida; Sr.....	Spokane
Crogstad, Clara Irene; Fr.....	Mt. Vernon
Crouley, Anne Claire; So.....	Seattle
Cuddy, George A.; So.....	Tacoma
Culver, Ross E.; Fr.....	Spokane
Cunningham, B. Theresa; So.....	Seattle
Curtis, Florence Marion; Fr.....	Seattle
Cutts, Laura Louise; So.....	Deer Park
Dahl, Aad Joel; Fr.....	Wenatchee
Dahl, Victor; So.....	Wenatchee
Dahlin, Ebba; So.....	Seattle
Dailey, Ervin Frederick; Fr.....	Everett
Dailey, Grace O.; So.....	Seattle
Dailey, Mae Belle; So.....	Seattle
Dally, Louise B.; Fr.....	Seattle
Dalton, Arch Grant; So.....	N. Yakima

Dalton, John Clarke; Fr.....	N. Yakima
Dammann, Marjorie L.; Fr.....	Parkland
Danielson, Theodora Ella; So.....	Tacoma
Danley, Finis William; Fr.....	Humansville, Mo.
Daulton, Elizabeth Katherine; Jr.....	Seattle
Davies, Danella; Fr.....	Seattle
Davies, Francis; Fr.....	Opportunity
Davies, Myron Lloyd; Fr.....	Seattle
Davies, Pearce Gardiner; Fr.....	Seattle
Davis, Archilles Philip; So.....	Colfax
Davis, Cecelia Marie; Fr.....	Seattle
Davis, Harold A.; Fr.....	Dungeness
Davis, Leslie; Sr.....	Seattle
Davis, Marie Delwaine; Fr.....	Seattle
Davis, May Eleanor; Jr.....	Startup
Day, Mae Leola; Fr.....	Seattle
Day, Tom John; So.....	Spokane
Dean, Mildren; Jr.....	Walla Walla
Dearborn, Virginia; Fr.....	Seattle
deCrane, May C. P.; Sr.....	Lake Bay
DeKay, Frank G.; So.....	Blackfoot, Idaho
Delabarre, Margaret; Fr.....	Pt. Angeles
Delaney, Kathleen; Jr.....	Seattle
de la Pole, Dorothy Buller; So.....	Seattle
Derr, Elva Jeanne; So.....	Portland, Ore.
Devin, Mary Elmah; So.....	Seattle
Devin, Oliver Kern; Fr.....	Seattle
Devin, William Franklin; Fr.....	Seattle
Dick, Bessie M.; Fr.....	Seattle
Dickson, Laura; So.....	Tacoma
Dimock, Dorothy; So.....	Seattle
Dinkelspiel, Bailey; So.....	Seattle
Dobbs, Thomas E.; Jr.....	Tacoma
Doheny, Charlotte Fulton; So.....	Seattle
Dolloff, Ruphell; So.....	Everett
Donley, Helen Irene; So.....	Seattle
Donnell, Georgia Marie; Sr.....	Snohomish
Doran, Eunice Wilma; Sr.....	Mt. Vernon
Doty, Walter L.; Sr.....	Littell
Douglas, George Stuart; Sr.....	Seattle
Douglas, Muriel; Sr.....	Seattle
Dow, Harlan; Fr.....	Chehalis
Downie, Linna Adel; Fr.....	Seattle
Downing, Ruth E.; So.....	Seattle
Draham, Walter H.; Fr.....	Olympia
Draper, Elizabeth; Jr.....	Greeley, Col.
Driftmier, Rosa M.; Jr.....	Mt. Vernon
Drost, Richard; Jr.....	Oak Harbor
Drummond, Elizabeth; Sr.....	Tacoma
Duggan, Dewey S.; Fr.....	Blaine
Dulgar, Gladys M.; So.....	Raymond

Dunaway, Laurence E.; So.....	Chehalis
Duncan, Richard; Fr.....	Seattle
Dunlap, Mary Donna; Fr.....	Seattle
Dunn, Alice Julia; Fr.....	Sunnyside
Dunn, Charles Stevens; Fr.....	Seattle
Dunn, John Joseph; Fr.....	Seattle
DuPree, Grace; Jr.....	Seattle
Durham, F. Wayne; Jr.....	Seattle
Durrant, William E.; Sr.....	Everett
Dyment, Donald; Fr.....	Seattle
Eager, Wesley L.; Fr.....	Dayton
Eagleson, Helen Elizabeth; So.....	Seattle
Easterbrook, Gladys Fannie; Jr.....	Ft. Flagler
Eaton, George; So.....	Seattle
Ebert, Helen Louise; Fr.....	Seattle
Ebright, Carroll M.; Sr.....	Seattle
Ebright, Eloise; So.....	Seattle
Eckmann, Ansel C.; Fr.....	Seattle
Eckhart, Freda Louisa; Sr.....	Enumclaw
Eddy, Dudley Byron; So.....	Seattle
Ehrlichman, Bertha; Fr.....	Seattle
Eichner, Isabel; Fr.....	South Bend
Ekern, Lincoln; Fr.....	Superior, Wis.
Ellerbeck, Louise; Fr.....	Seattle
Elliott, Oliver Carlisle; Fr.....	Byrn Mawr
Elliott, Charles P.; Fr.....	Seattle
Ellis, J. Boyd; Jr.....	Olympia
Ellsworth, Paul T.; So.....	Seattle
Elmendorf, Julia Rider; Fr.....	Seattle
Elway, Helena A.; So.....	Aberdeen
Embree, Felix V.; Sr.....	Dayton
Emory, DeWolfe; Fr.....	Seattle
Enger, Harold Carl; So.....	Tacoma
English, Mark H.; Fr.....	Arcadia, Wis.
Ensley, Lora Mary; So.....	Fairfield
Enyart, Grace May; So.....	Seattle
Erchinger, Hazel Hildegard; So.....	Tacoma
Erickson, Carl; Fr.....	Seattle
Erickson, Ellen Olivia; Fr.....	Mt. Vernon
Erickson, William Paul; Fr.....	Anacortes
Eriksen, Geneva Antoinette; Sr.....	Seattle
Ernst, Clarence; Fr.....	Seattle
Evans, Ralph Ream; So.....	Spokane
Everett, (Mrs.) Elizabeth; Jr.....	Seattle
Everett, Walter Herbert; So.....	Seattle
Everton, Clara M.; Sr.....	Edmonds
Fairchild, Muir S.; Jr.....	Seattle
Fairweather, Douglas; Fr.....	Seattle
Fancher, Albert H.; Jr.....	Spokane
Fancher, Jack; Fr.....	Spokane
Farrell, Nellie Russella; Fr.....	Seattle

Faulk, Theodore Ephriam; So.....	Stromsburg, Neb.
Feak, John Wesley; Fr.....	Portland, Ore.
Feldman, J. Bernard; Fr.....	Seattle
Fenwick, James A.; So.....	Everett
Ferguson, Frances Patricia V.; Fr.....	Renton
Fiegenbaum, Ruth Lucille; Fr.....	Index
Fischer, Marie; Fr.....	Seattle
Fisher, Julia; So.....	Seattle
Flx, Carl Blissett; Fr.....	Lewiston, Idaho
Flagg, Donald Horatio; So.....	Olympia
Flint, Lois Elizabeth Anne; Sr.....	Pt. Townsend
Flockoi, George Howard; So.....	Ferndale
Flynn, Edward Augustus; Fr.....	Suquamish
Fonda, Ada Elizabeth; Sr.....	Seattle
Ford, Morris E.; So.....	Tacoma
Ford, Vivian Marie; Fr.....	Seattle
Forrester, Louise; Fr.....	Redmond
Fosdick, Ruth Elizabeth; Sr.....	Goldendale
Foster, Harry E.; Sr.....	Seattle
Foster, Sally Ann; Fr.....	Pt. Angeles
Fotheringham, Bernard Jennings; Fr.....	Spokane
Fotheringham, Patricia; Fr.....	Seattle
Fowler, Joseph Bret; Fr.....	Seattle
Fowler, George W.; Fr.....	Everett
Fox, Charles L.; Fr.....	Davenport
Fox, Irene May; Fr.....	Seattle
Francis, Violet; Jr.....	Seattle
Franseen, Charles Edwin; Fr.....	Seattle
Fraser, Donald R.; Fr.....	Seattle
Frazier, Lewis Raymond; So.....	Everett
French, Irma; Jr.....	Seattle
Freyd, Florence S.; Jr.....	Seattle
Freyd, Max; So.....	Seattle
Fried, David D.; Fr.....	Seattle
Friedman, Robert; So.....	Tacoma
Fryer, Beatrice E.; So.....	Seattle
Fullerton, Gertrude; So.....	Spokane
Fulton, James Roy; Fr.....	Bremerton
Furber, George Churchill; Fr.....	Seattle
Gaard, Grace Olava; Fr.....	Parkland
Gander, A. MacLean; Fr.....	Bellingham
Ganson, Orlon; Fr.....	Odessa
Gardner, Raymond Locke; So.....	Seattle
Garratt, Eugenia Enid; So.....	Seattle
Garrett, Grace Davis; Fr.....	Seattle
Gates, Louise; Jr.....	Seattle
Gerriets, Anna; Jr.....	Mt. Vernon
Gerry, Mary Alice; Fr.....	Seattle
Gibbs, Edna Earle; Fr.....	Seattle
Gibson, Blaine Clyde; Fr.....	Nyssa, Ora.
Gibson, Fred Everett; So.....	Bellingham

Gibson, John Henry; So.....	Albany, Ore.
Gick, Royal J.; Fr.....	Newport
Gilbert, Curtiss Richey; Sr.....	N. Yakima
Gilbert, Elon J.; Fr.....	N. Yakima
Giles, Walter Irving; Fr.....	Seattle
Gilliland, William Lester; Fr.....	Harrington
Ginder, Arthur C.; Fr.....	Stevenson
Giudici, Pauline; Jr.....	Dillon, Mont.
Glass, Cornelia; Jr.....	Seattle
Gleason, Dorothy; So.....	Seattle
Good, Myrtle; So.....	Mt. Vernon
Goodfellow, Malcolm; Fr.....	Seattle
Goodheart, Mary Katharine; Fr.....	Bellingham
Goodman, Isey M.; Fr.....	Seattle
Goodrich, Evelyn Frances; Jr.....	Pt. Townsend
Goodwin, Ervin Crawford; Jr.....	Seattle
Gordon, Helen; Fr.....	Seattle
Graham, Llewellyn; Jr.....	Aberdeen
Graham, Louise Margaret; Fr.....	Seattle
Granger, Maud Virginia; Fr.....	Zillah
Grant, James Coleman; Fr.....	Seattle
Grant, Marguerite; Jr.....	Seattle
Grant, Thomas; Jr.....	Seattle
Graves, Orville R.; Jr.....	Ellensburg
Green, Dorothy Gwendolyn; Sr.....	Seattle
Greenough, Roger William; Fr.....	Spokane
Gregg, Ralph; Fr.....	Coulee City
Gregg, Tima Mary; Jr.....	Chehalis
Greider, Floyd; Fr.....	Bawlf, Alberta, Can.
Greiner, Ruth H.; Fr.....	Seattle
Gresham, Marie Cole; Sr.....	Seattle
Griffiths, Lois Wilfred; Fr.....	Granger
Grimm, Florence Hazel; Jr.....	Wilber, Neb
Grinnell, Charles Herbert, Jr.; Fr.....	Tacoma
Gross, Irene; So.....	Walla Walla
Grout, Dorothy Knox; Sr.....	Seattle
Grout, Genevieve; Sr.....	Seattle
Guenther, Stuart; Fr.....	Astoria, Ore.
Guile, Heister Dean; Jr.....	Seattle
Gustafson, Rhodes H.; Fr.....	Seattle
Guthrie, Rosemond; So.....	Seattle
Gwinn, Olive; So.....	Pendleton, Ore.
Gyllenberg, Mary; So.....	Baker, Ore.
Haas, Mark L.; So.....	Spokane
Hager, Morton Frank; Fr.....	Portland, Ore.
Hainsworth, Jeannette Florence; So.....	Seattle
Hall, Irene; So.....	Seattle
Hall, Mary Lee; Fr.....	Seattle
Hall, Mabel; Fr.....	Seattle
Hall, Sigrid; Sr.....	Seattle
Halsey, Burt Corwin; So.....	Clarkston

Halvorson, Oscar Henry; Fr.....	Mabton
Hamel, Floyd Raymond; Jr.....	Salem, Ore.
Hamilton, Clark Alexander; Fr.....	Weiser, Idaho
Hamilton, Rupert Lehn; Fr.....	Seattle
Hammond, Esther; Sr.....	Seattle
Hamshaw, Charles; Fr.....	Ferndale
Hannah, Margaret Evelyn; Fr.....	Seattle
Hannan, Mark; Fr.....	Seattle
Hansen, Esther A.; Fr.....	Tacoma
Hansen, Howard H.; Jr.....	Vashon
Hanson, Clara; Fr.....	Seattle
Harris, Charles L.; Jr.....	Seattle
Harris, Sarah Eleanor; Fr.....	Seattle
Harrold, Clinton John; Fr.....	Ft. Ward
Hart, Arthur H.; Fr.....	Seattle
Hartman, Robert Nathaniel; So.....	Seattle
Hartmann, Elsie A.; Jr.....	Anacortes
Harvey, Paul Lynn; Fr.....	Walla Walla
Harvitz, Barnett; So.....	Seattle
Haskell, Irene Marie; Jr.....	Seattle
Haslett, Ruth Marie; So.....	Tacoma
Hatfield, Lois; Fr.....	Buhl, Idaho
Hawkins, Elma; So.....	Seattle
Hawkins, Mary Estelle; Fr.....	Seattle
Hawkins, Robert M.; Fr.....	Seattle
Hawthorne, Rebecca A.; So.....	Seattle
Hayes, Dorothy; Jr.....	Seattle
Healy, Timothy; So.....	Bellingham
Hedden, Eleanor; So.....	Seattle
Heffernan, Grace Elizabeth; So.....	Seattle
Hegman, Bertha; Sr.....	Seattle
Heiteshu, Dorothy Winifred; Fr.....	Seattle
Hemenway, Ruth Evelyn; Sr.....	Seattle
Henderson, Evelyn Grace; Fr.....	Seattle
Henderson, Ruby Jean; Jr.....	Lewiston, Idaho
Hendricksen, Hilda Ovidia; So.....	Portland, Ore.
Henehan, Kevin F.; Fr.....	Seattle
Henry, Elizabeth Gillette; Jr.....	Seattle
Henry, Lee G.; Fr.....	Tonganoxie, Kans.
Henson, G. Burton; Fr.....	Athol, Idaho
Hergert, Maude Elizabeth; Fr.....	Seattle
Herner, Helen; Jr.....	Portland, Ore.
Herrett, Olin E.; Fr.....	Seattle
Herrick, Charles Barrett; Sr.....	Seattle
Herron, Willard George; So.....	Seattle
Hervin, Esther Marie; Fr.....	Seattle
Heuston, Alfred Newman; So.....	Tacoma
Higgins, Emerson P.; So.....	Seattle
Higgins, Irene Frances; Sr.....	Seattle
Hill, Bert; Fr.....	Seattle
Hill, Edward G.; Fr.....	Seattle

Hill, Elsie; Fr.....	Orillia
Hill, Ethel M.; So.....	Seattle
Hill, Helen Elizabeth; Fr.....	Seattle
Hill, Hobart Wilbur; Fr.....	Seattle
Hillis, Arnetta; Jr.....	Seattle
Hillyard, Carlton Livermore; Fr.....	Republic
Hindley, Margaret; Fr.....	Spokane
Hindley, Mary Roberta; So.....	Spokane
Hindman, Edna; Fr.....	Baker, Ore.
Hitt, Gladys; Sr.....	Welser, Idaho
Hoard, Charles Vere; Fr.....	Seattle
Hodge, Homer Hartman; Fr.....	Seattle
Hodge, Paul Hartman; Sr.....	Seattle
Hogg, Edwin R., Jr.; Jr.....	Seattle
Holby, Alfred Clarence; Jr.....	Seattle
Holt, Doris Leonora; Jr.....	Lakota
Holcomb, Maurice Staser; Fr.....	Olympia
Holcomb, S. Raymond; Fr.....	Olympia
Hollander, Tyre H.; So.....	Edgemont, N. C.
Hollenbeck, Helen; Fr.....	Seattle
Holman, Norma Burnett; So.....	Oregon City, Ore.
Holmes, Anne Matilda; Jr.....	Seattle
Hoover, Glenn; So.....	Hoquiam
Hopkins, Doris Fernald; Fr.....	Seattle
Hopper, George T.; So.....	Spokane
Hopping, William D.; So.....	Tacoma
Hoppock, Gertrude Cornelia; Sr.....	Seattle
Hossack, Myra Louise; So.....	Odell, Ill.
Hotelling, Addison Harold; So.....	Puyallup
Houck, Eva Lucile; Fr.....	Seattle
Houghton, (Mrs.) Florence Lewis; Sr.....	Edmonds
Hovey, Joseph Chester; So.....	Ellensburg
Howard, Fred Albert; Fr.....	Stanwood
Hudson, Dorothy Sewall; So.....	Seattle
Huff, Virginia; Jr.....	Seattle
Huggett, Ralph A.; So.....	Seattle
Hughes, Helen Gerrish; Fr.....	Ft. Barancas, Fla.
Hughes, Mary Monica; So.....	Seattle
Humphreys, Basil James; Fr.....	Los Angeles, Cal.
Hunter, Ruth; So.....	Seattle
Hurd, Luella Mildred; Fr.....	Seattle
Hurja, Emil Edward; Jo.....	Fairbanks, Alaska
Hurley, Ernest E.; Jr.....	Imbler, Ore.
Hurwitz, Milton S.; Fr.....	Seattle
Hutchinson, Pansy E.; So.....	Mt. Vernon
Imus, Raymond McKinley; So.....	Kalama
Inglis, John Sidney; Fr.....	Seattle
Ives, Doris; Fr.....	Seattle
Ivy, Eugene D.; Fr.....	Davenport
Iwamura, Shimaturo; Jr.....	Seattle
Jackson, Reynold R.; Sr.....	Montesano

Jacobs, Isabel; Jr.....	Seattle
Jacobs, Townsend H., Jr.; Fr.....	Seattle
Jacobson, Pauline; Jr.....	Los Angeles, Cal.
James, Jeannette; Jr.....	Black Diamond
Jeffrey, Dorothy; Fr.....	Roseburg, Ore.
Jenne, Grace Manetta; So.....	Coupeville
Jepsen, Clifford Waldin; Fr.....	Seattle
Johnson, Alfred Pullman; Sr.....	Enumclaw
Johnson, Alice M.; Sr.....	Portland, Ore.
Johnson, Anna Helen; Sr.....	Seattle
Johnson, Axel William; Fr.....	Burlington
Johnson, Clarissa; Fr.....	Seattle
Johnson, Euphemia; Fr.....	Salt Lake City, Utah
Johnson, Florence; So.....	Spokane
Johnson, Helen Marie; Fr.....	Burlington
Johnson, Lyle G.; Jr.....	Kennewick
Johnson, Manly Mund; So.....	N. Yakima
Johnson, Martha R.; Jr.....	Seattle
Johnson, Ofell H.; So.....	Seattle
Johnson, Rose; So.....	Buhl, Idaho
Johnson, William E.; So.....	Selah
Johnston, Hazel Blanch; Fr.....	Seattle
Johnston, Jeannette Adella; Sr.....	Seattle
Johnston, Violet Kathleen; Jr.....	Ritzville
Joiner, Anna Elmina; Jr.....	Anacortes
Jolliffe, Ellen Mary; Sr.....	Seattle
Jones, Sarah Dorothy; So.....	Ft. Lawton
Jones, Ella; So.....	Seattle
Jones, Evelyn Cornelia; Fr.....	Seattle
Jones, Hays; Jr.....	Tacoma
Jones, Hazel; Sr.....	Seattle
Jones, Irene V.; Jr.....	Renton
Jones, Mary Elizabeth; Sr.....	Rex, Ore.
Jones, Roy Franklin; So.....	Sumas
Jones, Stacy V.; Sr.....	Tacoma
Jones, Fred Vincent; Fr.....	Seattle
Jones, Weaver Judson; So.....	Centrallia
Jorgensen, Marguerite; Fr.....	Seattle
Jorgensen, Ruth; Fr.....	Seattle
Josenhans, Sarah Charlotte; Fr.....	Seattle
Joyner, Isabelle May; Sr.....	Seattle
Judd, Florence; Fr.....	Seattle
Judd, Myron V.; So.....	Seattle
Judd, Neil; Fr.....	Seattle
Kane, Mary Eleanor; Fr.....	Seattle
Kastner, George Charles; Sr.....	Seattle
Kastner, Louis R.; Sr.....	Seattle
Keenan, Helen Rose; Sr.....	Seattle
Keenan, Mary Antoinette; Jr.....	Seattle
Kegley, Ronald J.; So.....	Olympia
Keith, Emily Hazlewood; So.....	Seattle

Keller, Dallas C.; So.....	Seattle
Kellogg, May Louise; Fr.....	Seattle
Kelly, Helen Phoebe; Sr.....	Bellingham
Kelsey, Louise; Jr.....	Seattle
Kelton, Charles Clarence; So.....	Dawson, Y. T., Can.
Kelton, Viola; Jr.....	Dawson, Y. T., Can.
Kemper, Leo E.; Jr.....	Toppenish
Kendall, Louise Conner; Fr.....	Seattle
Kendrick, Gladys Leslye; Sr.....	Berkeley, Cal.
Kennedy, Mabel Josephine; Jr.....	Tacoma
Kerr, Katherine I.; So.....	Seattle
Kerr, Ruth H.; So.....	Seattle
Kershaw, William Earnest; So.....	N. Yakima
Kersten, Pearl Bessie; Fr.....	Seattle
Keyes, Arthur; Fr.....	Tacoma
Kincaid, Airdrie Lennox; Fr.....	Seattle
Kindig, Leslie H.; Fr.....	Hastings, Neb.
King, Alice Gertrude; Fr.....	Friday Harbor
King, Marianne; Sr.....	Seattle
King, Martius D.; Fr.....	Seattle
King, Virginia Emma; So.....	Seattle
Klizer, Dorothy; Jr.....	Tacoma
Klaeboe, Sigrid; Fr.....	Seattle
Kleinberg, Alfred Harold; Fr.....	Ellensburg
Klocker, Rosetta Pink; Fr.....	Pt. Townsend
Klopfer, Henrietta J.; So.....	Seattle
Knapp, Eugène Henry; Fr.....	Davenport
Knapp, Frances E.; Fr.....	Lynden
Knapp, Martha G.; So.....	Seattle
Koller, Helen; So.....	Seattle
Kolmitz, A. Victor; So.....	Seattle
Kortemeyer, Clara D.; So.....	Mabton
Kozlowski, Frank; Fr.....	Seattle
Kriegler, Joseph E.; So.....	Odessa
Krohn, Violet Lucile; Fr.....	Seattle
Kronschnable, Mercedes; Jr.....	Seattle
Kuepferle, Bessie May; Fr.....	Seattle
Kugler, Ruth Teresa; So.....	Salt Lake City, Utah
Kuhn, Leon S.; Fr.....	Colfax
Kyd, Margaret Stewart; Fr.....	Seattle
Lachman, Dorothy; So.....	Seattle
Lamoreux, Ethan Allen; So.....	Burton
Laney, Frances W.; Jr.....	Seattle
Lange, Johann H.; Jr.....	Seattle
Larson, Mildred; Jr.....	Seattle
Laughlin, Raymond K.; Fr.....	Ellensburg
Lauthers, Gladys; Sr.....	Portland, Ore.
Lawson, Gay Lillian; So.....	Seattle
Leaf, Alice; Jr.....	Seattle
Leavitt, Dorothy; Fr.....	Seattle
Lee, (Mrs.) Adelia G.; Fr.....	Seattle

Lee, Beatrice E.; So.....	Seattle
Lee, Edward Arthur; So.....	Spokane
Lee, Ivan William; Fr.....	Enumclaw
Lee, Marlon W.; So.....	Tacoma
Lee, W. Fred; Fr.....	Bellingham
Leehey, Donald James; So.....	Seattle
Legg, Z. Emily; Fr.....	Seattle
Leghorn, Frances Marie; So.....	Seattle
Leichardt, Chester A.; Fr.....	Kelso
Lemley, Helen Sarah; Fr.....	Mold
Lemon, Millard Gerry; Fr.....	Olympia
Leo, Carl Macaulay; Fr.....	Seattle
Leslie, William M.; Fr.....	Seattle
Lesser, Margaret Helen; Fr.....	Seattle
Lewis, J. Crawford; So.....	Naches
Lewis, Joseph Hiller; Fr.....	Seattle
Lewis, Leonie Roberta; Fr.....	Seattle
Lewis, Marion June; So.....	Edmonds
Lieberg, Vivian H.; Jr.....	Seattle
Liliopoulos, Hercules; Fr.....	Seattle
Limecooly, Clinton; Fr.....	Seattle
Lindberg, Wilmer Hilding; Fr.....	Tacoma
Lindburg, Russell S.; Fr.....	Seattle
Linder, Muriel; Jr.....	Seattle
Lindsay, Irma; Sr.....	Pt. Angeles
Lindsay, Francis Steele; Fr.....	Spokane
Lindsey, L. Burne; Fr.....	Seattle
Liston, James G.; Fr.....	Orillia
Lockman, E. Donald; Fr.....	Seattle
Logan, Florence L.; So.....	Seattle
London, Lola Margaret; Fr.....	Seattle
Loomis, (Mrs.) Minerva Udell; So.....	Burton
Lopp, Weyana; Fr.....	Seattle
Louden, Russell; Fr.....	Centralia
Love, Grover Allan; Jr.....	Moresville, Indiana
Lovejoy, Alfred Brackett; Fr.....	Seattle
Lovejoy, W. Ellsworth; So.....	Coupeville
Lovely, Josephine Monica; So.....	Arlington
Low, Nellie; So.....	Dayton
Lowe, Bennie; Fr.....	Tacoma
Ludgate, Katie Eva; Sr.....	Seattle
Lund, Katharine Louise; Jr.....	Seattle
Lundstrom, Margaret; Fr.....	Dala Jarna, Sweden
Lutz, Harold Haswell; So.....	Seattle
Lutz, Hugh Ward; So.....	Seattle
Lynch, Edward Harney; Fr.....	Everett
McAdams, Richard Lee; So.....	Seattle
McAllaster, Marion; So.....	Seattle
McCabe, Lucile M.; Sr.....	Seattle
McCann, Thomas Patrick; Fr.....	Marysville
McCarthy, Bernard; So.....	Anaconda, Mont.

McCausland, Theodosia Elizabeth; Fr.....	Seattle
McCausland, Lelon; Fr.....	Seattle
McClellan, Hortense; Jr.....	Seattle
McClelland, Carl Edward; Jr.....	Seattle
McClinton, Harold; Fr.....	Seattle
McClurg, Ola K.; Fr.....	Seattle
McColl, Nellie; So.....	Spokane
McCorkle, Mae D.; So.....	Lexington
McCormick, Helen; Fr.....	Gresham, Ore.
McCracken, Floyd; So.....	Clarkston
McCrary, Morris J.; Fr.....	Seattle
McCredy, Harold F.; So.....	Bickleton
McCullough, John Joseph; Fr.....	Seattle
McDermott, Paul E.; Sr.....	Seattle
McDonald, Agnes; Sr.....	Seattle
McDonald Bruce Scott; So.....	Spokane
McDonald, Claire; Sr.....	Seattle
McDonald, Mayme; So.....	Seattle
McDonnell, Edward L.; Jr.....	Hoquiam
MacDougall, Charles Bryant; Fr.....	Seattle
McDowell, John Watson; Fr.....	Bellevue
McEachron, Leah Katherine; So.....	Orofino, Idaho
McFaul, Helen; Jr.....	Portland, Ore.
McFee, Jean; Jr.....	Seattle
McGill, V. Jerauld; Fr.....	Minneapolis, Minn.
McGovern, Foster L.; Jr.....	Tacoma
McGregor, Mabel; So.....	Tacoma
McGrew, Eleanor Patricia; Fr.....	Seattle
McHugh, Ruth; Jr.....	Seattle
McKee, Everett Arco; Fr.....	Tenino
McKee, Mary Elizabeth; Sr.....	Everett
McKillop, Marjorie Leslie; Jr.....	Seattle
McKinney, Grace; Jr.....	Tacoma
MacLaren, Genevieve; Fr.....	Walla, Ore.
McLaughlin, James Stanton; Fr.....	Sandpoint, Idaho
McLean, Arthur John; Fr.....	Seattle
McLean, Dwyer C.; So.....	Seattle
McLean, Margaret Vivian; Sr.....	Seattle
McLean, Winfield Angus; Fr.....	Seattle
McLennan, Margaret Isabel; So.....	Seattle
McMillan, Elliot David; Fr.....	Orin
McPherson, Lexie; Jr.....	Seattle
McRae, Ruth Isabel; Fr.....	Tacoma
MacRae, Lucile Agnes; So.....	Seattle
Macpherson, Sara Eleanor; Fr.....	Seattle
Magill, William Fulton, Jr.; Jr.....	Portland, Ore.
Magnusson, Manford E.; Fr.....	Tacoma
Mahony, Mary Agnes; So.....	Portland, Ore.
Maloney, Margaret Jane; Fr.....	Montesano
Maltby, Mabel Ellen; Fr.....	Seattle
Mann, Charlotte; So.....	Seattle

Mann, Marguerite; Jr.	Seattle
March, Sibyl Holmes; Jr.	Spokane
March, Willis Charles; So.	Kallispell, Mont.
Mark, Grant Arnot; Fr.	Seattle
Marks, Anne L.; So.	Seattle
Marks, Stanley Anthony; Fr.	Douglas, Alaska
Marquette, Elizabeth; Jr.	Seattle
Marshall, Maurice Meredith; Fr.	Seattle
Martin, Ella Marie; Fr.	Seattle
Martin, Francis William; Fr.	Doty
Martin, Isabel; Fr.	Seattle
Martin, Leonora Ruth; Fr.	Seattle
Martin, Robert Courtney; Jr.	Wapato
Mason, Myrth Lucile; Fr.	Seattle
Masul, Leonard Goroku; Fr.	Seattle
Matheson, Katherine; Jr.	Anacortes
Mathieu, Beatrice; Jr.	Seattle
Mathis, Floy; Jr.	Seattle
Mathis, Madge; Fr.	Seattle
Matson, Camille A.; Fr.	Edison
Matsumoto, Umajiro; Jr.	Ibaraki, Japan
Mattson, Norma Claire; Jr.	Seattle
Matzke, Alvin Charles; Fr.	Everett
Maughlin, Frances Jean; Sr.	Snohomish
Maxey, Henry Elmer; So.	Ellensburg
May, Martha Hopper; So.	Seattle
Mayes, Ruth; Fr.	Seattle
Meade, Emily H.; So.	Seattle
Meisnest, Darwin Mason; So.	Seattle
Melkild, Mildred Eunice; Jr.	Seattle
Mendenhall, Katherine; Fr.	Seattle
Meredith, Roberta; Sr.	Strathmore, Cal.
Merrifield, Florine Virginia; So.	Kent
Messick, Geraldine; Jr.	Seattle
Meyer, George Frederick; Jr.	Lind
Meyer, Louise Antoinette; Fr.	Seattle
Meyer, Bernice Margaret; Fr.	Seattle
Michael, Sadie; Jr.	Chehalis
Middleton, Una Belle; Jr.	Seattle
Miles, Alice; So.	Seattle
Miles, Louise; So.	Seattle
Miley, Eva; Fr.	Everett
Miller, A. Amelia; So.	Lebanon, Ore.
Miller, Elvena; Sr.	Bellingham
Miller, Helen Marie; So.	Seattle
Miller, Katharine; Fr.	Seattle
Miller, Margery Merle; Jr.	Vancouver
Miller, Thelma; Fr.	Seattle
Milton, Fletcher R.; So.	Tacoma
Mitchell, Maize B.; Fr.	Sioux Falls, S. D.
Mitchell, Hiram Sherman; Jr.	Astoria, Ore.

Miura, Y. Matajiro; Sr.....	Japan
Miyasaki, Taichiro; Jr.....	Seattle
Moberg, Clara Louise; So.....	Vashon
Moe, Nettie Amella; Jr.....	Ostrander
Moen, Anna; So.....	Bellingham
Moffett, Edith Pauline; Jr.....	Woodinville
Monk, Edith Mary; Jr.....	Thomas
Montgomery, Catherine; Jr.....	Seattle
Moody, Anson Butler; So.....	Everett
Moore, Gerald Edwin; Jr.....	Seattle
Moore, Helene; Sr.....	Seattle
Moran, Malcolm Edward; So.....	Rosario
Morehouse, Dorothy; So.....	Seattle
Morford, Kenneth J.; So.....	Seattle
Morgenstern, Arthur S.; Fr.....	Seattle
Morrill, Grace Eugenie; Fr.....	Coupeville
Morris, Eugene Ralph; So.....	Seattle
Morrow, Anthony E.; Fr.....	Kalispell, Mont.
Morrow, Jessie E.; So.....	Seattle
Morse, Deborah Monoah; Fr.....	Davenport
Morse, Glenn Erwin; Fr.....	Chelan
Morton, Lucie Wellington; Jr.....	Seattle
Mossford, Frances Maria; Sr.....	Seattle
Mossford, Margaret Annie; So.....	Seattle
Moulton, William R.; Sr.....	Seattle
Mullon, Edward A.; Sr.....	Seattle
Murdey, Clarence L.; So.....	Seattle
Murray, Blaine; Fr.....	Seattle
Musser, Vera; So.....	Cashmere
Myer, Edna Margaret; Jr.....	Seattle
Myer, Walter; Fr.....	Seattle
Myhrman, Andrew M.; So.....	Purmo, Finland
Neagle, Della; Fr.....	Seattle
Neely, Bertis; Jr.....	Spokane
Neifing, Flossie Pearl; Fr.....	Puyallup
Neill, Frank W.; Sr.....	Seattle
Neill, Paul; Sr.....	Spokane
Nelson, Adilene T.; Jr.....	Portland, Ore.
Nelson, Helen; Jr.....	Seattle
Nelson, Livy S.; Fr.....	Seattle
Nelson, Vernon D.; Fr.....	Seattle
Nelson, Victor N.; Fr.....	Seattle
Nelthorpe, Helen A.; So.....	Seattle
Newell, Polly Clover; Sr.....	Kirkland
Newell, Dorothy Graham; So.....	Seattle
Niccolls, Paul Clifford; Fr.....	Morning Sun, Iowa
Nicholson, Margaret; Fr.....	Seattle
Nickum, Wallace S.; Fr.....	Spokane
Nigh, Alice; Sr.....	Bellevue, Ohio
Noble, Elmer J.; Jr.....	Centralia
Noren, Stanley; Fr.....	Seattle

Norgrove, Martin; Fr.....	Astoria, Ore.
Norman, Frances Guthrie; Fr.....	Seattle
Norquist, Harry A.; Fr.....	Seattle
Norris, Guy James; Fr.....	Burlington
Norwood, Annie; Fr.....	Grangeville, Idaho
Nydin, A. Clarence; Fr.....	Everett
Nylen, Gosta A.; Fr.....	Stellacoom
Nyren, Phillip; Fr.....	Seattle
Oakley, Mary E. Sr.....	Seattle
O'Brien, Jay; Fr.....	Black River Falls, Wis.
O'Connor, Matthew; Sr.....	Seattle
Odell, Ruth Zoa; Fr.....	Spokane
Odlin, Reno; So.....	Sedro-Woolley
Oehler, Charles Elmer; So.....	Seattle
Oertel, Ernest E.; Fr.....	Seattle
Lawton, Ogden; Fr.....	Seattle
Olds, Louise; Fr.....	Wenatchee
Olds, Margaret Beman; So.....	Wenatchee
O'Leary, Mary; Sr.....	Seattle
Oles, Floyd Hall; Fr.....	Tacoma
Olmstead, Frank L.; Jr.....	Caldwell, Idaho
Olsan, Anne Margaret; Fr.....	Elma
Olsen, Paul Crandall; Jr.....	Seattle
Olson, Edward; Fr.....	Seattle
Olson, Ernest Alvin; So.....	Tacoma
Olson, Pauline; Jr.....	Seattle
O'Neill, Angus L.; So.....	Shelton
O'Neill, Carmelita Elizabeth; Fr.....	Shelton
Osawa, Yuki Geda; Jr.....	Seattle
Osman, Flora Ethel; Fr.....	Seattle
Ostrem, Laura Esther; Fr.....	Edgewood
Ostrow, R. Harold; Fr.....	Seattle
Oswalt, (Mrs.) Flora Rice; Fr.....	Seattle
Otsuki, George Jogi; Jr.....	Tokio, Japan
Otterson, Palmer Walter; Fr.....	Post Falls, Idaho
Overman, Dorothy Louise; Fr.....	Seattle
Overmeyer, Bertha F.; Fr.....	Seattle
Oversby, Edward V.; Fr.....	Cle Elum
Owen, Eleanor; Jr.....	Seattle
Owen, Evelyn Clare; Fr.....	Seattle
Owen, Robert William; Fr.....	Spokane
Paine, Topliffe; Fr.....	Seattle
Park, Manning Warren; Fr.....	Seattle
Parker, Frances Estella; Jr.....	Seattle
Parker, John Allen; So.....	Tacoma
Parker, Samuel; So.....	Seattle
Parker, William A.; So.....	Seattle
Parks, Grace Amella; Sr.....	Seattle
Parolini, Elizabeth C.; Sr.....	Norway, Mich.
Parsons, Rosamond; Jr.....	Seattle
Pascoe, Nyra A.; Sr.....	Seattle

Patten, Ethel Mae; Jr.....	Seattle
Patton, Richard Will; Fr.....	North Yakima
Pearson, Earl Carlos Hugo; Fr.....	Mt. Vernon
Pease, Ira J.; Jr.....	Seattle
Pedersen, Ralph M.; Jr.....	Skagway, Alaska
Peeples, Donald; So.....	Seattle
Pepper, Leah H. Etheldeene; Jr.....	Seattle
Perry, Edward P.; Sr.....	Outlook
Perry, Francis W.; So.....	Selah
Peterson, Florence; Sr.....	Seattle
Peterson, Ivar; Fr.....	Seattle
Peterson, Philip Leonard; So.....	Spokane
Peterson, Reuben James; Jr.....	Seattle
Peterson, Russel; Jr.....	Seattle
Peterson, Wallace; Fr.....	Seattle
Pettijohn, Mina Irene; Fr.....	Seattle
Peyton, Eleanor Louise.; Fr.....	Spokane
Phillips, Fannie Glades; Fr.....	Seattle
Phillips, Herbert J.; Jr.....	Seattle
Phillips, Orlin Everett; Fr.....	Davenport
Phipps, Guy Francis; Fr.....	Tekoa
Pickrell, Evelyn; Fr.....	Spokane
Pierrot, George Francis; So.....	Seattle
Pierrot, Marjorie; Jr.....	Seattle
Piles, Samuel H., Jr.; Fr.....	Seattle
Pinkerton, Harold J.; So.....	Cashmere
Pinneo, Beula Fay; Jr.....	Seattle
Pinney, William George; So.....	Ontario, Ore.
Pitt, Mildred Esther; So.....	Seattle
Platt, Luella Bash; Sr.....	Seattle
Playter, Mirie Denison; So.....	Seattle
Plimmer, Hilda More; Jr.....	Brooklyn, N. Y.
Pohll, Emma Katherine; So.....	Columbia Falls, Mont.
Porep, Edward Walter; Fr.....	Seattle
Porter, (Mrs.) Frances Rice; Jr.....	Seattle
Post, Harry Grant; Sr.....	Seattle
Potter, Elizabeth Anna; Sr.....	Seattle
Potter, Walter Everett; Jr.....	Seattle
Power, Harry; Fr.....	Chehalis
Powlison, Lucile Alice; Fr.....	Seattle
Prairie, Lester William; Fr.....	Seattle
Pratt, Le Roy, Jr.; Fr.....	Tacoma
Pregnall, Marguerite Elsie; Fr.....	Bremerton
Prescott, Isabel Virginia; Fr.....	Seattle
Presley, Dorothea; Fr.....	Seattle
Pressentin, Marie Olga; Fr.....	Seattle
Presto, Gladys; Fr.....	Seattle
Prior, Pothena R.; Sr.....	Seattle
Pritchard, Charles S.; Fr.....	Freewater, Ore.
Pritchard, J. Gordon; Jr.....	Sorrento, Idaho
Pritchard, Grace Montana; Sr.....	Sorrento, Idaho

Proctor, Muriel E.; Jr.....	Seattle
Prothero, Kate; So.....	Seattle
Purdy, Florence Wylie; Sr.....	Tacoma
Pyle, Lucy L.; Jr.....	Seattle
Quigg, John W.; Fr.....	Seattle
Quigley, Clarence Black; Fr.....	Seattle
Quilliam, Louise Maud; Sr.....	Portland, Ore.
Rainey, Sarah Farquhar; Fr.....	Seattle
Ramage, Jerrine; Jr.....	Spokane
Rambo, Willis Elmer; Fr.....	Tenino
Ramsay, Claude C.; Fr.....	Seattle
Ramsey, Ivan; Fr.....	Seattle
Randall, V. Katherine; So.....	Seattle
Rasmussen, Violet; So.....	Seattle
Raven, Ruth; Fr.....	Monroe
Rawls, Viola; So.....	Seattle
Ray, Doris; Fr.....	North Yakima
Read, James Wesley; Sr.....	Portland, Ore.
Redington, Bernice Orpha; So.....	Seattle
Reed, Hazel Louise; So.....	Spokane
Reeves, Marie Adele; Fr.....	South Bend
Remsberg, Helen; Fr.....	Seattle
Reynolds, (Mrs.) Ada May Thompson; So.....	Cedar Falls
Reynolds, James C.; So.....	Sheridan, Wyo.
Rhodes, J. Fay; Fr.....	Walla Walla
Rice, Edith Allegra; Fr.....	North Yakima
Rice, Margaret D.; Fr.....	Prosser
Rice, Mary Levona; So.....	Tacoma
Richards, Albert A.; Fr.....	Seattle
Richards, Walter N.; Fr.....	Seattle
Richardson, Fred H.; Jr.....	Seattle
Richardson, Ralph Sterling; Fr.....	Spokane
Richardson, Joseph Victor; Fr.....	Seattle
Richter, Ella Paula; So.....	Tacoma
Rickert, Geneva; Fr.....	Seattle
Rickles, Abraham; Sr.....	Seattle
Riddle, Helen Jane; Jr.....	Seattle
Riddle, Genevieve Louise; Sr.....	Caldwell, Idaho
Riddle, Rosamond; Fr.....	Seattle
Riddle, William Stanley; Fr.....	Seattle
Riehm, Helen; So.....	Dockton
Rind, Rudla; Fr.....	Seattle
Rinker, Edwin R.; So.....	North Yakima
Ritchie, Claude Albert; Fr.....	Seattle
Robb, Opal; Fr.....	Seattle
Robe, Dorothy Cecil; So.....	Robe
Roberts, Elizabeth Jane; So.....	Seattle
Roberts, Margaret; Jr.....	Tacoma
Robertson, Richard R.; Fr.....	Seattle
Robinson, Frances Elizabeth; Fr.....	Seattle
Robinson, Helen Lorna; So.....	Republic

Robinson, Laura Marie; So.....	Everett
Robinson, Lewis Lester; Fr.....	Lewiston, Idaho
Rogers, Florence Aileen; Fr.....	Spokane
Rohr, Gertrude Emilie; Jr.....	Astoria, Ore.
Rohwer, Clarence F.; Fr.....	Seattle
Rohwer, Fred H.; Fr.....	Seattle
Romaine, Lecil Alma; So.....	Bellingham
Roper, Llewellyn R., Jr.; So.....	Seattle
Roseleaf, Dorothy Eleanor; So.....	Seattle
Rosenthal, Roy G.; Jr.....	Seattle
Rosenstein, Julia Hazel; Jr.....	Seattle
Rosling, Edward L.; Jr.....	Tacoma
Ross, Ethel; So.....	Seattle
Rosswog, William Charles; Fr.....	Kennewick
Rowland, Harold W.; So.....	Seattle
Rucker, Eugene Merritt; Fr.....	Seattle
Rupp, Thelma Montana; Fr.....	Snohomish
Russell, Florence Margaretta; So.....	Seattle
Russell, Pearl Elizabeth; Jr.....	Seattle
Ruttle, Corinne Rosabel; Sr.....	Seattle
Ryan, Lewis; Fr.....	Seattle
Rynning, Karen Serine; Fr.....	Tacoma
Saboe, Leon; Fr.....	Seattle
Sakamoto, Kel; Jr.....	Seattle
Salladay, Flora Etta; Sr.....	Seattle
Sample, Earle; Sr.....	Roslyn
Sandborn, Elizabeth Katherine; So.....	Blue Rapids, Kansas
Sanders, Claude G.; Fr.....	Seattle
Sanders, Alvis Monroe; So.....	Spokane
Sandstrom, William Herman; Fr.....	Portland, Ore.
Sangster, Reid George; Jr.....	Clarkston
Sartoris, Roma Marie; Jr.....	Enumclaw
Sarvis, Ruth Marie; Fr.....	Seattle
Sater, Gertrude Pauline; Jr.....	Seattle
Sato, Hiroshi; Sr.....	Japan
Saunders, John M.; So.....	Seattle
Schiffer, Wilson E.; Fr.....	Portland, Ore.
Schively, Charles S.; Sr.....	Seattle
Schlichting, William George; Fr.....	Davenport
Schofield, George Amidon; Fr.....	Seattle
Schreiner, Gertrude Mary; Jr.....	Seattle
Schreuder, Thelma; Fr.....	Seattle
Schulz, Antoinette Louise; So.....	Seattle
Schumacher, Helen May; Jr.....	Monroe
Schumacher, Margaret C.; Sr.....	Bellingham
Scott, Agnes; Fr.....	North Yakima
Scott, Burton F.; Jr.....	Sylvan Grove, Kan.
Seagrave, Louis Horace; Sr.....	Spokane
Searle, Williams Everett; Jr.....	Sunnyside
Seaton, Irene; Fr.....	Quincy, Ill.
Secord, Walter; Fr.....	Spokane

Seely, Anne Shepard; So.....	Seattle
Seely, Harriet Butler; Jr.....	Seattle
Selby, Harold K; Fr.....	Seattle
Servis, Helen Louise; Fr.....	Seattle
Settle, Edith; So.....	Kelso
Severns, Edward Ellsworth; Jr.....	Chehalis
Shaffer, Harold B.; So.....	Olympia
Shanks, Carrol M.; Fr.....	Payette, Idaho
Shannon, Thelma L.; So.....	Hamilton
Sharpe, Eva Mae; Jr.....	Seattle
Sharpe, Ruth Cole; Jr.....	Seattle
Shepherd, Paul Clark; Jr.....	Seattle
Shipman, Maryan; Fr.....	Spokane
Shoemaker, Herbert Curtis; Jr.....	Spokane
Short, Esther Lorinda; So.....	Cle Elum
Shortall, Rose Violet; Fr.....	Seattle
Shotwell, Catherine Maynard; So.....	Seattle
Shuey, Paul; So.....	Seattle
Silverstone, Herschel; Fr.....	Seattle
Simon, Arthur Emil; Sr.....	Seattle
Simonds, Esther; Jr.....	Bothell
Sims, Agnes Helen; Sr.....	Walla Walla
Sisler, Gertrude; Jr.....	Seattle
Sitton, Louise; Fr.....	Seattle
Skewis, Shirley Martin; So.....	Tacoma
Skillman, Fanny Alice; Jr.....	Seattle
Skinner, Frank Hammond; Fr.....	Seattle
Slater, Glen John; Sr.....	Ferndale
Slauson, Ruth Irvine; Fr.....	Portland, Ore.
Sleight, Hellen E.; Fr.....	Richland
Slye, Blanche; Fr.....	North Yakima
Small, Adele; So.....	Seattle
Smallwood, Gladys Nelsine; Jr.....	Seattle
Smith, John Alllaude; Fr.....	Seattle
Smith, Arnold Gallet; Fr.....	Sumner
Smith, Chauncey H.; So.....	Livingston, Mont.
Smith, Duncan Llewellyn, Jr.; So.....	Pt. Ludlow
Smith, Elfreda Allen; Fr.....	Seattle
Smith, Elsa; Fr.....	Tacoma
Smith, Erma; Fr.....	Seattle
Smith, George E., Jr.; Jr.....	Seattle
Smith, George Mims; Fr.....	Seattle
Smith, Gladys Lucile; Fr.....	Seattle
Smith, Gretchen; Fr.....	Everett
Smith, Guy W.; Fr.....	Okanogan
Smith, Mark E.; Jr.....	Everett
Smith, Otto Frederick; Fr.....	Great Falls, Mont.
Smith, Ralph Ryan; Jr.....	Seattle
Smith, Stephen Kemp; So.....	Pt. Angeles
Snider, C. Claude; So.....	Bush Prairie
Snoddy, Esther M.; Fr.....	Seattle

Solid, Minda R.; So.....	Coupeville
Somerindyke, George; Fr.....	Walla Walla
Southard, Mabel; So.....	Seattle
Sparks, Percy Spencer; Sr.....	Montesano
Speyers, Albert W., Jr.; So.....	North Yakima
Stahl, Gustav R.; Sr.....	Seattle
Stahlhut, Verna; So.....	Sunnyside
Stalp, Rose Marie; So.....	Sprague
Stanton, Kathryn Bryce; Jr.....	Seattle
Stanton, Mattie A.; Fr.....	Seattle
Stapleton, John M.; Fr.....	Goldendale
Starkey, Martha Irene; Fr.....	Boise, Idaho
Starr, Beatrice Evangeline; Jr.....	Seattle
Stearns, Nellie C.; Fr.....	Hartford
Steele, Catherine Irene; Sr.....	Walla Walla
Steendahl, Anna Serine; Sr.....	Seattle
Stein, Waldemar L.; Jr.....	Seattle
Stephen, Gladys Chapman; Jr.....	Bellingham
Stephenson, Edith Frances; Fr.....	Portland, Ore.
Stephenson, Marian Lucile; Fr.....	Portland, Ore.
Stevens, Marjorie; Fr.....	Seattle
Stevens, Percy; Fr.....	Seattle
Stevenson, Louis Virgil; Fr.....	Joseph, Ore.
Stevenson, Rebecca Naomi; So.....	Seattle
Stewart, Charles W.; Sr.....	Buckley
Stewart, Clare D.; Sr.....	Seattle
Stewart, Donald C.; Fr.....	Richmond Beach
Stewart, Howard G.; Jr.....	Spokane
Stewart, Wade A.; Jr.....	Seattle
Stilson, Leslie Adelbert; So.....	Spokane
St. John, Edith Ivalon; Jr.....	Richmond Beach
Stone, Helen; Jr.....	Seattle
Stone, John Ludwig; Fr.....	Marshfield, Ore.
Stoner, Lillian Una; Sr.....	Osceola, Neb.
Storm, Marie Louise; Fr.....	Seattle
Strande, Alfred; Fr.....	Seattle
Strobach, Nettina Louise; So.....	N. Yakima
Strom, Ansley; Fr.....	Spokane
Struble, Mildred Clara; Sr.....	Spokane
Stuart, Zara Althea; Sr.....	Hatton
Stuart, David F.; Fr.....	Seattle
Stuart, Robert Cummins, Jr.; Fr.....	Seattle
Stuchell, Edwin Wesley; Jr.....	Everett
Studdert, Constanse; Fr.....	Seattle
Stusser, Leslie; So.....	Tacoma
Suffel, M. Joyce; Jr.....	Seattle
Sully, Catherine Fredericka; Sr.....	Seattle
Sully, Helen; So.....	Seattle
Summers, Doris Edith; So.....	Seattle
Summersett, Peter, Jr.; Fr.....	Chehalis
Sundquist, Leona M.; Jr.....	Mt. Vernon

Sutherland, Jean Eleanor; So.....	Fairbanks, Alaska
Sutthoff, Helen; Fr.....	Seattle
Sutthoff, John Russell; So.....	Seattle
Sutton, Dorothy Jane; Fr.....	Seattle
Svarz, Laura; Fr.....	Bellevue
Swain, Kenneth H.; Fr.....	Seattle
Swanson, Edward B.; Jr.....	Tacoma
Swanson, LeRoy Dwight; Sr.....	Seattle
Swarts, Zella Jane; Jr.....	Kent
Swartz, Florence; Sr.....	Seattle
Swartz, Malinda; So.....	Spokane
Swem, Kathryn Marion; Fr.....	Medford, Ore.
Swift, Edward Alonzo; So.....	Seattle
Swigart, Bessie Lucile; So.....	N. Yakima
Syse, Sivert T.; Fr.....	Custer
Takegawa, Johane T.; Sr.....	Seattle
Talbot, George Stephen; So.....	Seattle
Tanaka, Shinichi; Jr.....	Shigaken, Japan
Tanner, Raymond Michael; So.....	Davenport
Tarp, Violet B.; So.....	Seattle
Taylor, Cyril E.; Sr.....	Seattle
Taylor, Donald Hugh; Fr.....	Seattle
Taylor, Dorothea; Jr.....	Seattle
Taylor, George S.; So.....	Prosser
Taylor, Grace Gladys; Fr.....	Seattle
Taylor, Roy Franklin; So.....	Seattle
Tennant, Grace Bernyse; Fr.....	Seattle
Tennant, Harold E.; Fr.....	Seattle
Terrell, Mary; Fr.....	Seattle
Tevis, Speed Smith; Fr.....	Seattle
Tewinkel, Ruth Merl; Sr.....	Spokane
Thickins, Jane Gray; Sr.....	Seattle
Thomas, Christine; Jr.....	Seattle
Thomas, Gertrude Marian; Fr.....	Cosmopolis
Thomas, Irving Wheat; Jr.....	Seattle
Thomas, Vivian Lavoina; So.....	Seattle
Thompson, Marvelle Beatrice; Sr.....	Harrington
Thompson, Catherine; Fr.....	Pendleton, Ore.
Thompson, Gertrude R.; So.....	Seattle
Thompson, Richard Aldwin; Jr.....	Okanogan
Thompson, Zella; So.....	Pendleton, Ore.
Thorkelson, Borghild Victoria; Jr.....	Seattle
Thoren, Arnold V. N.; Jr.....	Seattle
Thornburg, Mildred M.; So.....	Seattle
Thwing, Samuel Prentiss; Fr.....	Seattle
Tiffany, Dewey Emerson; Fr.....	Aberdeen
Tinling, Gertrude Jean; Fr.....	Seattle
Todd, Gerald B.; Fr.....	Tacoma
Tollefson, Hazel Bell N.; Sr.....	Seattle
Torrance, Kirby E.; So.....	American Falls, Idaho
Totten, Mabel Phelps; So.....	Seattle

Townsend, Aleta Kate; Fr.....	Langley
Trall, Frederick William; Sr.....	Seattle
Tremper, Edward P., Jr.; So.....	Seattle
Tromp, Theresa; Jr.....	Ferndale
Trow, A. Palmer; Fr.....	Ontario, Ore.
Troy, Helen Marion; Fr.....	Juneau, Alaska
Troy, Marion; Fr.....	Olympia
Trukositz, Elizabeth; Jr.....	Spokane
Tschirgi, Mildred E.; Fr.....	Oregon City, Ore.
Tucker, Gladys M.; Fr.....	Seattle
Tucker, Glyde Lynne; So.....	Portland, Ore.
Tucker, Josephine O.; So.....	Seattle
Tucker, Ruth Elisabeth; Jr.....	Seattle
Tuesley, Esther; Fr.....	N. Yakima
Tuesley, Walter; Sr.....	N. Yakima
Tully, Irene; So.....	Tacoma
Turnell, Ruth Eunice; Fr.....	N. Yakima
Turner, Ellen M.; Jr.....	Seattle
Turner, Laura A.; So.....	Oshkosh, Wis.
Turner, M. Marston; Fr.....	Seattle
Turnure, Harold R.; So.....	Portland, Ore.
Tuttle, Sallie M.; So.....	Seattle
Twyman, Jeannette M.; Sr.....	Ellensburg
Uchikata, Henson M.; Sr.....	Seattle
Uhl, Grace E.; Sr.....	Bellingham
Uhler, Marguerite Ida; So.....	Wrangell, Alaska
Unger, Nell Avery; Jr.....	Tacoma
Valentine, Albert L., Jr.; So.....	Seattle
Vammen, Floyd Alexander; So.....	Aberdeen
Vandercook, Mordecai William; Fr.....	Seattle
Van Engelen, Jennie; Jr.....	Hoguliam
Van Sicklin, Nina; Jr.....	Weiser, Idaho
Verran, William; So.....	Wapato
Veysey, Mary Isabel; Fr.....	Montesano
Vining, Marie Thelma; Jr.....	Seattle
Virtue, Eloise Beach; So.....	Seattle
Wallace, Clara Louise; Fr.....	Seattle
Wallace, Edith; Jr.....	Seattle
Walsh, Mildred; So.....	Seattle
Walsworth, Esther; Jr.....	Butte, Mont.
Walther, Leah Charity; Fr.....	Medford, Ore.
Wamba, Henry La Roche; Fr.....	Prosser
Ward, George Provost; Jr.....	Nyssa, Ore.
Ward, Pearl Edith; Sr.....	Seattle
Warnock, Lola M.; So.....	Joseph, Ore.
Watson, Anna E.; Fr.....	Seattle
Watson, Jean Ferguson; Fr.....	Seattle
Wayland, Margaret; Sr.....	Seattle
Weage, Avery Dudley; Fr.....	Seattle
Weaver, Clarence Alpheus; Fr.....	Seattle
Weaver, Geneita; Fr.....	Seattle

Weaver, Grace Elizabeth; So.....	Seattle
Weaver, Una Ellen; Fr.....	Seattle
Weber, Neal; So.....	Tacoma
Webster, Jessie Elizabeth; Fr.....	Pt. Angeles
Weissmiller, Cornelia Margaret; Jr.....	Seattle
Welts, Florence; Jr.....	Mt. Vernon
Welty, Consuelo; So.....	Seattle
Wenner, Charles Stanley; Fr.....	N. Yakima
Werby, Mamie Mathilda; Sr.....	Seattle
Wheeler, Gladys F.; Sr.....	Seattle
Wheeler, Henry O.; Sr.....	Tacoma
Wheelon, Burton J.; So.....	Seattle
White, Eugenia D.; Jr.....	Seattle
White, Frank I.; So.....	Seattle
White, Harold Clarence; Fr.....	Seattle
White, Lydia Belle; Fr.....	Seattle
White, Marjorie; Sr.....	Seattle
Whitehead, Francis Virgil; So.....	Seattle
Whitelaw, Marjorie Campbell; Fr.....	Seattle
Whitlock, Maryhelen; Fr.....	Los Angeles, Cal.
Wiegman, Hertha Elizabeth; Fr.....	Spokane
Wiegman, Marie; Sr.....	Spokane
Wienand, Marcus Carl; Fr.....	Seattle
Wiggins, Charles Kauffman; Fr.....	Portland, Ore.
Wilbur, Edward Perry; Fr.....	Seattle
Wilcox, Adele; Fr.....	Aberdeen
Wiley, James Martin; So.....	Waterville
Willan, Kathryn N.; So.....	Moorhead, Minn.
Williams, George Otis; So.....	Seattle
Williams, Merritt M.; Fr.....	Illwaco
Williams, Owen; Fr.....	Seattle
Williams, Roger E.; Jr.....	Seattle
Williams, Ross P.; Fr.....	Seattle
Williamson, Mary Agnes; Fr.....	Seattle
Willis, Margaret Miriam; So.....	Mt. Vernon
Wilson, Carl K.; So.....	Seattle
Wilson, Chester W. J.; So.....	Arlington
Wilson, Donald Crandall; Jr.....	Seattle
Wilson, Evelyn; Jr.....	Seattle
Wilson, Glen Evans; Fr.....	Seattle
Wilson, Harvey Erwin; So.....	Everett
Wilson, John N.; Sr.....	Seattle
Wilson, Sara Bertta; Sr.....	Spokane
Wilson, William Ronald; Sr.....	Seattle
Wiman, Fred S.; Fr.....	Portage
Winter, Charlotte Lucille; Fr.....	Los Angeles, Cal.
Winter, Vonia Margaret; So.....	Everett
Wise, Dorothy L.; Fr.....	Hoquiam
Wisner, Francis P.; So.....	Fruitvale, Cal.
Witherbee, Lewis; So.....	Seattle
Wolff, Katherine C.; Fr.....	Elberton

Wolthausen, Eldon LeRoy; So.....	N. Yakima
Wong, Hokkan; Fr.....	Canton, China
Woo, May; Fr.....	Seattle
Wood, Harold; So.....	Seattle
Wood, Joseph S.; Fr.....	Seattle
Wood, Jay Wellington; Fr.....	Seattle
Woodbridge, Dudley Warner; Jr.....	Seattle
Woods, Mary Elysabeth; Fr.....	Neah Bay
Woodward, (Mrs.) Carrie Draper; Fr.....	Seattle
Woodworth, Hazel Harriet; Fr.....	Seattle
Woodyard, Robert Allan; Sr.....	Sunnyside
Woolpert, Ruth; Fr.....	White Salmon
Wrentmore, Salena Elizabeth; Fr.....	Seattle
Wright, Charlotte; Jr.....	Ellensburg
Wright, Ruth H.; So.....	Seattle
Yancey, George McKinley; Fr.....	Spokane
Yerkes, William D.; So.....	Seattle
Young, Jennie R.; Sr.....	Seattle
Zabel, Mary Wilhelmine; Jr.....	Seattle
Zacharias, Rose; So.....	Seattle
Zimmerman, Inez Grace; Fr.....	Seattle

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Akin, Anna Laurine.....	Seattle
Allison, Gertrude.....	Seattle
Bain, Shirley Edith.....	Boise, Idaho
Baltzer, Eugene Christian.....	Seattle
Barr, Jack Calvin.....	Seattle
Benthien, Elsie M.....	Tacoma
Bigelow, Ernest Carl.....	Edmonds
Bogolavlensky, Xenia N.....	Seattle
Britton, Hazel.....	Spokane
Brokaw, Paul Irvine.....	Tacoma
Burson, Paul Leroy.....	Seattle
Bushell, Marjory Frances.....	Seattle
Caldwell, Elsie Georgiana.....	Beaverton, Ore.
Carman, Josephine.....	Seattle
Carver, Roscoe Jesse.....	Tacoma
Clendenny, Percy.....	Seattle
Coffin, Geraldine.....	Seattle
Craig, Dorothy Goldthorpe.....	Seattle
Crawford, Katharine Louise.....	Seattle
Cunningham, Randolph F.....	Everett
Curtis, Ruth Geneva.....	Seattle
Daniells, Helen Lucile.....	Seattle
Dean, Vinnie Ruth.....	Seattle
DeBard, Kay Iva.....	Seattle
DeSpain, Sibyl.....	Tacoma

Dodge, Raymond.....	Pomeroy
Dunbar, Lovina.....	Seattle
Eklund, Abel.....	Uppsala, Sweden
Engstrom, Faye Hammel.....	Bremerton
Fawcett, Harriet Elizabeth.....	Tacoma
Fenwick, Frances Ann.....	Everett
Flumerfelt, Stephen.....	Seattle
Friedlein, Victor Chauncey.....	Spokane
Gelger, Frederick M.....	Tacoma
Gies, Ethel Harriet.....	Seattle
Gilbert, Fred H.....	Tacoma
Gilroy, Helen Elizabeth.....	Seattle
Greenus, Cecilia.....	Seattle
Grimm, William.....	Centralia
Hahlo, Edith Marguerite.....	Seattle
Halterman, Carl Gorden.....	Pomeroy
Harlow, Frances Winsor.....	Seattle
Harold, Eugene L.....	Seattle
Hart, Dan.....	Auburn
Hiberly, Warde C.....	Tacoma
Hicks, Lucile.....	Seattle
Hoagland, Otto Townsend.....	Seattle
Hunt, Hector McNeil.....	Seattle
Hunt, Marshall.....	Tacoma
Hurley, Colla P.....	Pecatonica, Ill.
Hutchison, Ethel Patricia.....	Missoula, Mont.
Jensen, George A.....	Seattle
Johnson, M. Clarke.....	Tacoma
Johnson, Lillie A.....	Batavia, Ill.
Johnston, Theresa Marguerite.....	Seattle
Jones, Ronald M.....	Arlington
Kessinger, Earl R.....	Seattle
Kesterson, Kris.....	Aberdeen
Kiefer, Margaret Lois.....	Seattle
Kincaid, Frederick M.....	Palouse
King, Chester W.....	Seattle
King, (Mrs.) Marian Towle.....	Seattle
Kitamura, Morimitsu.....	Osaka, Japan
Koenig, Royland H.....	Ontario, Ore.
Koucherenko, Xenophon.....	Moscow, Russia
Kyle, Matthew Don.....	Seattle
Larson, Harold Martin.....	Seattle
Lin, Fu.....	Hunan, China
Linder, Eleanor.....	Seattle
Logg, Charles P.....	Seattle
Lopp, Katharine Kittredge.....	Seattle
Lovgren, Elvey Theresa.....	Poulsbo
McAllister, Bess L.....	Seattle
McCormick, Eleanor.....	Seattle
McDonald, Clive William.....	Spokane
McGoran, Irene M.....	Merritt, B. C.

McGrath, Anna Mae.....	Pomeroy
Macnamara, John Patrick.....	Bonnors Ferry, Idaho
Magrunn, Harry Alfred.....	Walla Walla
Mahler, Harold E.....	Seattle
Mann, Elizabeth J.....	Waterloo, Iowa
Mathis, Edith.....	Puyallup
Matthies, Silas F.....	Pomeroy
Mims, Wesley M.....	Pendleton, Ore.
Moore, Caroline L.....	Bremerton
Nelson, Hertha A. C.....	Duluth, Minn.
Nelson, Leone Marie.....	Seattle
Nipper, Alva Newton.....	Grants Pass, Ore.
O'Neill, John.....	Seattle
Paine, Horace Henry.....	Seattle
Payne, Bryan Watson.....	Tacoma
Petrovitsky, Charles.....	Seattle
Pettijohn, Everett H.....	Ritzville
Phillips, James Commons.....	Seattle
Pinkham, (Mrs.) Ada D.....	Seattle
Pole, Dorothy M.....	Tacoma
Ramaker, Gerald Perry.....	Seattle
Reed, Harold Eugene.....	Seattle
Richards, Helen Estelle.....	Tacoma
Richeson, Mary Carter.....	St. Louis, Mo.
Robinson, Piere.....	Seattle
Robinson, Pierpont.....	Seattle
Satterlee, Kathryn Coy.....	Seattle
Scott, Emma Agnes.....	Baldwin, N. D.
Scougal, Laura.....	Seattle
Shell, Besse Genevieve.....	Wallowa, Ore.
Shindel, Morris Harry.....	Seattle
Shostak, Zeonvy.....	Crimea, Russia
Smith, Stacy.....	Seattle
Spelman, James Rewalt.....	Seattle
Suwalsky, Augusta.....	Seattle
Taylor, Gretchen Amella.....	Portland, Ore.
Tevis, James.....	Seattle
Turner, Charles Everett.....	Seattle
Upper, Helen Elizabeth.....	Orillia
VanDusen, W. B.....	Seattle
Van Horn, Frank.....	Oakland, Cal.
Waller, Donald G.....	Seattle
Walter, Ruth H.....	Portland, Ore.
Wells, Leone.....	Seattle
Weston, Nellie Carolyn.....	Seattle
Wheeler, George Emerson.....	So. Pasadena, Cal.
Wheeler, James Addison.....	Seattle
Williams, Frank Edward.....	Seattle
Williams, Jack Groville.....	Iiwaco
Williams, (Mrs.) Rhea.....	Seattle
Wilson, Myrtle E.....	Seattle

REGISTER OF STUDENTS

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Wilson, Ross S.....	Bellingham
Woodward, Harriet.....	Seattle

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Anderson, Mrs. Lulu E.....	Seattle
Barnes, Edgar.....	Seattle
Barton, Anne L.....	Seattle
Beard, Dorothy Mae.....	Vancouver
Bennett, Hazel Burroughs.....	Seattle
Benson, Helen.....	Seattle
Blunk, Harry C.....	Seattle
Boldt, (Mrs.) Katherine.....	Seattle
Bordeaux, Russell.....	Seattle
Bradley, Ernest L.....	White Salmon
Bremner, Fred Arthur.....	Seattle
Brewster, (Mrs.) Pearl E.....	Seattle
Brintnall, Bert W.....	Seattle
Brown, N. Earl.....	Seattle
Brueggerhoff, (Mrs.) Ada.....	Seattle
Bundy, Thomas Walter.....	Seattle
Campbell, George William.....	Seattle
Cavanagh, James Alfred.....	Seattle
Chamberlain, Robert James.....	Seattle
Chisholm, (Mrs.) Anna.....	Wilson Creek
Chittick, (Mrs.) Edna Whitman.....	Seattle
Civish, Roy.....	Seattle
Clowes, Theodore Miles.....	Nome, Alaska
Constantine, H. Victor.....	Seattle
Cramlet, Mrs. C. M.....	Seattle
Dargan, Maurice P.....	Puyallup
Davis, Benjamin K.....	Seattle
Davis, Mrs. Benjamin K.....	Seattle
Deckmann, Augusta Minna.....	Hamburg, Germany
Donahoe, (Mrs.) Clara.....	Seattle
Dowd, Dollie.....	Seattle
Ducasse, Nesta.....	Seattle
Ellenberger, Henry Edward.....	Seattle
Folk, Katherine B.....	Seattle
Fullerton, Gordon F.....	Seattle
Gilmore, Samuel R.....	Seattle
Granger, Glenn W.....	Seattle
Green, Louis Leo.....	Seattle
Greenway, William Edward.....	Seattle
Gurnett, Floyd E.....	Lewiston, Mont.
Hargrave, Margaret Elizabeth.....	Castle Rock
Hatfield, Kenna.....	Seattle
Haugen, Auker.....	Seattle
Hazelett, Samuel J.....	Seattle

Healy, Nicholas C.....	Seattle
Hibler, Lionel E.....	Seattle
Hill, Marguerite.....	Boise, Idaho
Hunt, William P.....	Seattle
Johnson, Rina L.....	Seattle
Johnsone, Delphine.....	Ellensburg
Jones, (Mrs.) Marie M.....	Seattle
Judd, Elsie G.....	Seattle
Kane, (Mrs.) Susan M.....	Seattle
Kerzie, F. L.....	Seattle
Kirsten, Rudolph Willibald F.....	Dresden, Germany
Langlow, Leonard S.....	Tacoma
LeSourd, Charles Lawson.....	Seattle
Lewis, Carrie May.....	Seattle
McCracken, Oren.....	Clarkston
McDermid, Hamsie William.....	Seattle
MacDonald, William Edward.....	Kalispell, Mont.
McDonald, Mary Elizabeth.....	Seattle
McGill, Kittle Alice.....	Seattle
McGugan, Dorothy.....	Bellingham
McIntosh, Elizabeth.....	Rolling Bay
McKee, George Meade.....	Shepherd, Mich.
Martine, Fred Earl.....	Seattle
Mathews, Leo A.....	Seattle
Morrison, Clarence Victor.....	Seattle
Morse, Edith R.....	Seattle
Mousseau, Elizabeth Whiter.....	Seattle
Nash, (Mrs.) Lucy Weslow.....	Seattle
Newton, Dana A.....	Seattle
Noble, Frederic Charles.....	Granite Falls
Nordlund, K. E.....	Seattle
Norton, Rose Lee.....	Seattle
Ober, Ralph Hadlock.....	Seattle
Oldham, J. T.....	Seattle
Peterson, Mrs. Fred H.....	Seattle
Pettitt, Florence Mabel.....	Seattle
Phelan, Kenneth C.....	Seattle
Plummer, (Mrs.) Ethel.....	Seattle
Pond, Frank W.....	Seattle
Pugsley, Clara Leonard.....	Seattle
Ralston, Arthur Howard.....	Seattle
Randall, Ralph Baxter.....	Seattle
Randrup, Elner A.....	Copenhagen, Denmark
Rensing, Herman.....	Castle Rock
Ruttle, John.....	Seattle
Samuelson, Vernon Alfred R.....	Pt. Angeles
Scram, Newton G.....	Seattle
Shiraiski, Skika O.....	Japan
Simmons, Lena Merle.....	Seattle
Simpson, William J. P.....	Seattle
South, Roy.....	Salem, Ore.

REGISTER OF STUDENTS

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Speer, Theodora.....	Bellevue
Stevensen, Lillie Christena.....	Tacoma
Strate, Johanna.....	Seattle
Stuchell, Edna.....	Everett
Thomas, Dell Waldo.....	Seattle
Thompson, Jessie M.....	Seattle
Townsend, Martha A.....	Seattle
Turner, (Mrs.) Esther Wilson.....	Seattle
Uhlman, Halcyon Gertrude.....	Seattle
Vogt, Harry P.....	Seattle
Weiss, Mrs. Henry.....	Seattle
Wells, Delbert Forrest.....	Seattle
Weslow, Fannie Leah.....	Seattle
Whitman, Paul Page.....	Seattle
Wilson, Emma J.....	Seattle
Wilson, Helene Harper.....	Seattle
Windsor, Williams Leonia.....	Seattle
Woolsey, E. Fay.....	Seattle

COLLEGE OF SCIENCE

ABBREVIATIONS

Classes

Sr.—Senior
Jr.—Junior

So.—Sophomore
Fr.—Freshman

*Name of Student and Rank**Home Address*

Ahrens, Helen Irene; So.....	Seattle
Albert, Paul; Fr.....	Seattle
Allen, Mabel D.; So.....	Vancouver, B. C.
Allison, Thomas Lyle; Fr.....	Bremerton
Anderson, Clara; Jr.....	Seattle
Anderson, Clarence L.; Sr.....	Seattle
Anderson, Dorothy; So.....	Seattle
Anderson, Edna M.; Fr.....	Redmond
Anderson, Helen Merriam; Sr.....	Seattle
Anderson, Joseph; Fr.....	Battle Ground
Anderson, Ray Horace; Fr.....	Mt. Vernon
Anderson, August Reinhold; Fr.....	Seattle
Armstrong, Grace; Jr.....	Index
Atkin, Irene May; Fr.....	Seattle
Austin, Frederick C.; So.....	Seattle
Bachmann, Amelia Helen; Sr.....	Seattle
Bailey, Caroline E.; Sr.....	Seattle
Bailey, Edith; Sr.....	Walla Walla
Baker, Florence Adelaide; Fr.....	Seattle
Bale, Ruth Calista; So.....	South Bend
Ballaine, Sophronia; Sr.....	Seattle
Banker, Iphigene C.; Sr.....	Seattle
Bardin, Galva Janet; Sr.....	Seattle
Barkwill, Bernard G.; Fr.....	Seattle
Barnhart, Viola Mae; Fr.....	Monroe
Barter, Ella Margaret; Sr.....	Seattle
Bassett, Charlotte Anne; Fr.....	Seattle
Beegle, Burton L.; Sr.....	Portland, Ore.
Bell, Jessie L.; Sr.....	Seattle
Bickford, Ernest D.; Jr.....	Seattle
Bittner, Joseph Eric; Fr.....	Sprague
Blodgett, Hilarion J.; Fr.....	Tacoma
Bogardus, Almon E.; So.....	Seattle
Bolinger, Blanche Elizabeth; Jr.....	Methow
Boulger, Martha Lillian; Jr.....	Spokane
Bower, Gladys Marie; Fr.....	E. Seattle
Boyd, Winfield G.; Sr.....	Goshen, Ore.
Brackett, Bertha; Sr.....	Seattle
Bradley, Blythe Anita; Jr.....	Seattle
Brooks, Mildred; Jr.....	Bremerton
Brown, Warren; So.....	Wilkes-Barre, Pa.

Bryan, Goldie Alice; Jr.	Seattle
Burback, Margaret; So.	Seattle
Burgess, Henrietta; Fr.	Seattle
Burke, Frederick Tichener; Fr.	Portland, Ore.
Buss, Allen Eugene; Fr.	Spokane
Butcher, Bessie Elizabeth; Jr.	Seattle
Butler, Judson Rea; Fr.	Seattle
Byers, A. Kathryn; So.	Seattle
Calhoun, Emmett L.; Fr.	Seattle
Cameron, Marion Brownlee; Jr.	Pt. Huron, Mich.
Campbell, Esther Mary; So.	Seattle
Carey, Robert Lincoln; So.	Seattle
Carleton, Lillian G.; Sr.	Seattle
Carlson, Agnes Naomi; Jr.	Seattle
Carpenter, Beatrice H.; Sr.	Seattle
Carson, Leslie D.; Sr.	Seattle
Chamberlain, Percy Ira; Fr.	Seattle
Chan, Guy Hugh; So.	Victoria, B. C.
Chapman, Grace Lillian; Sr.	Seattle
Church, Mabel Minerva; Jr.	Pocatello, Idaho
Clagett, Elwood; Fr.	Seattle
Clarke, Ellnor; Fr.	Seattle
Claypool, John Cowles; Fr.	Seattle
Colman, Kenneth; So.	Seattle
Colton, Grace Edith; So.	Seattle
Condon, Dorothy; So.	Pt. Gamble
Conner, Delight Ruth; Fr.	Olympia
Conner, Dorothy Harriette; Fr.	Seattle
Cooper, Evelyn Frances; Jr.	Seattle
Cootes, Sarah; Fr.	Medina
Corey, Esther Marie; So.	Tacoma
Cornell, Gladys; Sr.	Tacoma
Crawford, R. Donald; Sr.	Seattle
Crawford, Susan Margaret; So.	Walla Walla
Curtis, Paul William; Fr.	Seattle
Cushman, Thomas J.; Sr.	Seattle
David, Pearl; Sr.	Seattle
Davis, Dwight M.; Fr.	Pt. Orchard
Davis, Harold E.; So.	Tacoma
Dean, Kenneth Ketchum; So.	Seattle
DeBruyn, Paul Marcellus; Jr.	Seattle
Demro, Lucille; So.	Seattle
Desmond, Margaret R.; Jr.	Tacoma
Dirks, Donald; So.	Spokane
Dodge, Mildred Laura; Fr.	Portland, Ore.
Donovan, Harrison; Sr.	Seattle
Downs, Agnes L.; Sr.	Mt. Vernon
Dresslar, Martha Estella; Sr.	Seattle
Drummond, Wallace Gordon; Sr.	Seattle
Dykeman, Robert L.; Fr.	Orillia
Eagleson, James Mills, Sr.	Seattle

Eitel, George David; Fr.....	Seattle
Elerath, Walter Raymond; Fr.....	Seattle
Ellis, Harold Andrus; Fr.....	Spokane
Emmons, Carl William; Jr.....	Salem, Ore.
Farmer, Rita L.; Fr.....	Seattle
Farquhar, Elizabeth H.; So.....	Spokane
Farrell, Charles Vincent; So.....	Edgcomb
Faubert, Alice M.; Fr.....	Shelton
Fay, Helen Frances; Jr.....	Seattle
Fay, Temple Sedgwick; Sr.....	Seattle
Fisher, Eunice Helen; Fr.....	Seattle
Fisk, Frances E.; Jr.....	Parma, Idaho
Fisk, Russell T. Y.; Fr.....	Seattle
Floyd, Ruth Marion; Sr.....	Spokane
Foreman, Byron; Fr.....	Tacoma
Foreman, Leotta Marie; Sr.....	Tacoma
France, Alda May; Fr.....	Montesano
Frankland, Lillian L.; Fr.....	Seattle
Fraser, A. Rose; Jr.....	Burlington
Freeman, Robert; Sr.....	Spokane
Frew, Rosamond; Sr.....	Seattle
Friars, Lola E.; So.....	Tacoma
Frye, Else Marie; Jr.....	Seattle
Gallup, Lucy; Sr.....	Seattle
Garvey, Edmund J.; So.....	Seattle
Gearhart, Esther; Jr.....	Seattle
Gerischer, Lillian Wilhelmine; Jr.....	Muscatine, Iowa
Gilbert, Lois Marion; Jr.....	N. Yakima
Gilman, Bonnie Ruth; So.....	Seattle
Glaser, Harry J.; Sr.....	Seattle
Good, Jane; Jr.....	Mt. Vernon
Gray, Clara Josephine; So.....	Arlington
Greenleaf, Ruth Stetson; So.....	Seattle
Griffiths, Harold Frederick; Fr.....	E. Seattle
Griffiths, Marion Alice; Jr.....	Seattle
Guernsey, Harold Jackson; So.....	Prosser
Gunn, Marjorie; Fr.....	Seattle
Haley, Stirling Colby; Jr.....	Seattle
Hall, Maude E.; So.....	Edmonds
Haller, Bernadine; Jr.....	Seattle
Hamilton, Alleen Ames; Jr.....	Seattle
Hamm, Gladys V.; So.....	Sheridan, Wyo.
Hammond, Ardene; So.....	Seattle
Hammond, Avis Ethel; Jr.....	Seattle
Hanselman, Everett; Sr.....	Seattle
Hanson, Helen R.; Sr.....	Seattle
Harbaugh, Charles W.; So.....	Sedro Woolley
Harris, Arthur Kirkland; Jr.....	Colfax
Harshman, Gertrude; So.....	Fall City
Hartge, (Mrs.) Lena Armstrong; Sr.....	Seattle
Haugum, Cyrus James; Jr.....	Seattle

Hemenway, Anna Marjorie; Sr.	Seattle
Henderson, Phil A.; Jr.	Portland, Ore.
Henry, Ruth Varene; Sr.	Seattle
Hicks, Donald Erwin; Fr.	Lewiston, Idaho
Higgs, Paul McClellan; Jr.	Pine City
Hilton, Omega; Jr.	Marysville
Hirata, Mitsuo S.; Jr.	Miyken, Japan
Hitchman, Dan; Fr.	Seattle
Holman, Zelma Leone; Jr.	Tacoma
Home, Jessie M.; Sr.	Ellensburg
Hook, Florence Elizabeth; So.	Aberdeen
House, Osceola Louise; Fr.	Pt. Townsend
Howard, Alma Barto; Sr.	Seattle
Howes, Jessie; So.	Hood River, Ore.
Hurley, Douglas Chester; Fr.	Pecatonica, Ill.
Imel, Dea LaPlume; Sr.	Astoria, Ore.
Janson, Roderick; Fr.	Seattle
Jared, Myron Shelby; Fr.	Seattle
Jeans, Mildred; Jr.	Earlington
Jerbert, Einar Waldemar; Jr.	Seattle
Johnson, Edward Steven; Fr.	Seattle
Johnson, Ethel Helen; Jr.	Seattle
Johnson, Gladys Almeda; Sr.	Waterman
Johnson, Hilda; Sr.	Nome, Alaska
Johnson, Ursula; Fr.	Seattle
Johnson, Vernon Bertrand; So.	Everett
Jolliffe, Jessie May; Fr.	Seattle
Jones, Margaret C.; Sr.	Mt. Vernon
Jones, Marian Elizabeth; Fr.	Hartline
Jones, Raymond A.; So.	Seattle
Jürgensohn, Eva E.; Jr.	Seattle
Kahan, Alice Helen; Fr.	Seattle
Karrer, Rosella M.; Fr.	Seattle
Karshner, Zura Mae; Fr.	Aberdeen
Kaufman, Katharine F.; Sr.	Bellingham
Kaupp, Raymond Theodore; So.	Wenatchee
Kellner, Frank Everts; Jr.	Hamilton
Keppel, Susan M.; Jr.	Seattle
Kileen, Delcie; Fr.	Seattle
King, Arthur Joseph; So.	Vashon
Kipp, Pearl Velma; Fr.	Seattle
Kirkham, Virgil R. D.; So.	Ritzville
Kitchin, Harry Lindley; Fr.	Seattle
Klussman, Richard Mansfield; Fr.	Spokane
Knausenberger, Clara Louise; Sr.	Seattle
Knausenberger, Hilda; Sr.	Seattle
Knudson, Esther; Jr.	Rexford, Kan.
Kuehner, Arthur Christian; So.	South Bend
Lamoreux, Harvey DeWitt; Jr.	Burton
Lancefield, Kenneth Parker; Fr.	Amity, Ore.
Landsburg, Frank E.; Fr.	Treadwell, Alaska

Larssen, Kirsten; So.....	Seattle
Laughon, Marion Albert; Fr.....	Davenport
LaViolette, Melvin F.; Jr.....	Seattle
Lawson, Walter Eastby; Sr.....	Seattle
Lea, Harold Kendrick; Fr.....	Seattle
Leaming, Inez; Fr.....	Castle Rock
Lee, Alice Margaret; Fr.....	Seattle
Legg, Lois Cornelia; So.....	Seattle
Lewin, Walter Rae; Fr.....	Tolt
Lewis, Anna; Fr.....	Coulee City
Lindblom, Florence Agnes; So.....	Turlock, Cal.
Linton, James Reginald; Fr.....	Burton
Linton, Robert R.; Fr.....	Burton
Little, Mary Frances; Sr.....	Menasha, Wis.
Lonke, Lillian Jensine; So.....	Seattle
Ludwigs, Flora Emma; Fr.....	Walla Walla
Lusby, Ruth Margaret; Jr.....	Seattle
Lusher, Ruby Ethel; Jr.....	Newport
McConihe, Paul M.; Jr.....	Tacoma
McCormick, Irma Alnita; Sr.....	Everett
McDonald, Grace L.; So.....	Seattle
MacDougall, John B., Jr.; So.....	Seattle
McGovern, Palmer William; Fr.....	Tacoma
McLaren, Gay Elizabeth; Jr.....	Seattle
McLeod, Norman Y.; Fr.....	Seattle
MacMurray, Douglas; Fr.....	Seattle
Macfarlane, Donald Andrews; Fr.....	Seattle
Mack, Enid Adolph; Fr.....	Seattle
Majors, Irene; Sr.....	Seattle
Martinson, Esther; So.....	Seattle
Matzger, Edward; Fr.....	Seattle
Mead, Harold Whitney; Fr.....	Everett
Medill, Alice May; Jr.....	Raymond
Mendham, Jeanne Beatrice; Sr.....	Spokane
Mensor, Evelyn; Fr.....	Seattle
Merrifield, Cedric; Fr.....	Sandpoint, Idaho
Messer, Elizabeth; Fr.....	Rolling Bay
Meyer, Mabel June; Sr.....	Tacoma
Michelson, Aimee; Sr.....	Seattle
Michener, Marie E.; Jr.....	Portland, Ore.
Miller, Evalena; Sr.....	Seattle
Miller, Helen A.; Sr.....	Tacoma
Miller, Mabel; So.....	Seattle
Miller, Wilhmetta Elizabeth; So.....	Ellensburg
Misner, Doris; Sr.....	Seattle
Monaghan, Rey William; So.....	Tacoma
Moore, Alice; Jr.....	Anacortes
Moore, Rita; Jr.....	Anacortes
Morehouse, Wilmot C.; Fr.....	Seattle
Morford, Heber Manley; Fr.....	Olympia
Moritz, Harold K.; So.....	Seattle

Morris, Erma May; So.....	Auburn
Morris, Leotta Genevieve; So.....	Seattle
Morrison, Victoria; Fr.....	Seattle
Mucklestone; Stanley Morton; Fr.....	Seattle
Mullis, Frances; Jr.....	Friday Harbor
Murchison, John M.; Fr.....	Aberdeen
Murphy, James Douglas; So.....	Tacoma
Myer, Thelma Anna Cecilia; Fr.....	Seattle
Myers, Dorothy; Jr.....	Seattle
Neely, Harold Richard; Fr.....	Spokane
Nelson, Esther; Jr.....	Seattle
Nelson, Raymond R.; Fr.....	Seattle
Nichols, Harold; So.....	Tacoma
Northrup, Lulu May; So.....	Seattle
Oertel, Daniel Theodore; Fr.....	Blaine
Olson, Cecelia Olive; Sr.....	Pt. Townsend
Osborne, Ralph Albert; Fr.....	Seattle
Parker, Charles Martin; So.....	Winlock
Patten, Anna Marie; Sr.....	Seattle
Paust, Edna; Fr.....	Seattle
Payne, Melvin; Fr.....	Auburn
Pepper, Echo; Fr.....	Seattle
Peterson, Carolyn Lois; Jr.....	Seattle
Pettitt, Florence Elizabeth; Fr.....	Pt. Angeles
Phillips, Gertrude Anne; Jr.....	Seattle
Phillips, Ruth N.; Fr.....	Seattle
Pieroth, John Philip; Fr.....	Ellensburg
Pirkey, Marion; Jr.....	Willows, Cal.
Podmore, John Arthur; Jr.....	Harrington
Pollard, Christine; Jr.....	Seattle
Porter; Charles E.; So.....	Thorp
Price, Frances Mary; Jr.....	Sifton
Pritchard, Millie M.; Sr.....	Seattle
Pucher, George Walter; Sr.....	Seattle
Pugsley, Bert; Fr.....	Seattle
Purvis, Lois Freda; Fr.....	Puyallup
Pynn, Carleton Parish; Fr.....	Seattle
Quast, Florence Anne; Jr.....	Marysville
Quast, Iola; Jr.....	Seattle
Randles, M. Foster; Fr.....	Granite Falls
Ransom, Lucile Rosamond; So.....	Seattle
Rawson, Erroll Whitman; Jr.....	Seattle
Raymond, Percy L.; Fr.....	Seattle
Raynor, George Emil; Jr.....	Seattle
Reekie, Jean; Jr.....	Seattle
Regan, Chester A.; So.....	Seattle
Reid, Minor Kelley; Jr.....	Lake Stevens
Reynolds, John Williamson; So.....	Seattle
Rhodes, Marthana; So.....	Seattle
Richmond, Vera; Fr.....	Seattle
Rist, Dorothy Eugenia; Fr.....	North Yakima

Robb, Helen; Fr.....	Boise, Idaho
Roberts, Ruth Margaret; Jr.....	Seattle
Robinson, Bessie Veryl; Jr.....	Seattle
Rogers, Joe B.; Fr.....	Colville
Rohwer, Chris Jacob; Sr.....	Seattle
Root, Hortense; Fr.....	Seattle
Rowland, Ethalene Conn; Fr.....	Carrollton, Ky.
Russell, Flora; Jr.....	Welser, Idaho
Sale, George Ambrose; Fr.....	South Bend
Sanden, Arthur Gustav; Fr.....	Bellingham
Sargent, Winford G.; Jr.....	Seattle
Sartoris, George Bartholomew; So.....	Enumclaw
Saunders, Edward Watts; Fr.....	Seattle
Sawamura, Sohei; Fr.....	Seattle
Schaefer, Ethel Pearl; So.....	Seattle
Schutt, Emory Leslie; So.....	Seattle
Scott, Winfield; Jr.....	Camas
Semon, Waldo Lonsbury; Fr.....	Seattle
Shaffer, Florence; Sr.....	Seattle
Shelton, Edward M.; Jr.....	Seattle
Shelton, Lucy Mather; Sr.....	Seattle
Sherman, Thomas W.; Sr.....	Seattle
Shumway, Antoinette Elizabeth; Jr.....	Granite Falls
Sigel, Morris; Fr.....	Snohomish
Silverberg, Arvid Constantine; Fr.....	Seattle
Simmons, Mary; Sr.....	Seattle
Simpson, Helen Margaret; Jr.....	Seattle
Sims, Mary Geneva; Sr.....	Walla Walla
Skartvedt, Norman; Sr.....	East Sherwood
Skibeness, Alphone Jennings; Fr.....	Spokane
Slack, Jean Gertrude; Jr.....	Waterville
Slemmons, Wilbert S.; Sr.....	Ellensburg
Smith, Catharine Wright; Fr.....	Puyallup
Smith, Virginia; Jr.....	Pocatello, Idaho
Snow, Iola; Fr.....	Seattle
Soderberg, Linnea; So.....	Seattle
Sorber, Daniel Glenn; Fr.....	Nooksack
Spaulding, Florence Louise; So.....	Novelty
Spelger, Gilbert Edward; So.....	Seattle
Sprague, Hollister; Sr.....	Seattle
Starr, Anita Elizabeth; So.....	Walla Walla
Stenvig, Beret Helena; Jr.....	South Bellingham
Stevens, Belle Alice; So.....	Maltby
Stevenson, De; Fr.....	Seattle
Stewart, Isabel Clarissa; Fr.....	Seattle
Stiles, Merritt; Fr.....	Tacoma
Stilson, Lenore Alice; Jr.....	Spokane
Stubb, Albert C.; So.....	Seattle
Swegle, Adele Mae; Jr.....	Seattle
Swope, Alice Louise; So.....	Seattle
Tamm, Frieda Johanna; Fr.....	Enumclaw

Tashjian, Victoria Viola; Sr.....	Seattle
Taylor, Claude L.; Fr.....	Kooskia, Idaho
Taylor, Margie W. W.; Jr.....	Seattle
Taylor, Martha Sarah; Sr.....	Seattle
Theisen, Arthur Leonard; So.....	Seattle
Thompson, Effie Hazel; Jr.....	North Yakima
Tills, Marguerite; Fr.....	Seattle
Tower, Pearl; Jr.....	Seattle
Travis, Mary Katherine; So.....	Battle Creek, Mich.
Treat, Alice Ruth; Jr.....	Seattle
Tweed, Lucile; So.....	Seattle
Ungersma, Bernardine; So.....	Seattle
Urner, John A.; So.....	Seattle
VanderMeer, Cornelius Henry; Fr.....	Lynden
VanVliet, Richard C.; Fr.....	North Yakima
Van Winkle, Katherine Evangeline; Jr.....	Oakville
Verd, Katie Marie; Fr.....	Seattle
Verd, Laura Maude; Fr.....	Seattle
Vinsonhaler, Elizabeth; Sr.....	Seattle
Wainwright, Mary Tripler; Sr.....	Seattle
Waite, Nettie L.; Sr.....	Seattle
Waite, Vera Beatrice; Jr.....	Seattle
Walker, Bessie Marie; So.....	Seattle
Wallace, Carl E.; So.....	Spokane
Ward, Mary Dunn; Sr.....	Seattle
Ware, S. Amelia; Jr.....	Seattle
Watson, Ruth Elizabeth; Fr.....	Seattle
Waynick, Lulu M.; Sr.....	Ellensburg
Weed, Susan Mary; Jr.....	Seattle
White, Ross; Fr.....	Seattle
Whitney, Cary James; Jr.....	North Yakima
Whitney, Frank F.; Jr.....	North Yakima
Whyte, Kenneth Griffith; Jr.....	Boise, Idaho
Williams, Lowell E.; Sr.....	Seattle
Willis, Cecil Durand; Fr.....	Seattle
Wilson, Alva; Jr.....	Glendale, Oré.
Wilson, Margaret A.; Sr.....	Aberdeen
Wilson, Marjorie Frances; Sr.....	Seattle
Wirt, Harry M.; Sr.....	North Yakima
Wix, Elsie; Sr.....	Seattle
Woelber, Harry; So.....	Seattle
Wood, Margaret Mary; Sr.....	Randolph, Vt.
Woods, Eva Jessie; So.....	Seattle
Woolery, Leta; Fr.....	Orting
Wotherspoon, John; Fr.....	Seattle
Wright, Mary Agnes; Sr.....	Seattle
Yahya, Mohammed A.; Sr.....	Aramon, Syria

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Abel, Marjory	Montesano
Anderson, Rubert	Mt. Vernon
Bean, Mabel Louise	Seattle
Benner, Ralph Eckman.....	Tuscarawas, Ohio
Bircher, Ruth Emyle.....	Minneapolis, Minn.
Bissett, Rudolph Alfred.....	Vancouver, B. C.
Bjorklund, Ellen Marget.....	Tacoma
Brockman, Bernice	Couer d'Alene, Idaho
Burghdorf, Mary Alice.....	Kennydale
Edwards, Esther Francis.....	Seattle
Ferguson, Geneva.....	Walla Walla
Floyd, Ruth Fulton.....	Walla Walla
Gleason, Edith C.....	Seattle
Holm, Ellen Marie.....	Campbell River, B. C.
Hurwich, David	Luzine, Russia
Johanson, August Amandus.....	Seattle
Johnson, Signe Linea.....	Seattle
Kahan, Lillian Eva.....	Seattle
Meek, Georgia	Seattle
Milks, Gladys Irene.....	Seattle
Page, Mary	Seattle
Platt, Annie C.....	Seattle
Plumb, Nora L.....	Seattle
Quinlan, James Henry.....	Tacoma
Reichelderfer, Harryette Eleanor.....	Ellensburg
Reynolds, Evelyn Lucile.....	Seattle
Segale, Edwin	Seattle
Shell, Stanley	Wallowa, Ore.
Sinclair, (Mrs.) Dorothy Heppingstone.....	Seattle
Soules, Guilford H.....	Seattle
Stephens, Roy Thomas.....	Portland, Ore.
Todd, Ruth Marcielle.....	Seattle
Upton, Beatrice Margaret.....	Ellensburg
Webber, Myrtle L.....	Ellensburg
Weston, Merle.....	Sacramento, Cal.

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Albright, Ella	Seattle
Brayton, Annie C.....	Seattle
Broesamle, Anna L.....	Seattle
Dodge, Alice	Seattle
Finster, Clella Lela.....	Steamboat Rock, Ia.
Flodin, (Mrs.) Hazel May.....	Seattle
Gillette, Cora M.....	Seattle
Higgs, Emily Margaret.....	Portland, Ore.
Huelsdonk, Lena Augusta.....	Spruce

Huestis, Bertha Sarah.....	Seattle
Jacobs, Mary	Seattle
Long, Rhoda B.....	Seattle
McLeod, Bonar	Seattle
McMillan, Dorothy Hielt.....	Roche Harbor
Meyers, Katherine.....	Council Bluffs, Ia.
Nolander, (Mrs.) Barbara.....	Seattle
Root, Bess H.....	Rochester, Minn.
Sawyer, Mrs. W. W.....	Seattle
Shaw, Alice H.....	Seattle
Strom, John Frederick.....	Seattle
Studdert, William P.....	Seattle
Tyner, Emma	Seattle
White, Elizabeth McClung.....	Jeffersville, Ala.

COLLEGE OF EDUCATION

ABBREVIATIONS

Classes

Sr.—Senior
Jr.—JuniorSo.—Sophomore
Fr.—Freshman*Name of Student and Rank**Home Address*

Allen, Mildred Alice; So.....	Seattle
Arnell, Esther; Fr.....	Seattle
Arnold, Grace; So.....	Seattle
Arntzen, Edward Jargo; Jr.....	Parkland
Backus, Joyce; So.....	Tacoma
Bair, Winfred Sigrist; Fr.....	Oroville
Baxter, Kirk Sawyer; Jr.....	Bellingham
Bennett, Forrest Entlat; Fr.....	Seattle
Bentley, Amelia Amanda; Fr.....	Seattle
Bliss, Margaret Louise; Sr.....	Seattle
Bolton, Harold Frederick; Fr.....	Seattle
Borrow, Dorothy Edith; Fr.....	Seattle
Boutyette, Dorothy; Fr.....	Aberdeen
Breen, Margaret J.; Jr.....	Cadillac, Mich.
Britton, Gladys I.; Jr.....	Seattle
Brown, Beatrice; Fr.....	Seattle
Burleigh, Bess M.; Jr.....	Seattle
Calloway, Gertrude; Jr.....	Seattle
Campbell, Agnes Sara; Jr.....	Seattle
Campbell, Mary Veronica; Fr.....	Seattle
Carlson, Hattie W. T.; Fr.....	Seattle
Cassidy, Dorothy Catherine; Fr.....	Seattle
Caughlin, Rose; Fr.....	Jefferson, Ia.
Christensen, O. Margaret; Fr.....	Seattle
Churchill, Elizabeth Sarah; Fr.....	Chico
Clein, Ruby; Fr.....	Seattle
Cleland, Faith; So.....	Enumclaw
Connors, Edna E.; Sr.....	Seattle
Corbin, Kathryn Eva; Jr.....	Portland, Ore.
Corbitt, Marsh M.; Sr.....	Seattle
Corwin, Hazel; Sr.....	Seattle
Cox, (Mrs.) Grace E.; Sr.....	Seattle
Craig, Dora Belle; So.....	Seattle
Crozler, J. Louis; Sr.....	Seattle
Culliton, Elaine Clozier; Jr.....	Seattle
Davidson, John Frederic; Sr.....	Seattle
Davis, Elizabeth Marguerite; Fr.....	Seattle
Davis, Martha Jane; Sr.....	Seattle
DeBeck, Virginia Morgan; Fr.....	Seattle
DeCan, Ina; Jr.....	Seattle
Deming, June; Jr.....	Tacoma
Dickinson, Lois; Jr.....	Dayton

Dirimble, Belle; Sr.....	La Conner
Dobbs, Jean Swift; So.....	Seattle
Donovan, Marguerite; Fr.....	Everett
Doud, Helen Margaret; Jr.....	Tacoma
Downs, Winifred Corson; Fr.....	Tacoma
Driese, Evelyn; Fr.....	Seattle
Durr, Elsie Belle; So.....	Everett
Eastland, Edyth M.; Fr.....	Seattle
Ederer, Pauline; Jr.....	Seattle
Ellis, Eleanor; Fr.....	Seattle
Ensley, Talitha Eldora; Fr.....	Seattle
Farnsworth, Mary; So.....	Lindsay, Cal.
Fisher, Roberta Clara; Fr.....	Seattle
Flack, Katherine Virginia; Fr.....	Seattle
Fleming, Eloine; Jr.....	Seattle
Fleming, Eloise; Jr.....	Seattle
Flockol, Raymond Morris; Fr.....	Ferndale
Fosnaugh, Mildred; So.....	Kirkland
Foss, Ida; Fr.....	Seattle
Fry, Irene Winifred; Jr.....	Anacortes
Frye, Ada Fidelia; Fr.....	Seattle
Gamwell, Barbara Greene; So.....	Seattle
Ganders, Harry Stanley; Jr.....	Bickleton
Gardinier, Inez; So.....	Baker, Ore.
Gemmell, Hattie Louise; Jr.....	Grandview
Gilluly, Cora; Fr.....	Seattle
Ginsey, Elizabeth Bertha; Fr.....	Hooper
Goodman, Leo; Sr.....	Seattle
Granger, Thomas; Jr.....	Zillah
Gray, Clarence Hubert; Fr.....	Seattle
Griffith, Phyllis; So.....	Seattle
Guitteau, Robert George; Jr.....	Kent
Guy, Dorothy Mae; Fr.....	Seattle
Haase, Fred K.; So.....	Clarkston
Hamm, Florence Julia; Fr.....	Sheridan, Wyo.
Hansen, Harry P.; Sr.....	Tacoma
Hansome, Marius; Jr.....	Kongsmark, Germany
Harris, Besse; Fr.....	Caney, Kan.
Henley, Dora Blair; Fr.....	Seattle
Hills, Elizabeth; Fr.....	Seattle
Hirschheimer, Helen Zoriel; Sr.....	Seattle
Hoare, Julia; Fr.....	Seaview
Hollander, Vivian Lesley; So.....	Seattle
Hoppock, Adele Louise; So.....	Seattle
Hosner, Ruth; So.....	Seattle
Hurwitz, Albert; Fr.....	Seattle
Hyndman, Lucile; So.....	Seattle
Jamieson, Cecil Byron; Fr.....	Lynden
Johnson, Bertha Elizabeth; Fr.....	Kasson, Minn.
Johnson, Esther; So.....	St. Paul, Minn.
Johnson, J. Lewis; Jr.....	Eugene, Ore.

Johnston, Mary Edith; Fr.....	Seattle
Jullerat, Lee A.; Jr.....	Seattle
Jurgensohn, Gladys; Fr.....	Seattle
Kellogg, Edward Tracy; Fr.....	Puyallup
Keltner, Melva June; So.....	Seattle
Knutson, Anna; Fr.....	Seattle
Knutson, Knute J.; So.....	Seattle
Kohlman, Marjorie Xavier; Jr.....	Vancouver, B. C.
LaChapelle, Oliver W.; Jr.....	Tacoma
Lawless, Bernice; Fr.....	Seattle
Lawless, Grace; Fr.....	Seattle
Lawson, Annie S.; Jr.....	Seattle
Lawson, Peninnah Belle; Jr.....	Spokane
Lee, Florence; Fr.....	Everett
Leo, Ernest, Jr.; Jr.....	Seattle
Levinson, Henrietta; Fr.....	Seattle
Lind, Ralph Richard; Sr.....	Seattle
Little, Edward Milton; So.....	Seattle
Logg, David Gladstone; Sr.....	Seattle
Luke, Norman Lee; Fr.....	Seattle
MacDonald, Mildred; Fr.....	Seattle
McKenzie, Grace Kramer; Jr.....	Tekoa
McLean, Margaret Culver; So.....	Penticton, B. C.
Mackey, Cora Lois; Jr.....	Everett
Magowan, Hazel M.; So.....	Hot Springs, S. Dak.
Maltby, Addie E.; So.....	Cut Bank, Mont.
Martin, Erma L.; Fr.....	Seattle
Martin, Ruth Elizabeth; Jr.....	Seattle
Meenach, Gladys Marie; Fr.....	Seattle
Metcalf, John William; Fr.....	Seattle
Michea, Marie Antoinette; Fr.....	Seattle
Miller, George B.; Jr.....	Aberdeen
Montague, Frances; Fr.....	Crookston, Minn.
Naugle, Fern Elizabeth; Fr.....	Seattle
Neil, Vera; Fr.....	Port Gamble
Ness, N. Arthur Bennhardsen; So.....	Tacoma
Newland, Flood Florence; Fr.....	Chehalis
Nutley, Victor L.; Fr.....	Seattle
Oakley, Eldora Viola; So.....	Seattle
O'Connor, Harney Edward; Fr.....	Seattle
Olein, Huldah E.; So.....	Seattle
Olsen, Selma; Fr.....	Chinook
Ostrom, Lily Evelyn; Fr.....	Seattle
Otaka, Ray Keizaburo; So.....	Seattle
Parchman, Alice De Somner; Fr.....	Anacortes
Peckham, Marcia Elizabeth; Fr.....	Aberdeen
Perkins, Gwendolyn Goff; Fr.....	Seattle
Pershing, Helen Gene; Fr.....	Seattle
Peterson, Frank W.; Sr.....	Bellingham
Peterson, Olga M.; Jr.....	Enumclaw
Phillips, Alan A.; Sr.....	Prosser

Pike, Lenore N.; Fr.....	Seattle
Poage, William C.; Sr.....	Tacoma
Prior, Ruby Gabrie; Fr.....	Seattle
Pugh, Anne C.; Fr.....	Seattle
Randle, James Homer; Fr.....	Seattle
Redding, Bernice E. E.; Fr.....	Seattle
Reed, Rachael Mae; Jr.....	Estacada, Ore.
Robinson, Vida; Fr.....	Seattle
Root, Milouise; Fr.....	Seattle
Ross, David Floyd; Fr.....	Chehalis
Roy, Clinton Glenn; Fr.....	Wenatchee
Sakamoto, Mine; So.....	Seattle
Scott, George O; So.....	Seattle
Shumway, Ruth Katherine; Fr.....	Granite Falls
Skagerlind, Frances Louise; Fr.....	Seattle
Smith, Herman F.; Jr.....	Seattle
Smith, Margaret Lucy; So.....	Tacoma
Spleseke, Daisy Marietta; Fr.....	Seattle
Stanley, Winfield J.; Sr.....	Tacoma
St. Clair, Esther Anna; So.....	Silverdale
Steele, Elsie; Fr.....	Seattle
Sterrett, Nellie B.; Fr.....	Seattle
Stinson, Albert G.; Fr.....	Orillia
Stinson, Harry L.; Fr.....	Nampa, Idaho
Tanzer, Alice; Fr.....	Seattle
Thelberg, Evelyn Elizabeth; So.....	Seattle
Thompson, Lola; So.....	Tacoma
Tomlinson, Arella Evelyn; So.....	Seattle
Tomlinson, Mary Elizabeth; Fr.....	Arlington
Tracy, (Mrs.) Ada M.; Fr.....	Seattle
Tracy, Rachel; So.....	Seattle
Tunander, Ruth Viola; Fr.....	Seattle
Warner, Erma; Fr.....	Seattle
Weage, Esther A.; Fr.....	Seattle
Wentworth, (Mrs.) Lois J.; Jr.....	Seattle
Werby, Helena Johna; Fr.....	Seattle
Wharton, Florence Lillian; So.....	North Yakima
Willard, Dudley W.; Sr.....	Seattle
Wilson, Lena E.; Jr.....	Mabton
Winningham, Nona Jane; Fr.....	Seattle
Witt, Lois Zoll; So.....	Seattle
Wood, Ruth Amella; Jr.....	Snohomish
Wood, Varian George; Jr.....	Granite Falls
Worthen, Clifton Boyd; Fr.....	Lynden

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Anderson, Edward Garrett.....	Seattle
Anderson, Katharine	Stanwood
Burrows, Fannie	Seattle
Callaghan, Mary A.....	Seattle
Delano, Lila Marie.....	Seattle
Dougherty, Beryl Lee.....	Seattle
Estep, Amy Josephine.....	Waterman
Flowers, Ruby	Chehalis
Foster, Charles J.....	Seattle
Graham, Erma Philena.....	Estacada, Ore.
Green, Agnes Naomi.....	Seattle
Gusler, Carl	Bellevue
Hamilton, Edna Victoria.....	Tacoma
Irvine, Helen	Seattle
Jasperson, Agnes	Seattle
Kessinger, Ethel R.....	Seattle
McIlravy, D. B.....	Everett
Mackie, Winnie Elda.....	Pullman
Metras, Louis Henry.....	Seattle
Moore, Rolla Wilbur.....	Seattle
Murray, Bernice Welch	Seattle
O'Brien, Mary	Renton
Overmeyer, George William.....	Seattle
Patchin, Wilber Harmon.....	Bellingham
Peoples, Margaret	Seattle
Potter, Charles	Seattle
Rich, Estelle May.....	Hood River, Ore.
Ruppenthal, Anna B.....	Eltopia
Salomon, Wilda.....	Salem, Ore.
Sanderson, Minnie F.....	Twin Falls, Ida
Simmons, Anna Lovenna.....	Seattle
Strafford, Lillian	Seattle
Supplee, Bertha Belle.....	Seattle
Taft, Dorothy Gnace.....	Seattle
Tilton, Charles Sumner.....	Seattle
Waite, Phoebe	Seattle
Wilson, Margaret Elizabeth.....	Coldwater, Mich.
York, Ralph Leon.....	Seattle

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Bubar, Jessie Ida.....	Superior, Wis.
Burr, Margaret	Seattle
Burton, Jennie L.....	Galena, Ill.
Dunmore, Blanche	Seattle
Dutcher, Lila M.....	Seattle
Falkoff, (Mrs.) Anna.....	Seattle

Gahagan, Lillian M.....	Tacoma
Hall, (Mrs.) Pauline A.....	Bothell
Harrah, Bessie May.....	Seattle
Keene, (Mrs.) Mildred Yockey.....	Seattle
Metsker, Charles W.....	Seattle
Morse, Alice A.....	Seattle
Oakley, Enola I.....	Seattle
Peterson, Grace Howard.....	Seattle
Proper, Winona O.....	Seattle
Rathbun, Anna Louise.....	Marion, Ia.
Rouse, Elizabeth	Seattle
Simonds, H. A.....	Bothell
Whitehead, Edgar E.....	Prosser
Wilson, Rose M.....	Seattle
Yates, Dorothy	Seattle

COLLEGE OF ENGINEERING

ABBREVIATIONS

Classes

Sr.—Senior
Jr.—Junior

So.—Sophomore
Fr.—Freshman

Courses

Ch. E.—Chemical Engineering E. E.—Electrical Engineering
C. E.—Civil Engineering M. E.—Mechanical Engineering

<i>Name of Student, Rank and Department</i>	<i>Home Address</i>
Adams, Irving Eugene; So., Ch. E.	Waitsburg
Adams, John Middleton; Jr., C. E.	Bellingham
Agee, W. Tillmon; Fr., E. E.	Blaine
Aitchison, Clyde S.; So., M. E.	Portland, Ore.
Allen, Arnold S.; So., E. E.	Seattle
Allen, George Dewey; Fr., E. E.	Black Diamond
Allenberg, Jack Donald; Fr.; C. E.	Spokane
Allison, H. Harold; Fr., E. E.	Seattle
Almquist, Paul B.; So., E. E.	Seattle
Angell, William Raymond; Fr., M. E.	Seattle
Angove, Clarence; Jr., E. E.	Seattle
Arteaga, George; Fr., C. E.	Cocnabamba, Bolivia
Austin, Henry Charles; Fr., M. E.	Seattle
Axman, Ernest; Fr., E. E.	Seattle
Bach, Roy Odell; So., E. E.	Seattle
Baird, Earl L.; Jr., M. E.	Seattle
Baker, Albert Lundy; Fr., E. E.	North Yakima
Ball, Rollyn J.; Fr., E. E.	Olympia
Barbee, William Lee; Jr., E. E.	Seattle
Bartholomew, Wayne Lyle; Fr., E. E.	Seattle
Batchelder, Harold S.; Sr., Ch. E.	Spokane
Baumm, Norval Douglas Durham; Jr., C. E.	Seattle
Beaman, Edward Rollins; Jr., E. E.	Tacoma
Beem, Aubrey B.; So., E. E.	Seattle
Bell, Raymond Wells; So., E. E.	Tacoma
Bennett, Albert Lee; Fr., Ch. E.	Seattle
Benz, Reuben G.; Jr., E. E.	Toppenish
Berggren, Albert; Fr., M. E.	Burlington
Beuschlein, Warren L.; Jr., Ch. E.	Seattle
Bibb, John T., Jr.; So., M. E.	Tacoma
Biner, George M.; Fr., E. E.	Phoenix, B. C.
Bird, Lester; Jr., E. E.	Seattle
Blackler, Perry W.; Fr., C. E.	Oroville
Blake, Buel B.; Fr., M. E.	Seattle
Bolcom, Henry Marfield; Fr., C. E.	Seattle
Bracken, V. Earl; Sr., C. E.	Redmond
Branchflower, Lyle Edward; So., E. E.	Mt. Vernon
Brannon, Elmer Patton; Fr., C. E.	Seattle
Briggs, Erroll C.; Jr., E. E.	New Westminster, B. C.

Brisack, Floyd Raymond; So., E. E.	North Bend
Brokaw, John B.; Fr., Ch. E.	Tacoma
Brooks, John Miles; So., M. E.	Dewatto
Brown, Barton Wright; Fr., C. E.	Seattle
Brown, Ralph A.; So., E. E.	Centerville
Bryson, Willard Alvin; Fr., M. E.	North Yakima
Buchanan, John Ernest; Fr., C. E.	Seattle
Buck, Orris Kendall; Fr., E. E.	Seattle
Budden, Frank Wilfrid; Fr., E. E.	Seattle
Bukowsky, Harry C.; Jr., M. E.	Portland, Ore.
Burley, Sylvan Glen; Fr., E. E.	Outlook
Bushell, Andrew McEwan; Fr., M. E.	Seattle
Bushnell, Sherman W.; So., E. E.	New Castle
Butler, Philbrick; Fr., C. E.	Seattle
Campbell, Joseph Addison, Jr.; Fr., Ch. E.	Seattle
Canfield, Ralph Edward; Jr., Ch. E.	Seattle
Canney, Frank Russell; Fr., C. E.	Seattle
Carl, Emil H., Jr.; Fr., Ch. E.	Seattle
Carlander, Clarence Henry; Jr., Ch. E.	Seattle
Carlson, Arthur E.; Jr., E. E.	Anacortes
Carr, Howard Maynard; So., Ch. E.	Tacoma
Carr, W. Gardiner; Jr., E. E.	Seattle
Catlett, James Theodore; Fr., E. E.	Seattle
Catlin, Claude; Jr., M. E.	Ellensburg
Chan, He Quong; Jr., E. E.	Astoria, Ore.
Charles, Perry L.; Sr., Ch. E.	Anaconda, Mont.
Chin, June Kee; Jr., E. E.	Seattle
Chisholm, William; Fr., M. E.	Pendleton, Ore.
Chittenden, Hiram Martin, Jr.; Fr., C. E.	Seattle
Christensen, William C.; Jr., Ch. E.	Nehalem, Ore.
Churchill, Charles H.; Jr., E. E.	Friday Harbor
Clifton, Clarence Cathcart; Fr., C. E.	Seattle
Cline, Felix; Fr., Ch. E.	Seattle
Clulow, John William; So., E. E.	New Castle
Cobb, Russell Albert; Fr., Ch. E.	Wapato
Cochrane, Henry Park; Fr., E. E.	Rangoon, Burma
Coffinberry, Clarence Milton; So., M. E.	Chester, Mont.
Cohen, George; Fr., Ch. E.	Seattle
Cohen, Samuel; Fr., C. E.	Seattle
Colesworthy, Joseph B.; So., E. E.	Pendleton, Ore.
Colfelt, Carl Robert; So., C. E.	Lebam
Collins, Charles Russell, Jr.; So., M. E.	Seattle
Colvin, Oliver Dyer, Jr.; Fr., M. E.	Seattle
Conroy, Edward W.; Jr., E. E.	Anaconda, Mont.
Cowgill, Lester Blaine; Jr., E. E.	Choteau, Mont.
Crawford, W. Raymond; So., E. E.	Seattle
Crell, Edward, Jr.; So., Ch. E.	Seattle
Crews, Clinton A.; Fr., E. E.	Anaconda, Mont.
Cropper, George James; Jr., Ch. E.	Lowell
Cunningham, Edward Charles; Fr., M. E.	St. John
Cutler, William R.; Fr., Ch. E.	Victoria, B. C.

Darsey, Harold P.; Fr., E. E.	Seattle
Dautoff, Victor; So., C. E.	Portland, Ore.
Dawe, Ernest Llewellyn; Fr., M. E.	New Westminster, B. C.
Daymude, Earl Ludlow; So., M. E.	Seattle
Dean, Russell H.; Sr., C. E.	Puyallup
Dearborn, Frank Wilbur; So., E. E.	Seattle
DeCan, Lawrence Melon; Jr., M. E.	Seattle
DeChenne, Homer; Fr., Ch. E.	Hillyard
Delong, Abe J.; Fr., E. E.	Richmond Highlands
Dewhurst, James Frederic; Sr., Ch. E.	Seattle
Dickerman, H. Elmer; Jr., C. E.	Seattle
Dickinson, Phillips; Fr., E. E.	Seattle
Dillinger, Carl John; Jr., C. E.	Portland, Ore.
Donoghue, Benjamin Francis; Fr., Ch. E.	Seattle
Downing, Fred Thomas; Jr., M. E.	Portland, Ore.
Draves, Carl Zeno; Sr., Ch. E.	Seattle
Duffy, Lee; Jr., E. E.	Seattle
Dyer, Charles Yorke; So., M. E.	Oak Harbor
Easterbrook, Arthur E.; So., M. E.	Fort Flagler
Easterbrook, Wilfred George; Fr., Ch. E.	Fort Flagler
Edquist, Paul Englebrecht; So., E. E.	Seattle
Edson, Arthur A.; Sr., E. E.	Bellingham
Edwards, Schuyler B.; So., C. E.	Port Townsend
Egtvedt, Claire L.; Sr., M. E.	Seattle
Elder, Paul Shamblin; Fr., E. E.	Albany, Mo.
Erickson, Alvin Leonard; Fr., M. E.	Seattle
Ericson, Lars John; Fr., M. E.	Bellingham
Evans, Daniel Lester; Jr., C. E.	Seattle
Evans, Thomas P.; Sr., M. E.	Snohomish
Fallis, Gordon Willard; Fr., Ch. E.	Seattle
Faubert, Edward H.; Jr., E. E.	Shelton
Fisher, Frank Emerson; Jr., E. E.	Edwall
Flagg, Paul M.; So., Ch. E.	Seattle
Fleischhauer, J. Harold; Sr., C. E.	Seattle
Fleishman, Charles Raymond; Jr., E. E.	Portland, Ore.
Foster, Kale Francis; Fr., E. E.	Hillyard
Fransen, Walter Clarence; Fr., C. E.	Seattle
Fraser, Garrett A.; Sr., C. E.	Seattle
Fraser, William Maurice; So., E. E.	Tacoma
Fukuzawa, Tanizo; Jr., Ch. E.	Japan
Garrison, Clarence Wilbur; Jr., Ch. E.	Seattle
Gatewood, Joseph Strong; Fr., C. E.	Seattle
Gawne, James Donald; Fr., E. E.	Seattle
Germain, Walter Adelbert; Jr., E. E.	Bellingham
Gibney, Eugene Lucien; Fr., E. E.	Seattle
Gill, Stanley H.; Fr., E. E.	Seattle
Gleason, S. Irving; Sr., Ch. E.	Seattle
Gleeson, Frank; Fr., E. E.	Butte, Mont.
Glen, Harold Veazie; Fr., M. E.	Seattle
Glover, Sheldon Latta; Jr., E. E.	Tacoma
Goodfellow, James Burwell; Jr., C. E.	Seattle

Goodner, Ernest Francis; Fr., Ch. E.	Seattle
Graham, Henry Thomas; So., Ch. E.	Tacoma
Grant, Gary Gale; Fr., Ch. E.	Seattle
Graves, Mark A.; Fr., M. E.	Puyallup
Gray, Howard B.; Sr., C. E.	Seattle
Gray, Miles Howard; So., M. E.	Seattle
Greene, James Martin; Fr., E. E.	Seattle
Greenleaf, S. Nelson; Fr., Ch. E.	Seattle
Greig, John Whittier; So., E. E.	North Yakima
Grenland, Amos Sovereign; Sr., E. E.	Seattle
Guptill Forest P.; Sr., E. E.	Seattle
Haakons, Hugo R.; So., E. E.	Seattle
Hadley, Homer More; Fr., C. E.	Seattle
Hahn, George F.; So., C. E.	Seattle
Hainsworth, William Richard; Sr., Ch. E.	Seattle
Hall, Harold Augustus; Fr., Ch. E.	Lincoln, Neb.
Hammond, Harold Lynn; Sr., M. E.	Seattle
Hanford, William Brown; Jr., C. E.	Seattle
Handforth, Stanley Longheed; Jr., Ch. E.	Tacoma
Hansen, Harry F.; Fr., Ch. E.	Bellingham
Hardy, William Agee; So., Ch. E.	Seattle
Harn, Tim H.; Fr., M. E.	Kent
Havel, Fred; Jr., E. E.	Tacoma
Hawley, Sydney J.; Fr., Ch. E.	Seattle
Hayden, Henry Tweed, Jr.; Fr., E. E.	Port Townsend
Haynes, Richard Osborn; So., E. E.	Seattle
Heacock, Ward James; So., E.	Chelan
Heider, Lawrence N.; Fr., C. E.	Seattle
Hervin, Albert; Jr., C. E.	Seattle
Hielscher, Ernest J.; So., E. E.	Seattle
Hill, Curtiss L.; Sr., E. E.	Tacoma
Himmelsbach, Jesse Russell; Sr., E. E.	North Yakima
Hitchings, Allen; So., C. E.	Seattle
Hoard, George Lisle; Sr., E. E.	Seattle
Hoffman, Valentine; Jr., M. E.	Walla Walla
Holway, Evan Woodruff; Fr., M. E.	Seattle
Hougen, Kenton; Fr., Ch. E.	Matsqui, B. C.
Hudtloff, Arthur; Fr., M. E.	Butte, Mont.
Huestis, Robert A.; Sr., C. E.	Seattle
Huettnner, George Rudolph; Fr., E. E.	North Yakima
Hunt, Raymond Corbin; Sr., M. E.	North Yakima
Hunter, Basil Leslie; So., Ch. E.	Edmonds
Hutsell, William Warren; Fr., C. E.	Davenport
Ide, Wilson Glen; Fr., Ch. E.	Seattle
Irving, Mason; Fr., E. E.	Montesano
Iyesaka, Shohel; So., E. E.	Japan
Jackson, William S.; Fr., C. E.	Sitka, Alaska
Jacobs, Harold Arnott; Fr., M. E.	Seattle
Jaqueth, Herbert H.; So., C. E.	Kalispell, Mont.
Johnson, John Arthur; Fr., C. E.	Ilwaco
Johnson, Hugo N.; Fr., M. E.	Lynden

Johnson, Charles Morrison; Fr., E. E.	Tacoma
Johnson, Phillip G.; Jr., M. E.	Seattle
Jones, Alan Walter; So., Ch. E.	Prescott
Jones, Clare Thomas; Fr., Ch. E.	Seattle
Joslyn, Charles Sheafe; Fr., Ch. E.	Seattle
Joubert, Julian Paul; Fr., E. E.	Enumclaw
Judkins, Louis R.; Fr., E. E.	Seattle
Kallander, Carl Henry; Sr., E. E.	Nooksack
Kantzler, George R.; So., C. E.	Seattle
Keator, Frederic William, Jr.; So., M. E.	Tacoma
Kendtner, Laverne; Fr., M. E.	Renton
Keyes, Harmon Edward; Jr., Ch. E.	Seattle
King, Edgar Earl; Fr., E. E.	Seattle
Kirkby, Thomas Verne; Fr., Ch. E.	Burlington
Klein, Linas Carl; Sr., M. E.	Edwall
Kleist, Walter Albert; So., E. E.	Tacoma
Klopfenstein, Fred Richard; Fr., M. E.	Tacoma
Kongsted, Ludvig Petersen; Jr., E. E.	Seattle
Kraft, Edwin A.; Fr., E. E.	Seattle
Kronfield, David; So., Ch. E.	Seattle
Kronfield, Harry; So., Ch. E.	Seattle
Kuehnert, Jasper Frank; Fr., Ch. E.	Seattle
Ladner, James Guy; Jr., C. E.	Seattle
Lancaster, Corwin Robert; Fr., M. E.	Zillah
Landsburg, Robert A.; Fr., Ch. E.	Seattle
Lane, Charles Leon; Fr., Ch. E.	Albany, Mo.
Larsen, Axel Martin; Jr., E. E.	San Francisco, Cal.
Larsen, Walter E.; Fr., C. E.	Pt. Townsend
Larson, Victor; Sr., Ch. E.	South Bend
Lassen, Irving; Fr., E. E.	Seattle
Latimer, Earl Hastings; So., E. E.	Seattle
Laudan, Fred P.; Jr., C. E.	Seattle
Lee, Emery H. I.; Jr., E. E.	Seattle
Lee, Tang L.; Fr., E. E.	Seattle
Legg, Emmett J.; Sr., C. E.	Seattle
Lewis, Franklin M.; Sr., E. E.	Seattle
Lewis, Samuel Foster; Fr., E. E.	Pittsburg, Pa.
Liston, Terry A.; Fr., C. E.	Orillia
Lloyd, William J.; So., E. E.	Seattle
Loomis, Alvin J.; So., E. E.	Seattle
Lopp, Dwight T.; So., C. E.	Seattle
Loughney, Alan William; Fr., E. E.	Bonnors Ferry, Idaho
Lubcke, Charles M.; Jr., E. E.	Bellingham
Luft, Ernest Walter; Fr., E. E.	Bremerton
McAdam, William Roy; Jr., E. E.	Seattle
McCarthy, Joseph; Fr., M. E.	Burke, Idaho
McClure, Frank W.; So., E. E.	Seattle
McCurdy, Horace W.; Fr., M. E.	Pt. Townsend
McJannet, Roscoe Nicol; Sr., C. E.	Seattle
McLellan, Elmer K.; Fr., M. E.	Grandview
McLemore, Rae; Fr., E. E.	Mason City, Ill.

McLennan, Millard C.; Jr., E. E.	Athena, Ore.
McLeod, Lester R.; So., M. E.	Tacoma
Maejima, Tatsugoro; So., E. E.	Nagonoken, Japan
Malakoff, Abe; So., M. E.	Vancouver, B. C.
Maney, Wallace Lincoln; So., E. E.	Meadow Creek
Martin, Earle Vincent; Fr., Ch. E.	Portland, Ore.
Martin, Leonard A.; Jr., Ch. E.	Portland, Ore.
Matheus, Charles W., Jr.; So., M. E.	Seattle
Matsumoto, Takao; So., Ch. E.	Okayama, Japan
Matzger, George Waite; Jr., M. E.	Seattle
Mayer, Roland; Sr., M. E.	Seattle
Mayfield, Benjamin H.; So., Ch. E.	Chehalis
Mellish, John Frederick; Sr., C. E.	Vancouver, B. C.
Melvey, Ernest; Fr., E. E.	Moorhead, Minn.
Mero, Ralph Martin; So., M. E.	Seattle
Merriam, Clair Vernon; Fr., E. E.	Nooksack
Michener, Edgar C.; Jr., C. E.	Portland, Ore.
Miller, Alfred L.; Jr., C. E.	Bellingham
Miller, Fred Victor; Fr., C. E.	Seattle
Miller, Hugh Austin; So., E. E.	Granite Falls
Moore, Edward J.; Sr., M. E.	Everett
Moravec, Frank; Jr., C. E.	Benton, Iowa
Morgan, Thomas T.; Fr., M. E.	Tacoma
Morris, Charles Frederick; Sr., E. E.	Seattle
Morrison, Pliny Grant; Fr., E. E.	Seattle
Morse, Wendell Arthur; Fr., C. E.	Seattle
Mottelson, Goodman; So., Ch. E.	Butte, Mont.
Mulvey, Charles Reckner; Fr., M. E.	Seattle
Murane, Millard Cornelius; So., M. E.	Seattle
Murphy, Albert Monroe; Fr., M. E.	Wallace, Idaho
Nederlee, Anton Louis; So., E. E.	Bryant
Nelles, Roy Hubert; Sr., E. E.	Madison, S. D.
Nellor, C. Lester; Fr., M. E.	Stevenson
Nelson, Carl Victor; So., C. E.	Winslow
Nelson, Wesley Roy; Jr., C. E.	Shelton
Nims, Cloyse Cherry; Jr., M. E.	Jerome, Idaho
Noel, Lionel Samuel; Fr., E. E.	Snohomish
Northquist, O. Eaver; So., M. E.	Seattle
Olson, William James; So., E. E.	Seattle
O'Rear, Clyde Shaw; So., M. E.	Seattle
O'Rear, Merle; Fr., M. E.	Seattle
Otake, Shotaro; So., C. E.	Seattle
Otis, Malcolm J.; So., Ch. E.	Seattle
Packer, Francis; Jr., M. E.	Seattle
Paley, John; Fr., M. E.	Seattle
Parker, Howard Tennis; Fr., M. E.	Tacoma
Patrick, Robert Cairns; Fr., C. E.	Seattle
Patten, Maurice William; So., M. E.	Seattle
Pendergast, Hugh; Sr., M. E.	Seattle
Peters, James Raymond; So., E. E.	Seattle
Peterson, Axel Herman; Fr., Ch. E.	Tacoma

Peterson, Charles W.; Jr., E. E.	Seattle
Pickering, Lester Bert; Jr., C. E.	Chesaw
Ploda, Ferdinand; Jr., C. E.	Seattle
Pitman, James Martin; Jr., Fr., C. E.	Wenatchee
Pope, Augustus R.; Fr., M. E.	Seattle
Pope, Ezra T.; Fr., M. E.	Seattle
Potter, Claude A.; Fr., E. E.	Ridgefield
Powell, Edward Reed; Sr., Ch. E.	Seattle
Priest, Harold Ragan; Jr., M. E.	Seattle
Puddicombe, Albert LeBaron; So., C. E.	Tacoma
Reed, Raymond Francis; So., C. E.	Bellingham
Renfro, Harold; Fr., E. E.	Seattle
Reynolds, Charles L.; So., M. E.	Seattle
Reynolds, William; Fr., E. E.	Seattle
Rice, James W.; Fr., C. E.	Seattle
Rice, Leon Alfred; So., M. E.	Seattle
Rice, George Russell; So., E. E.	Tacoma
Riley, Ernest John; Fr., M. E.	Seattle
Ringstad, Emery Theodore; Fr., Ch. E.	Seattle
Ringstad, Myron Henry; Jr., Ch. E.	Seattle
Roberts, J. Haydn; So., E. E.	Renton
Robinson, Lyle B.; Sr., E. E.	Geneseo, Ill.
Rooks, Lowell Ward; Jr., C. E.	Seattle
Rogers, Nathaniel S.; So., Ch. E.	Auburn
Roos, Albert H.; So., E. E.	Lewiston, Idaho
Roth, Walter; Sr., E. E.	Spangle
Rubicam, Leslie Hubert; So., C. E.	Republic
Rudolph, Aaron; Fr., C. E.	Butte, Mont.
Rudow, Eugene Wellington; So., Ch. E.	Winslow
Rugg, Porter D.; Fr., M. E.	Bothell
Rumble, Cyril A.; Fr., Ch. E.	Seattle
Rummel, Corwin P.; So., M. E.	Tacoma
Rupp, George Wellington; So., E. E.	Snohomish
Ryan, Francis M.; Jr., E. E.	Seattle
Ryan, Matthew; Fr., C. E.	Seattle
Ryder, Arthur A.; Fr., Ch. E.	Hillyard
Sage, Eugene William; Fr., M. E.	Burke, Idaho
Sallee, Hubert Bland; So., M. E.	McCleary
Sankela, Neil John; Fr., E. E.	Iiwaco
Savannah, Edward Jack; So., Ch. E.	Victoria, B. C.
Schneider, Leonard H.; Fr., E. E.	Seattle
Schock, Edson Irwin; Fr., M. E.	Seattle
Schumacher, Felix Emil; So., E. E.	Malden
Seddon, John; Fr., M. E.	Roslyn
Sellick, Jesse Harry; Jr., C. E.	Portland, Ore.
Sergeant, Donald Eugene; So., E. E.	Seattle
Servey, Mark C.; Sr., M. E.	Seattle
Seymour, Philip Bickel; Fr., Ch. E.	Seattle
Shaffer, Bernard D.; Fr., Ch. E.	Seattle
Shaw, Nile Cyril; Fr., E. E.	Whitefish, Mont.
Sheriff, Herbert P.; So., C. E.	Seattle

Shostrom, Oscar; Fr., Ch. E.	Tacoma
Siebenbaum, John Henry; Jr., E. E.	Pt. Townsend
Sielk, George Jacob; So., E. E.	Spangle
Simpson, Paul Raymond; So., Ch. E.	Stevensville, Mont.
Simson, Jerome; So., E. E.	Nome, Alaska
Sinclair, Bliss Glead; Jr., E. E.	Seattle
Singer, Fred John; Fr., E. E.	Seattle
Skog, Henry Andrew; Jr., E. E.	Seattle
Skotdal, Wilhelm August; Fr., C. E.	Seattle
Slayden, Philip Lee; So., M. E.	Stellacoom
Sletmoe, Albert Martin; So., E. E.	Seattle
Small, Ralph H.; Fr., E. E.	Seattle
Smith, Albert Earl; Fr., E. E.	Seattle
Smith, Laurence K.; So., M. E.	Seattle
Smith, Theodore; Jr., E. E.	Seattle
Smith, Truman; Fr., E. E.	Seattle
Snapp, John F.; Fr., E. E.	Seattle
Snook, William Warren; Fr., E. E.	Ridgefield
Solverson, Clifford G.; So., Ch. E.	Reardan
Somerville, David Annesley; So., Ch. E.	Lewiston, Idaho
Somntag, Charles; So., Ch. E.	Seattle
Stark, Charles Richardson; Jr., Ch. E.	Seattle
Steiner, Ben; Fr., Ch. E.	Seattle
Stewart, Arthur William; Fr., M. E.	Seattle
Stewart, Clyde Emery; Jr., E. E.	Prosser
Stewart, Glenn; Fr., E. E.	Ellensburg
Stillson, Merle O.; Fr., Ch. E.	Seattle
Streng, Wallace Armstrong; So., C. E.	Portland, Ore.
Strong, Frederick H.; Fr., M. E.	Portland, Ore.
Sumarildason, Franklin; Fr., E. E.	Tumwater
Suransky, Paul; So., M. E.	Seattle
Swart, Arthur H.; Sr., M. E.	Richmond Beach
Sylliaasen, Vincent; Sr., C. E.	Seattle
Taber, Luther Andrew; Fr., Ch. E.	Spokane
Taylor, George Leonard; So., E. E.	Auburn
Taylor, Wilfrid Y.; Fr., M. E.	Seattle
Taylor, William P. J.; Fr., M. E.	Tacoma
Thiel, Herman T.; Fr., Ch. E.	Tacoma
Thies, William A.; So., C. E.	Seattle
Tidmarsh, George Paul; So., M. E.	Seattle
Tipton, Richard R.; Jr., C. E.	Seattle
Tolmie, Jack Roderick; So., E. E.	Seattle
Tudor, Guy M.; Fr., E. E.	New Dayton, Alta.
Turnbull, Archie John William; Fr., M. E.	Vancouver, B. C.
Turnbull, Benjamin Frank; Jr., C. E.	Everett
Turner, Hubert Clair; So., C. E.	Akron, Ohio
Upton, Earl Edward; Fr., E. E.	Black Diamond
Vandenberg, George J.; Sr., E. E.	Ellensburg
Watt, John H.; Fr., E. E.	Cle Elum
Walker, Glen Hart; Fr., E. E.	Seattle
Wallace, Charles Sterling, Jr.; Fr., Ch. E.	Bellingham

Ward, Cell Miner; Jr., M. E.	Seattle
Waring, Glenn; Fr., M. E.	Seattle
Wassberg, Clarence E.; Sr., Ch. E.	Seattle
Weber, Fred; So., M. E.	N. Yakima
Weber, Walter H.; So., E. E.	N. Yakima
Weldin, George Carroll; Fr., M. E.	Portland, Ore.
Wexelstein, Leo; Fr., E. E.	Chabarowsk, Russia
Weythman, Chester C.; So., C. E.	Monitor
Whitcomb, Karl J.; Fr., E. E.	Seattle
White, Gail Clinton; So., E. E.	Seattle
Whiting, Edward P.; Fr., E. E.	Seattle
Whitman, Mortimer Augustus; So., E. E.	Tacoma
Wick, Sanford Adolph; Fr., E. E.	Arlington
Wickstrom, Harry Leo; So., C. E.	Seattle
Wilbur, Brayton; Jr., C. E.	Seattle
Williams, Charles Ayres; Jr., E. E.	Aberdeen
Wilson, Edwin Durno; So., Ch. E.	Seattle
Woolfolk, Paul Albert; Jr., C. E.	Southworth
Young, Thomas Allen; Jr., C. E.	Seattle
Young, Carl Ludvig; Sr., E. E.	Seattle
Young, Frank Cranston; Sr., E. E.	Blaine
Zahn, George D.; Fr., M. E.	Ridgefield
Zehring, Raymond W.; Jr., E. E.	Seattle
Zener, Carlos Ralph; Fr., M. E.	White Salmon
Zwicky, Everett Edward; So., M. E.	Kaslo, B. C.

UNCLASSIFIED STUDENTS

<i>Name of Student and Department</i>	<i>Home Address</i>
Abrams, Richard Melbourne; E. E.	Seattle
Alexander, Edward David; C. E.	Seattle
Archer, August Charles; M. E.	Seattle
Arthun, Clarence; E. E.	Seattle
Avila, Romulo; C. E.	Vigon, P. I.
Bissett, Ernest Eugene; M. E.	Vancouver, B. C.
Clark, Cecil Irving; E. E.	Kent
Dreyer, Osden Edwin; E. E.	Missoula, Mont.
Harper, Paul Albert; C. E.	Seattle
Howell, William Eastman; E. E.	Decatur
Hutchinson, William Burleigh; E. E.	Walla Walla
Jenkins, Percy Jacob; Ch. E.	Bellingham
Kemp, Richard Leo; M. E.	Pt. Orchard
Kimmel, Charles Garner; M. E.	Vashon
Kraut, Samuel; E. E.	Mzensk, Russia
Mahan, Roy C.; E. E.	Seattle
Redington, Bryan; Cr. E.	Thomas
Ross, Malcolm D.; E. E.	Seattle
Royce, Byron P.; M. E.	Tacoma
Stanton, Harry Alberta; E. E.	Seattle
Stewart, Donald Alexander; C. E.	Vancouver

Talbot, Archibald Weatherbee; Ch. E.	Spokane
Volovik, Hyman; E. E.	Glouchow, Russia
von Normann, Alfred G.; E. E.	Seattle
Wille, Henry E.; E. E.	Seattle
Wirth, Ralph; E. E.	Portland, Ore.
Wrentmore, George C.; C. E.	Manila, P. I.
Zarchin, Michael; M. E.	Zolotonoscha, Russia

SPECIAL STUDENTS

<i>Name of Student and Department</i>	<i>Home Address</i>
Agnew, Fred; E. E.	Seattle
Atkins, J. L.; E. E.	Seattle
Becker, Robert C.; E. E.	Seattle
Bell, Alonzo Edwin; M. E.	Careywood, Idaho
Boutwell, Willard; E. E.	Seattle
Bowman, H. W.; M. E.	Seattle
Brockway, Albert L.; M. E.	Seattle
Burque, Leroy A.; M. E.	Seattle
Carr, Richard Walter; M. E.	Seattle
Casebere, Milo O.; E. E.	Seattle
Chapman, Hugh; E. E.	Seattle
Constable, Roy Desmond; E. E.	Seattle
Curtis, K. S.; M. E.	Seattle
Davidson, Arthur Sherman; E. E.	Lake Bay
Davies, Richard Adams; C. E.	Seattle
Denton, Philip E.; E. E.	Seattle
Dunn, John Pierce; C. E.	Lone Oak, Va.
Ewald, Fred Clifford; C. E.	San Francisco, Cal.
Flanagan, John E.; M. E.	Seattle
Floyd, Vaughn W.; E. E.	Seattle
Fredenstein, John B.; C. E.	Everett
Gaffi, Antonio; E. E.	Seattle
Gideon, Lester P.; E. E.	Seattle
Gilmur, Charles Edward, Jr.; E. E.	Seattle
Gray, Harold E.; E. E.	Seattle
Guffey, C. D.; E. E.	Seattle
Gullickson, Gustav A.; M. E.	Seattle
Guss, Axel F.; E. E.	Seattle
Hall, Charles W.; E. E.	Seattle
Hall, William Roston; E. E.	Seattle
Hansen, John M.; M. E.	Seattle
Harris, Charles C.; E. E.	Seattle
Hawkinson, C. O.; E. E.	Seattle
Heath, Miles A.; M. E.	Seattle
Heyer, Fred; E. E.	Seattle
Hickman, Everitt C.; M. E.	Seattle
Hielscher, John Fred; M. E.	Seattle
Hill, Clarence; E. E.	Seattle
Hjorth, Lawrence Rasmus; C. E.	Seattle
Howarth, C. E.; M. E.	Seattle

Huelsdonk, Adolph; E. E.	Seattle
Johnson, Cyrus B.; M. E.	Seattle
Kalin, Albert; E. E.	Seattle
Kemp, Harry Stuart; E. E.	Seattle
Lorente, Bernard Juan; E. E.	Seattle
McKinley, J. E.; M. E.	Seattle
Michels, A.; E. E.	Seattle
Moore, Walter Vincent; E. E.	Seattle
Mullan, John G.; E. E.	Seattle
Nasman, John P. G.; M. E.	Seattle
Olson, William Johann; E. E.	Seattle
Pilkey, Joseph A.; E. E.	Seattle
Pomeroy, Joseph G.; E. E.	Seattle
Price, Herbert Edward; M. E.	Seattle
Randolph, Arthur M.; E. E.	Seattle
Rasmussen, Carl John; E. E.	Seattle
Read, Edwin M.; E. E.	Seattle
Rhodes, William P.; M. E.	Kent
Roberts, E. J.; E. E.	Seattle
Rogers, Ernest Bruce; M. E.	Seattle
Rupp, Arthur Ray; E. E.	Seattle
Salisbury, Elwin A.; M. E.	Seattle
Scott, Faye Washington; M. E.	Seattle
Seefield, Charles William; E. E.	Seattle
Shantz, Frederick Charles; C. E.	Vancouver, B. C.
South, Fremont Lane; C. E.	Seattle
Spencer, George E.; M. E.	Seattle
Verhulst, John C.; M. E.	Seattle
Waterman, S. Hull; E. E.	Seattle
Weaver, Jesse Jay; E. E.	Seattle
Winter, Parker D.; E. E.	Seattle
Young, Arrigo M.; C. E.	Seattle

COLLEGE OF FINE ARTS

ABBREVIATIONS

Classes

Sr.—Senior
Jr.—Junior

So.—Sophomore
Fr.—Freshman

*Name of Student and Rank**Home Address*

Anderson, Arthur W.; Sr.....	Colton, Ore.
Anderson, Myrtle A.; So.....	Seattle
Anthes, Cora L.; So.....	Everett
Appleby, Nevada; So.....	Seattle
Arnold, Esther K.; Fr.....	Naches
Arnold, Ruth L.; Fr.....	N. Yakima
Aronson, Alice T.; Fr.....	Seattle
Augerson, Harold W.; Fr.....	Seattle
Badley, Wilbur F.; Fr.....	Pendleton, Ore.
Bailey, George C.; Sr.....	Seattle
Banks, Joyce; Fr.....	Seattle
Bardshar, Ruth; Sr.....	Seattle
Barrows, Jeanette V.; Fr.....	Chinook
Baumgartner, Grace; Fr.....	Seattle
Benton, Louise D.; So.....	Seattle
Bergh, Florence H.; Sr.....	Seattle
Bernheimer, Minette J.; Fr.....	Seattle
Billings, Rhea R.; Fr.....	Tacoma
Bogstad, Hulda J.; So.....	Everett
Bonell, Aura M.; Jr.....	Fall City
Bonell, Hannah; Sr.....	Fall City
Bonham, Ferne; Fr.....	Kellogg, Idaho
Bonnell, Clement E.; Jr.....	Tacoma
Bonnell, Jenness M.; Fr.....	Tacoma
Bouillon, Victorine; So.....	Seattle
Brachvogel, Rosaline; So.....	Seattle
Brown, Margaret E.; So.....	Chelan
Brown, Rhenie L.; So.....	Seattle
Buchterkirchen, Walter C.; Fr.....	Seattle
Calhoun, Georgie F.; Fr.....	Seattle
Calkins, Maud J.; Sr.....	Stevensville, Mont.
Campbell, Mary M.; Fr.....	Seattle
Carlson, Marie; Jr.....	Branford, N. D.
Carr, Burton K.; So.....	Seattle
Carroll, Eleanor; Fr.....	Seattle
Childs, Merle S.; Fr.....	Seattle
Ohinn, Sam W.; Fr.....	Seattle
Clarke, Alta M.; So.....	Condon, Ore.
Cole, Thelma N.; Fr.....	Sprague
Cook, Etha M.; So.....	Seattle
Cook, Marjorie V.; Fr.....	McKenna

Corbett, Alexander H.; Fr.....	N. Yakima
Craver, Eugenia M.; So.....	Seattle
Cutting, Olive C.; Fr.....	Seattle
Davis, Kathleen M.; Jr.....	Chinook
Denny, I. Louisa; So.....	Seattle
Drew, Newton; Fr.....	Portland, Ore.
Erland, Gladys M.; Fr.....	Seattle
Etzler, (Mrs.) Florence R.; Jr.....	Seattle
Ferguson, Ernest E.; Fr.....	Seattle
Ferryman, Helen L.; Jr.....	Wenatchee
Foster, Doris A.; So.....	Seattle
French, Philip E.; Jr.....	Seattle
Freyd, Bertha I.; Fr.....	Seattle
Frost, Lorna M.; Fr.....	Seattle
Frye, Ruth L.; So.....	Seattle
Fullington, Mary W.; Jr.....	Seattle
Gardner, Miriam N.; Fr.....	Withrow
George, Clarence W.; Fr.....	Tacoma
Gerry, Lillian G.; Jr.....	Seattle
Gilpin, Esther V.; Fr.....	Tacoma
Gleed, Laurel E.; Fr.....	Bonnars Ferry, Idaho
Granstrand, Elmer W.; Fr.....	Walla Walla
Gutmann, Viola; Fr.....	Seattle
Hall, Emily; Jr.....	Seattle
Hampton, Ruth H.; Fr.....	Seattle
Hansen, Helen M.; Fr.....	Vashon
Harris, Marian P.; So.....	Seattle
Haynes, Dorothy W.; Fr.....	Seattle
Heath, Frederick T.; So.....	Tacoma
Heathman, Norma S.; Fr.....	Almira
Henderson, Blanche E.; Fr.....	Sunnyside
Hiatt, Maurine; Fr.....	Seattle
Higgle, Mable I.; So.....	Girard, Kans.
Honey, Katherine M.; So.....	Gresham, Ore.
Hughes, Ethel G.; So.....	Cashmere
Hutchinson, Muriel L.; So.....	Tacoma
Ingalls, Berenice R.; Fr.....	Eugene, Ore.
Jertson, Edith V.; Fr.....	Charleston
Johnson, Lucile E.; Fr.....	Boring, Ore.
Johnston, Marjorie D.; So.....	Seattle
Kaynor, (Mrs.) Ella B.; Jr.....	Ellensburg
Keller, Lula M.; So.....	Spokane
Kinney, Clair R.; Sr.....	Seattle
Koos, (Mrs.) Hazel Smith; Sr.....	Seattle
Koren, Helen; Jr.....	Spokane
Larrison, Margaret F.; So.....	Seattle
La Violette, Helen L.; Fr.....	Seattle
Lester, Allen H.; Fr.....	Seattle
Lewis, Blodwen; Fr.....	Coulee City
Lewis, Margaretta M.; Jr.....	Seattle
Lewis, Ruth A.; Fr.....	Seattle

Lilygren, B. Emelia; Fr.....	Seattle
Lockman, Frederick V.; So.....	Seattle
McClung, Mildred E.; Fr.....	Portland, Ore.
McCreery, Hugh Edison; Fr.....	Seattle
MacDougall, Minnie F.; Fr.....	Seattle
MacLean, Elizabeth; So.....	Tacoma
Manson, Gladys A. C.; Jr.....	Seattle
Manula, Osmo R.; Fr.....	Astoria, Ore.
Marchildon, Maria; Fr.....	N. Yakima
Markus, Helen E.; Fr.....	Seattle
Marsh, Constance; Jr.....	Arlington
Martin, Marjory K.; Jr.....	Ritzville
Moltke, Adeline E.; Jr.....	Kent
Mooney, Marie; Fr.....	Wenatchee
Moore, M. Maude; Fr.....	Mt. Vernon
Morris, Harold V.; Fr.....	Seattle
Nielson, Agnes T. B.; So.....	Seattle
Nisbit, Mac; Fr.....	Seattle
Park, (Miss) Burnett; Fr.....	Seattle
Parsons, Laura A.; So.....	Seattle
Pepper, Ruth A.; Sr.....	Seattle
Philbrook, Madge H.; Sr.....	Seattle
Pinkham, Evelyn A.; Fr.....	Seattle
Reilly, Genevieve E.; So.....	Seattle
Reist, Robert J.; So.....	Dayton, Ohio
Rickert, Ethel; So.....	Seattle
Riddle, Katharine; Fr.....	Seattle
Ritter, Edith; Sr.....	Spokane
Robertson, Lucile; Fr.....	Spokane
Rothenhoefer, Elizabeth M.....	Seattle
Rueger, Charles V.; Jr.....	Birdsview
Russell, Beulah H.; Sr.....	Seattle
Scheurer, Genevieve; Jr.....	Seattle
Sherry, Louise A.; Fr.....	Seattle
Smith, C. Doris; Jr.....	Portland, Ore.
Sowle, Marion S.; Fr.....	Seattle
Stone, Lura P.; Fr.....	Bellingham
Stovel, Vivian W.; Fr.....	Seattle
Stubblefield, Vera L.; So.....	Enterprise, Ore.
Swearingen, Mary; Jr.....	Tacoma
Tachell, Maud; So.....	Renton
Talcott, Doris; Fr.....	Seattle
Thurston, Ruth F.; Fr.....	Spokane
Tibbits, Marion M.; Fr.....	Richmond Highlands
Towne, Arthur H.; Fr.....	Carrolls
Tuttle, Blanche; So.....	Summerville, Ore.
Van Duzer, Edwina M.; Fr.....	Kalispell, Mont.
Vinsonhaler, Sara R.; Jr.....	Seattle
Waxman, Elizabeth E.; So.....	Seattle
Wandler, Margaret; So.....	Spokane
Wetzel, Hilda B.; So.....	Seattle

Whipps, Carol L.; Fr.....	Kalispell, Mont.
Whitehouse, J. Lloyd; Fr.....	Hastings, Neb.
Wilson, Helen M.; So.....	Aberdeen
Winsor, Helen; Sr.....	Seattle

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Billingsley, Neva J.....	Virtue, Ore.
Brandt, Helen L.....	Seattle
Chinn, Margaret.....	Seattle
Christensen, Nellie M.....	Olympia
Coles, Paul D.....	Seattle
Crossley, Jack T.....	Portland, Ore.
Emanuel, Eva.....	Seattle
Ewing, Dorothy.....	Seattle
Giffin, Ruth.....	Seattle
Graham, Doris M.....	Seattle
Haugen, George A.....	Enumclaw
Houck, John A.....	Seattle
Huntley, Deane.....	Spokane
Huntley, Eunice L.....	Spokane
Jarvis, Anna T.....	Seattle
Kauffman, Josephine M.....	Walla Walla
La Grave, Gertrude M.....	Seattle
Lovejoy, Margaret.....	Seattle
McHugh, Katherine.....	Seattle
Mulkey, Lucile.....	Enterprise, Ore.
Patten, Martha B.....	Seattle
Pomeroy, Alice.....	Kalispell, Mont.
Robertson, Emma G.....	Seattle
Sin Clair, Vera I.....	Olympia
Thomas, Hazle E.....	Ellensburg
Tucker, Margaret L.....	Seattle
Vickers, Mildred L.....	Seattle
Whitten, Virginia B.....	Spokane
Young, F. Laverne.....	Tacoma

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Bickel, Katharine.....	Seattle
Biegert, Marian.....	Seattle
Brackett, Margaret P.....	Seattle
Brackett, Ruth C.....	Seattle
Carkeek, Gwendolen.....	Seattle
Case, (Mrs.) O. A.....	Seattle
Claypool, Jean D.....	Seattle
Dickey, Hester M.....	Seattle
Jerome, Katherine S.....	Seattle
Johnson, Coral M.....	Seattle

Josenhans, Margaret P.....	Seattle
Kellogg, George A.....	Anacortes
Kessinger, Eva L.....	Seattle
McGinness, Dorcas E.....	Seattle
Markus, Albert E.....	Seattle
Meacham, May H.....	Seattle
Norton, Farris.....	Seattle
Pantages, George B.....	Seattle
Parks, Minnie E.....	Seattle
Petter, Valdo.....	Kettle Falls
Sheridan, Lillian L.....	Seattle
Skoog, Joe L.....	Seattle
Spence, A. Ruth.....	Valdez, Alaska
Stillwell, Myrtle E.....	Seattle

SCHOOL OF LAW

ABBREVIATIONS

Classes

3rd.—Third Year

1st.—First Year

2nd.—Second Year

*Name of Student and Rank**Home Address*

Abel, Donald G.; 2nd.....	Hoquiam
Abelset, Marcus O.; 1st.....	Seattle
Adams, Howard A.; 2nd.....	Seattle
Anderson, Otto D.; 2nd.....	Edmonds
Backus, LeRoy M.; 1st.....	Seattle
Ball, Addie G.; 1st.....	Seattle
Barto, Thomas C.; 1st.....	Seattle
Baumgartner, Walter L.; 2nd.....	Townsend, Mont.
Beardsley, George; 1st.....	N. Yakima
Benz, Fritz R.; 2nd.....	Toppenish
Black, Wendell W.; 1st.....	Everett
Brislawn, Mark G.; 1st.....	Sprague
Brown, Herman E.; 3rd.....	Seattle
Brown, Vaughan; 1st.....	Bellingham
Buckley, Raymond J.; 1st.....	Portland, Ore.
Byrd, Carroll F.; 3rd.....	Spokane
Case, Randall S.; 1st.....	Seattle
Cochran, Lloyd T.; 3rd.....	Seattle
Coder, Lloyd X.; 1st.....	Seattle
Coyle, Frances L.; 1st.....	New Orleans, La.
Davis, E. Clark; 1st.....	Pt. Angeles
Dean, Ralph C.; 3rd.....	Seattle
Deming, William A.; 1st.....	Bellingham
Dickinson, Howells G.; 1st.....	Portland, Ore.
Donaldson, Rox H.; 1st.....	Lind
Duffy, Maurice M.; 2nd.....	Seattle
Dumett, Raymond; 2nd.....	Seattle
Dysart, Lloyd B.; 1st.....	Centralla
Eddy, Howard M.; 1st.....	Seattle
Ellis, Floyd E.; 1st.....	Spokane
Elmore, Luther; 1st.....	N. Yakima
Erspamer, Frank A.; 3rd.....	Tacoma
Everest, Harold P.; 1st.....	Kirkland
Falknor, Judson F.; 1st.....	Seattle
Fox, Roy C.; 3rd.....	Davenport
Gilbert, Warren J.; 1st.....	El Reno, Okla.
Gorrill, Athol B.; 2nd.....	Spokane
Gray, Spencer; 2nd.....	Viola, Idaho
Greig, Wallace O.; 1st.....	Seattle
Griffith, William; 3rd.....	Anaconda, Mont.
Haight, G. Pierce; 2nd.....	Seattle
Hall, George T.; 3rd.....	Seattle

Halling, George; 1st.....	Portland, Ore.
Happy, John; 1st.....	Spokane
Hendricks, Carl H.; 3rd.....	Fossil, Ore.
Hill, Matthew W.; 3rd.....	Lester
Hoard, Mary G.; 3rd.....	Seattle
Hodge, Walter H.; 1st.....	Seattle
Johnston, E. Allen; 2nd.....	Spokane
Kolmitz, Charlotte; 2nd.....	Seattle
Kumm, Ward C.; 3rd.....	Seattle
Lafromboise, Arthur; 1st.....	Enumclaw
Langenbach, John J.; 2nd.....	Malone
Lind, Fred A.; 2nd.....	Seattle
McMicken, Maurice R.; 3rd.....	Seattle
Macdonald, William J. A.; 3rd.....	Chatfield, Minn.
Matzger, Manford; 3rd.....	Seattle
Maxwell, Edmund F.; 1st.....	Seattle
Millican, Alfred C.; 2nd.....	Seattle
Moore, Harold; 3rd.....	Seattle
Moriarty, Charles P.; 2nd.....	Seattle
Morisette, Harry; 3rd.....	Seattle
Nelson, Earl C.; 1st.....	Seattle
Newton, Arthur M.; 2nd.....	Everett
Newton, Charles A.; 3rd.....	Oakville
O'Connell, William P.; 1st.....	Seattle
Parker, George B.; 1st.....	Tacoma
Peck, Clarence R.; 2nd.....	Seattle
Pendergast, Wirt W.; 1st.....	Okanogan
Peterson, F. Lynn; 1st.....	Seattle
Preston, Frank M.; 1st.....	Seattle
Raymond, Lowell W.; 1st.....	Spencer, N. Y.
Richardson, George F., Jr.; 2nd.....	Ellensburg
Rickles, P. Allen; 3rd.....	Seattle
Riordan, Jerry D.; 1st.....	Seattle
Robbins, Morris A.; 1st.....	Seattle
Rode, Alfred; 1st.....	Bellingham
Ryan, Raymond F.; 1st.....	Seattle
Savage, Lloyd R.; 2nd.....	Seattle
Schollmeyer, Herman; 3rd.....	Nehalem, Ore.
Schumacher, Herman J.; 3rd.....	Humphrey, Neb.
Schwellenbach, Lewis B.; 3rd.....	Spokane
Scott, Earle W.; 3rd.....	Seattle
Shannon, Arthur J.; 3rd.....	Seattle
Shiel, Walter P.; 3rd.....	Spokane
Staatz, Stanley Wallace; 2nd.....	Tacoma
Sutherland, Luther; 2nd.....	Seattle
Swale, Jack B.; 2nd.....	Everett
Swigart, Howard F.; 1st.....	Seattle
Thomas, Millard P.; 3rd.....	Seattle
Tolman, Leland I.; 3rd.....	Spokane
Toomey, Floyd F.; 2nd.....	Seattle
Van Slatte, Eloise; 1st.....	Spokane

Ward, Frank D.; 2nd.....	Seattle
Watanabe, Harley S.; 3rd.....	Seattle
Weiss, Phil J.; 2nd.....	Seattle
Wilson, John M.; 1st.....	Olympia
Zelaska, Jozef; 2nd.....	Aberdeen

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Agnew, Henry C.....	Seattle
Anderson, Joseph	Seattle
Beardsley, Arthur S.....	N. Yakima
Belknap, Wilford H.....	Prineville, Ore.
Bolles, Lemuel L.....	Seattle
Calkins, Julius B.....	Seattle
Carothers, Russell E.....	Kelso
Carson, Albert A.....	Seattle
Cater, Ray F.....	St. Cloud, Minn.
Chambers, Charles M.....	Centralia
Davis, Lester A.....	Seattle
Edris, Ned	Spokane
Edris, William	Seattle
Elerding, Charles E.....	Seattle
Foster, Charles R.....	Ellensburg
Hartman, Albert G.....	Victoria, B. C.
Klaeboe, John	Seattle
Lacy, J. T.....	Ione, Cal.
Lichty, R. John.....	Spokane
Lukins, Lee C.....	Pullman
Martin, Philip L.....	Castle Rock
Miller, Cedric	Vancouver
Morris, John V.....	Seattle
Mosler, Harry	Tekoa
Moyer, Winfield S.....	Seattle
Mueller, F. Carleton.....	Spokane
Neergaard, John H.....	Oakesdale
Ostrander, Raymond E.....	Seattle
Peterson, Julius E.....	Seattle
Richardson, Hayden J.....	Seattle
Rogers, Charles L.....	Colville
Stewart, Sarah B.....	Chehalis
Thacker, Boyd L.....	Centralia
Thorn, Walker M.....	Ashland, Ore.
Tidball, Ben W.....	Bellingham
Vierhus, Alexander McK.....	Six Prong
Wapato, Louie C.....	Manson
Willard, Donald F.....	Seattle
Wood, Roy E.....	Aberdeen
Wright, Horace V.....	Tacoma
York, Arthur F.....	Tacoma

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Andrews, Cornelius R.....	Seattle
Bickel, Edward	Seattle
Bjornstad, Jacob	Seattle
Bloom, Chester A.....	Seattle
Boyle, Llewellyn D.....	Tacoma
Brooks, John B.....	Seattle
Brott, Robert R.....	Seattle
Chamberlin, Henrietta B.....	Tacoma
Christenson, Douglas J.....	Seattle
Conklin, Grover A.....	Seattle
Crehan, James	Seattle
Dinsmore, Glen O.....	Seattle
Elkan, Louis	Seattle
Elvidge, Ford Q.....	Vancouver, B. C.
Grill, William L.....	Seattle
Horiuch, George S.....	Seattle
Jones, William J.....	Seattle
Lechner, Leslie A.....	Seattle
Meany, L. E.....	Seattle
Metz, Raymond E.....	Spokane
Miffin, Gordon	Seattle
Millican, Alfred C.....	Seattle
Morris, W. Harry.....	Seattle
Mueller, Carl C.....	Seattle
Mueller, Eugene A.....	Spokane
Mumford, Maurice C.....	Seattle
Oakes, Alphretta E.....	Seattle
Patek, Ralph C.....	Seattle
Royse, James R.....	Seattle
Sinclair, Donald W.....	N. Yakima
Truax, Edward	Seattle
Walker, Henry S.....	Seattle
Wein, Clara G.....	Seattle
Yagle, Joseph L.....	Seattle

COLLEGE OF MINES

ABBREVIATIONS

Classes

Sr.—Senior
 Jr.—Junior

So.—Sophomore
 Fr.—Freshman

<i>Name of Student and Rank</i>	<i>Home Address</i>
Anderson, A. Elmer; Fr.....	Fairbanks, Alaska
Bates, John M.; Fr.....	Milwaukee, Ore.
Bird, Byron M.; So.....	Seattle
Blogg, Cecil F.; Sr.....	Seattle
Boulton, Henry G.; Sr.....	Chico
Brothers, C. Donald; Fr.....	Tacoma
Brown, Walter F.; Jr.....	Clarkston
Burmeister, Harry L.; Fr.....	Tacoma
Cairns, Clive E.; Sr.....	Boundary Bay, B. C.
Campbell, Roy E.; So.....	Bremerton
Carlson, Clement J.; Jr.....	Matsqui, B. C.
Carpenter, Paul M.; Fr.....	Treadwell, Alaska
Clulow, William M.; Sr.....	Wenatchee
Curzon, John J.; Fr.....	Seattle
Dobson, Percy G.; Sr.....	Vancouver, B. C.
Fisher, W. Gordon; Fr.....	Edwall
Gerhardt, Louis G.; Sr.....	Seattle
Gregory, Frank; Fr.....	Seattle
Grier, Sherman C.; Fr.....	Spokane
Hardie, J. Rogers; So.....	Spokane
Harstad, Ingvald T.; Fr.....	Parkland
Hawley, Lyle T.; Fr.....	Seattle
Hoff, Conrad F.; Jr.....	Seattle
Holzheimer, Frank W.; Fr.....	Seattle
Johnson, Jess C.; Sr.....	Seattle
Johnson, Walter W.; So.....	Spokane
Knight, Gayton L.; Jr.....	Spokane
Luther, Richard R.; So.....	Spokane
McFarland, James H.; Fr.....	Grants Pass, Ore.
Meenach, Harrison W.; Jr.....	Seattle
Merrill, Levi J.; So.....	Seattle
Nelson, Eugene G.; Fr.....	Juneau, Alaska
Nelson, George E.; Fr.....	Juneau, Alaska
Nolan, Walter J.; Fr.....	Seattle
O'Farrell, Robley E.; Fr.....	Orting
Olson, N. Edwin; So.....	Tacoma
Opperman, Conrad J.; Jr.....	Tacoma
Patty, Ernest N.; Fr.....	LaGrande, Ore.
Pedree, Harold E.; Fr.....	Seattle
Petteys, Fred E.; Jr.....	Seattle
Pigott, William, Jr.; So.....	Seattle

Polson, F. Arnold; So.....	Hoquiam
Saboe, Karl E.; Fr.....	Seattle
Sanders, D. Scott; Jr.....	Spokane
Scovell, Harold B.; Jr.....	Seattle
Senesac, Arthur T.; Fr.....	Seattle
Shotwell, Robert A.; Fr.....	Seattle
Slack, Albert E.; Jr.....	Seattle
Smith, Edward; So.....	Seattle
Stenstrom, Samuel A.; Fr.....	Spokane
Thomadsen, Leroy; Fr.....	Seattle
Thompson, John H.; Jr.....	Seattle
Tucker, E. Lee; Fr.....	Tacoma
Wilcox, H. Glen; Fr.....	Seattle
Winans, William P.; Fr.....	Walla Walla
Winn, Burdett A.; Fr.....	Juneau, Alaska
Wood, Arthur Rollit; Fr.....	Saratoga, Cal.
Zickrick, Lyall W.; So.....	Wahkon, Minn.

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Clark, Curry C.....	Seattle
Knudson, Roy G.....	Ponoka, Alta., Can.
Nicley, A. Willis H.....	Fairbanks, Alaska
Schofield, Alfred G.....	Seattle
Wong, Chii F.; Fr.....	Kwangtung, China

SPECIAL STUDENTS AND SHORT COURSE STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Bailey, Richard Ward; S. C.....	Juneau, Alaska
Baldwin, Asa C.; S. C.....	Valdez, Alaska
Boulton, Arthur W.; S. C.....	Chico
Bronson, Frederick G.; S. C.....	The Dalles, Ore.
Cameron, Donald W.; S. C.....	Alice Arm, B. C.
Christopher, Alfred; S. C.....	Candle, Alaska
Collings, Bert; S. C.....	Harlowton, Mont.
Danielson, Gus; S. C.....	Wilkeson
Daulton, Theodore M.; S. C.....	Seattle
Drennan, James A.; Sp.....	Seattle
Eardley, Bedson A.; S. C.....	Dolomi, Alaska
Everly, Jesse M.; Sp.....	Seattle
Fluhart, Selden S.; S. C.....	Seattle
Foran, William T.; Sp.....	Seattle
Fox, Clyde D.; S. C.....	Seattle
Hunt, Samuel Franklin; Sp.....	N. Yakima
Ingraham, Albert J.; Sp.....	Sumas
Isaacson, Robert; S. C.....	Sweden
Ives, Ellsworth J.; S. C.....	Seattle
Kauffman, Grover J.; S. C.....	Seattle
Kenney, William E.; S. C.....	Craig, Alaska

Knight, Hal G.; S. C.	Akron, Ohio
Lewis, Joseph J.; S. C.	Blewett
Linke, Albin; S. C.	Portland City, Alaska
Lund, Carl E.; S. C.	Juneau, Alaska
Magisos, Hans; S. C.	Seattle
Major, Sidney W.; S. C.	Seattle
Maker, Seth C.; S. C.	Lillooet, B. C.
McAvoy, H. M.; S. C.	Seattle
McCafferty, James P.	Anchorage, Alaska
McCarthy, Reed M.; S. C.	Seattle
McLeod, Angus; S. C.	Strelina, Alaska
Mading, William Crawford; S. C.	Seattle
Meloche, Fred F.; S. C.	Vancouver, B. C.
Miner, Allen F.; S. C.	Vancouver, B. C.
Moa, Arthur O.; S. C.	Ketchikan, Alaska
Parker, P. B.; Sp.	Seattle
Phillips, Thomas; S. C.	Burke, Idaho
Polson, William L.; S. C.	Ketchikan, Alaska
Porter, Clay; Sp.	No. Bend
Reinecke, William; S. C.	Seattle
Roan, William; S. C.	Kent
Strolan, William O.; S. C.	Roseburg, Ore.
Stubbs, Arthur D.; S. C.	Bingham Canyon, Utah
Swan, Delmer A.; S. C.	Burke, Idaho
Tanzer, William M.; S. C.	Seattle
Thurmond, F. LeRoi; S. C.	Seattle
Thorndyke, J. T.; S. C.	Seattle
Tiffany, Stanley M.; S. C.	Aberdeen, S. D.
Turner, Howard A.; Sp.	Penticton, B. C.
Ulstrup, Peter H.; S. C.	Seattle
Van Winkle, Archie Claude; S. C.	Tacoma
Waters, Walter C.; S. C.	Wrangell, Alaska
Walsh, George M.; S. C.	Seattle
Whitehead, Arthur T.; S. C.	Seattle
Wilkinson, George William; Sp.	Seattle

COLLEGE OF PHARMACY

ABBREVIATIONS

Classes

Jr.—Junior
Sr.—Senior

Fr.—Freshman
So.—Sophomore

*Name of Student and Rank**Home Address*

Ayers, Harry Warner; So.....	Tacoma
Bagley, Raymond J.; Fr.....	Tacoma
Beam, Mark P.; Fr.....	N. Yakima
Beaver, Charles W.; So.....	Sumner
Beck, Floyd J.; Jr.....	Kelso
Berens, Arthur H.; Jr.....	Tacoma
Biggs, Loddie; Jr.....	Seattle
Boyd, Mary F.; Fr.....	Boyd, Mont.
Brewer, Walter T.; Jr.....	Tacoma
Bucknell, George E.; Fr.....	Burton
Carlander, Oswald R.; Fr.....	Seattle
Chiba, Yasukichi; So.....	Tokio, Japan
Clothier, Lyle B.; Fr.....	Bellingham
Coffman, Charles R.; Fr.....	Sumner
Collins, Joel E.; So.....	Seattle
Curry, Mark E.; So.....	Tacoma
Devener, E. Bernard; Fr.....	Sedro Woolley
Dyer, Glen; So.....	Ellensburg
Fleming, Paul E.; Fr.....	Toppenish
Frew, Donald V.; Fr.....	Seattle
Gilbert, Geraldine; Fr.....	Seattle
Goettge, John E.; So.....	Wardner, Idaho
Haggen, Clarence S.; Fr.....	Bellingham
Haines, Roy E.; Fr.....	Zillah
Hilton, Jeffery; Sr.....	Marysville
Hubbard, Frank H.; Fr.....	Seattle
Johnson, Eugene G.; Jr.....	Seattle
Kath, Henry L.; Sr.....	Seattle
Kracower, Bella; Fr.....	Seattle
Lee, Richard; Fr.....	Everett
Lemon, Charles E., Jr.; Fr.....	Everett
Lennon, James G.; Fr.....	Roslyn
McHugh, Charlotte C.; So.....	Buckley
McIntire, Doris H.; Jr.....	Auburn
Madden, Kathryn O.; Fr.....	Seattle
Mansfield, Marjorie; Fr.....	Marysville
Manson, Marcus W.; Jr.....	Puyallup
Molin, Morris J.; Fr.....	Seattle
Nash, Albert M.; So.....	Friday Harbor
Peterson, Everett N.; Sr.....	Snohomish
Rawson, Merrill O.; Jr.....	Oakland, Cal.
Schumacher, Harold C.; So.....	Monroe

Sears, George L.; Fr.....	Centralia
Selk, Anthony Joseph; Jr.....	Seattle
Smith, Gertrude E.; Fr.....	Hamilton
Smith, Truman W.; Jr.....	Seattle
Tiemens, George E.; Fr.....	Kelso
VanCott, Albert B.; Jr.....	Seattle
Whitmore, Comfort; So.....	Buckley
Wilkes, Robin J.; Fr.....	Seattle
Wolff, Edward C.; Fr.....	Seattle
Wong, Ying C.; Fr.....	Canton, China
Zenier, Theodore W.; Fr.....	Spokane

UNCLASSIFIED STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Bell, James N.....	Tacoma
Corwin, F. Ruth.....	Spokane
Edson, Gale	Lynden
Middleton, Eldorn E.....	N. Yakima
Orosa, Maria Y.....	Bantagas, P. I.
Salley, Dillard C.....	Tacoma

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Cantril, Walter	Seattle
Craigien, Leslie	Seattle
Gallman, Alfred E.....	Milton
Gunther, Earl J.....	Seattle
Hammarlund, Edwin F.....	Gig Harbor
Hendricks, William E.....	Ellensburg
Heyes, George, Jr.....	Seattle
Hills, William E.....	Seattle
Hultgren, Lorentz E.....	Tacoma
Hunt, Philip S.....	Seattle
Johnston, William E.....	Aberdeen
Moffat, Raymond J.....	Seattle
Power, Percy G.....	Seattle
Riddell, Chester	Sumner
Rogers, William H.....	Bellingham
Snyder, Fred H.....	Anacortes
Wickenkamp, William H.....	Seattle
Williams, Paul L.....	Toppenish

STUDENTS AT LARGE

<i>Name of Student</i>	<i>Home Address</i>
Christensen, Clara Mabel.....	Parkland
Davis, Landon Glenn.....	Mt. Vernon
DeVoe, Donald R.....	Seattle
Gilbert, John Herman.....	Seattle
Hemphill, Waldo	Seattle
Judy, Marjorie	Seattle
Lyon, Ethel Susan.....	Ann Arbor, Mich.
Morris, Josephine Mae.....	Medical Lake
Nicholson, Clarke.....	Minneapolis, Minn.
Robinson, Hazel Claire.....	Spokane
Salladay, Letha Dell.....	Seattle
Secord, Emanuel	Spokane
Shannon, Margaret C.....	Seattle
Shears, Edward William.....	Portland, Ore.
Walker, Charles H.....	Seattle
Wilt, Mrs. Marguerita Sinclair.....	Fort Steilacoom

SUMMER SESSION STUDENTS 1916

<i>Name of Student</i>	<i>Home Address</i>
Adams, Cora May.....	Tacoma
Adams, Elsa Clair.....	Richmond Beach
Adams, Frances True	Seattle
Adams, Howard A.....	Seattle
Agnew, Nellie J.....	Seattle
Ahlgren, Ida	Seattle
Aiken, Effie E.....	Three Tree
Ainslee, Elsie	Seattle
Ake, Clair Lail.....	Mountain Home, Idaho
Albert, Adolph Henry.....	Odessa
Albin, Mary	Seattle
Allen, Mabelle.....	Pendleton, Ore.
Allison, Roy Gordon	Seattle
Alverson, Vida	Seattle
Amunds, Marie Nordrum.....	Pasco
Anasawa, Seichi	Seattle
Anderson, Gudrun Cecelia.....	Seattle
Anderson, Bertha L.....	Seattle
Anderson, Clara	Seattle
Anderson, (Mrs.) Ethel Way.....	Seattle
Anderson, Hilma Emelie.....	Colton, Ore.
Anderson, Katharine	Stanwood
Anderson, (Mrs.) Louise	Spokane
Anderson, Lydia Cecilia	Waterman
Anderson, Nettie	Tacoma
Anderson, Ogette.....	Rhineland, Wis.
Anderson, Serina	Seattle
Anderson, Victoria	Seattle
Anderson, Wesley Grove.....	Metolius, Ore.
Andrak, Josephine Mary.....	Tacoma
Andrew, Alice Verna.....	Coeur d'Alene, Idaho
Aprill, Joe L.....	Snohomish
Arges, Julia E.....	Du Pont
Armstrong, Irene Margaret.....	Tacoma
Arneson, Ruby O.....	Seattle
Arney, Mary	Seattle
Arnold, Mercy Eggleston.....	Conklin, Mich.
Arnold, Ruth Louise.....	Naches
Arnquist, Inez Josephine.....	Seattle
Ashmore, Richard Howell.....	Cranbrook, B. C.
Ashton, Theresa	Seattle
Asker, William.....	Seattle
Aspinwall, Mabel G.....	Tenino
Athen, Sara J.....	Seattle
Ault, Eli M.....	Enterprise, Ore.
Babcock, Corinne B.....	Seattle
Babcock, Linda F.....	Pearson

Bachman, Amelia H.....	Seattle
Backus, LeRoy M.....	Seattle
Bacon, Lula	Earlington
Bader, Gertrude P.....	Seattle
Baeder, Wilhelmina	Seattle
Bagley, Walter Ethan.....	Seattle
Bailey, George	Seattle
Bair, Beatrice Serson.....	Stellacoom
Baird, Myrtle Jean.....	Spokane
Balsden, Leo Bernard.....	Seattle
Baker, Edith A.....	Eugene, Ore.
Baker, Grace Josephine.....	Mission City, B. C.
Baker, Mildred Elizabeth	Tacoma
Baldwin, Anna L.....	Spokane
Baldwin, Belle	Seattle
Banks, Bertha M.....	Seattle
Barbee, M. Rand.....	Seattle
Barbee, William L.....	Seattle
Barber, David A.....	Tenino
Bardon, Norma Martha.....	Parkland
Bardon, Peter Jeremiah.....	Parkland
Bardshar, Ruth	Seattle
Barette, Emma E.....	Portland, Ore.
Barish, Saul W.....	Seattle
Barnes, Earl Convis.....	Decatur, Ill.
Barnes, Frances L.....	Portland, Ore.
Barnes, Lucy R.....	Seattle
Barry, Georgie C.....	Bellingham
Barton, Jennie C.....	White Cloud, Mich.
Basbore, Luther E.....	Schuylkill Haven, Pa.
Batchelder, Harold S.....	Spokane
Baughman, Lorita Marie.....	Seattle
Bauserman, Blanche M.....	Marengo, Iowa
Baxter, Kirk S.....	Bellingham
Bay, Bertha Jenkins (Mrs.).....	Renton
Bay, William D.....	Renton
Bazzett, Hester Spalding.....	Seattle
Beall, Bessie	Seattle
Beck, George F.....	Krupp
Beckham, Leona Mary.....	Seattle
Belden, Fannie Evelyn.....	Seattle
Bell, Anna Margaret.....	North Yakima
Bemiss, Catherine M.....	Spokane
Bennett, Edward Allen.....	Seattle
Bennink, May R. G.....	Everett
Benthien, Elsie	Tacoma
Berg, Ida Blanche.....	Missoula, Mont.
Berglund, Fanny	Seattle
Bergman, Annie.....	Astoria, Ore.
Bergman, Edward E.....	Auburn
Bergner, Flora	Seattle

Bergsvik, Christine.....	Portland, Ore.
Bickel, Edward	Seattle
Bickel, Katharine	Seattle
Bickford, E. Albi.....	Battle Lake, Minn.
Bieghler, (Mrs.) Harriet Kile.....	Seattle
Black, Mary Adelaide.....	Seattle
Blair, Pearl Catherine.....	Butte, Mont.
Blanchard, Ida	Seattle
Blanchard, Mary Ellen	Seattle
Bledsoe, (Mrs.) Laura Louisa.....	Wardner, Idaho
Bleeg, Hedwig.....	Hillsdale, Ore.
Bliss, Addie Jeannette.....	Seattle
Bliss, Margaret Louise	Seattle
Bliss, Margaret Sidle	Tacoma
Blodgett, Kate	Seattle
Blomquist, Arthur Waldemar.....	Bremerton
Blunt, Joseph Robert.....	Tacoma
Boardman, Martha A.....	Spokane
Bohannan, Guy W.....	Wenatchee
Bolster, Helen	Seattle
Bolt, Eric P.....	Marshfield, Ore.
Bond, Rowena	Seattle
Bonell, Hannah Elizabeth.....	Fall City
Bories, Henry V.....	Seattle
Bothwell, Belle.....	Anaconda, Mont.
Boucher, Jessie Louisa.....	Kent
Boulger, Martha L.....	Seattle
Bourgette, Viola M.....	Seattle
Bovee, Marie	Seattle
Bowler, Louis J.....	Ferndale
Bown, Robert Frederick.....	Kent
Bowns, Annabel	Aladdin
Boyce, Harriet L.....	Newton, Mass.
Bradford, Homer.....	Butte, Mont.
Bradley, Florence	Spokane
Branam, Lyda.....	North Bend
Breazeale, Inez Edna M.....	Sandon, B. C.
Breckner, Elmer Leander.....	Wallace, Idaho
Brenholts, Mary	Seattle
Breslin, Sarah.....	Butte, Mont.
Breum, Anna.....	East Sherwood
Brinck, S. M.....	Starbuck
Bringer, Denise	Seattle
Bringolf, Ella	Seattle
Brintnall, Bert W.....	Seattle
Brislawn, Margaret Elizabeth.....	Sprague
Brome, Alice M.....	Butte, Mont.
Brome, Laura.....	Butte, Mont.
Brooks, John B.....	Seattle
Brown, Burton Augustus	Seattle
Brown, Cora May.....	Clymer, N. Y.

Brown, Ethel M.	Seattle
Brown, Francis Bolden	Crystal, Ore.
Brown, Herman Everett	Seattle
Brown, Josephine	South Bend
Brown, Lois E.	Harrington
Brown, Lula A.	Vancouver, B. C.
Brown, Luti I.	Spokane
Brueggerhoff, Anna Marie	Seattle
Bryan, Agnes S.	Seattle
Bryan, Goldie Alice	Seattle
Bryant, Sydney Victor	Seattle
Bucklin, Emma Louise	Winslow
Budde, Charles A.	Blaine
Burcham, Marie A.	Seattle
Burgess, Edith L.	Seattle
Burghduff, Mabel Ferne	Portland, Ore.
Burkette, E. Blanche	Altoona, Pa.
Burleigh, Bess M.	Seattle
Burns, Fern Elizabeth	Thorp
Burnside, J. B.	Seattle
Burr, Margaret	Seattle
Burr, Wallace H.	Hastings, Neb.
Burton, Jennie L.	Galena, Ill.
Bush, Agnes Selene	Seattle
Butcher, Bessie E.	Seattle
Butcher, Owen	Seattle
Butler, Anne De Vere	Butte, Mont.
Butler, Jessie Eloise	Seattle
Buvinghausen, Emma	Seattle
Buxton, Walter Henry	Battle Ground
Caffrey, Genevieve	Seattle
Cales, Tony Foster	Seattle
Calhoun, Helen	Seattle
Calkins, Maude Joe	Stevensville, Mont.
Calloway, Gertrude	Seattle
Calvert, Sidney E.	Mossy Rock
Campbell, Mary	Seattle
Campbell, Mary M.	Seattle
Campbell, Olive May	Boise, Idaho
Cardle, Maynard M.	Everett
Carey, Joseph P.	Mt. Pleasant, Mich.
Carleton, Lillian G.	Seattle
Carlisle, Isabelle	Seattle
Carlton, Frances W.	Seattle
Carney, William Harvey	Colby
Carpenter, Hazel	Seattle
Carroll, J. D.	Seattle
Cassidy, F. L.	Seattle
Catlin, Claude	Ellensburg
Catton, Lois Jane	Seattle
Caughlin, Rose M.	Seattle

Cavanaugh, James Alfred.....	Seattle
Chamberlaine, Orlo Rexford.....	Vancouver
Chamberlin, James Edwin.....	Seattle
Chambers, Lucille.....	Seattle
Chambers, L. May.....	Seattle
Chandler, Lucy A.....	Macomb, Ill.
Chapman, Grace L.....	Seattle
Chappell, Claribel Corinne.....	Seattle
Chappelle, Gladys Juanita.....	Seattle
Charroin, Ida R.....	Bellingham
Chase, Alice.....	Coeur d'Alene, Idaho
Chase, Lucile.....	Salem, Ore.
Cheatham, Lutie.....	Seattle
Cheatham, Winifred.....	Seattle
Chopson, Estelle.....	Seattle
Christensen, Clara Mabel.....	Parkland
Churches, Ada Evelyn.....	Everett
Clarahan, Frances Anna.....	Minneapolis, Minn.
Clary, Amy P.....	Weyburn, Sask.
Clark, B. M.....	Seattle
Clark, (Mrs.) Gertrude.....	Salem, Ore.
Clark, Herman.....	Salem, Ore.
Clark, Levi.....	Colville
Clark, Lillian Hazel.....	Seattle
Clark, Tracy Vera.....	Columbus, Ohio
Clark, (Mrs.) Virginia M.....	Seattle
Clay, Lucile.....	Seattle
Clayton, Vera.....	Seattle
Clements, Colin C.....	Seattle
Clendenny, Percy.....	Seattle
Clulow, (Mrs.) Edith M.....	Seattle
Coates, Frank C.....	Coupeville
Cobb, Tina Marie.....	Richmond Beach
Coe, Curtis Pearre.....	McMinnville, Ore.
Coffman, Mabel M.....	Bellingham
Cogswell, Caroline Duston.....	Seattle
Collins, Catherine Zora.....	Seattle
Collins, Elizabeth.....	Kirkland
Collins, Marie Anna.....	Seattle
Colson, Belle.....	Seattle
Colwill, Edward Russell.....	East Seattle
Combs, Fuller.....	Portland, Ore.
Conaway, Gail.....	Seattle
Condon, Edward J.....	Seattle
Condon, Margaret.....	Wenatchee
Connery, Kathryn.....	Seattle
Connell, Helen Loretto.....	Seattle
Cook, Florence A.....	Seattle
Cook, J. Geraldine.....	Seattle
Cook, (Mrs.) May Caulkins.....	Phoenix, Ariz.
Cook, Nellie Mabel.....	Kearney, Neb.

Cooke, Maude W.	Oregon City, Ore.
Cooper, Frances Drake	Seattle
Cope, H. F.	Quincy
Cope, (Mrs.) H. F.	Quincy
Corbet, Margaret	Seattle
Corbett, Gertrude	Huntsville
Cornell, Gladys	Tacoma
Corskie, James M.	Seattle
Cosgrove, Gertrude	Sprague
Costello, Margreta	Moscow, Idaho
Cottle, Glen S.	Olympia
Cottrell, Bessie Etta	Seattle
Cottrell, Florence	Seattle
Cowden, Corine Bess	Silverton, Ore.
Cowden, Palm May	Silverton, Ore.
Cox, Andora	Tacoma
Cox, Mrs. Edward	Seattle
Cox, Manning W.	Seattle
Coyne, Marie	Spokane
Crain, Leota	Seattle
Cramblitt, De Fore	Centralia
Crawford, Bertha Elizabeth	Tacoma
Crawford, Gene	Portland, Ore.
Crawford, Grace Laurel	Portland, Ore.
Crosno, Mabel	Walla Walla
Crossland, Pearl	Mendon, Ill.
Crotts, Ida May	Puyallup
Crownover, Lowell G.	Easton
Culbertson, Lloyd L.	Seattle
Currie, Muriel Blanche	Seattle
Curry, (Mrs.) Georgiana Stowe	Seattle
Cushing, Gertrude Wells	Milwaukee, Wis.
Cushman, D. D.	Mountain Home, Idaho
Cutts, Alice Tyler	Deer Park
Cutts, Louise	Seattle
Dahl, Florence L.	Seattle
Dahlstrom, Esther V.	New Castle
Dalgity, Jean V.	Seattle
Dally, Louise Beatrice	Seattle
Dammon, Raymond M.	Seattle
Damon, Verne L.	Seattle
Dana, Adeline Emilie	Tacoma
Danforth, Myrtle	Stevens Point, Wis.
Danforth, Sarah E.	Stevens Point, Wis.
Darrow, Lillian M.	Tacoma
Daubenspeck, Marion	White Bird, Idaho
Davenport, Mabel A.	Hansen, Idaho
Davidson, Lillian E.	Neché, N. Dak.
Davidson, Madge L.	Spokane
Davis, Alice Elizabeth	Oroville
Davis, Cecilia Marie	Seattle

Davis, Hilda Berman.....	Seattle
Davis, Leslie (Miss)	Seattle
Davis, Lloyd L.....	Bellingham
Davis, M. Martelle Elliott.....	Tacoma
Davis, Walter W.....	Columbus
Day, (Mrs.) L. Ellen.....	Seattle
Deach, Agnes Gertrude.....	Wenatchee
Deane, Charles Henry.....	Oakville
De Bard, Grace	Seattle
De Chesne, Victor Charles.....	Issaquah
de Crane, May C. P.....	Lake Bay
De Foe, James Albert.....	Chewelah
Delano, Lila M.....	Seattle
Delkin, Fred L.....	Seattle
De Long, Edyth.....	Everett
De Merchant, Leo A.....	Oroville
Denniston, Emma Margaret.....	Manchester
Denny, Madge D.....	Seattle
Derry, Myrtle A.....	Galesburg, Ill.
de Soucy, Laurine Marie.....	Norman
Devin, Mary Elmah.....	Seattle
De Voe, Helen G.....	Seattle
Diamond, Maude.....	Whitesboro, Tex.
Dickinson, Nellie A.....	Portland, Ore.
Diez, Rodrigo	Seattle
Dimmett, A. W.....	Renton
Dimmitt, Lorris M.....	Foster
Diver, Louise Jane.....	Lewiston, Idaho
Dobbins, Eva Ennis.....	Seattle
Dodge, Alice	Seattle
Doerrer, Laura S.....	Seattle
Donaway, Alice May.....	Renton
Donovan, Harrison	Seattle
Donovan, R. Marie	Seattle
Doolittle, Henry Burton.....	Sedro-Woolley
Doran, Eunice Wilma.....	Mount Vernon
Dorgan, (Mrs.) Ida M.....	Arlington
Dorgan, W. H.....	Edmonds
Dougherty, Beryl L.....	Seattle
Douglas, Muriel Albany.....	Seattle
Douglass, Susan Lorraine.....	Harper
Dove, Eva M.....	Bickleton
Dowell, Sareva	Seattle
Downs, Agnes L.....	Mount Vernon
Doule, M. Edna.....	Portland, Ore.
Drake, Ethel M.....	Seattle
Drake, Grace M.....	Seattle
Drake, Maude E.....	Seattle
Dreitzler, Ralph Frances.....	Seattle
Dresser, Mary Eunice.....	Lewiston, Idaho
Dresslar, Martha E.....	Seattle

Driese, Margaret Marie.....	Seattle
Driftmier, Rosa M.....	Mount Vernon
Driscoll, Anna Marie.....	Kalispell, Mont.
Drotning, Theodore M.....	Parkland
Drumheller, Marion.....	Walla Walla
Drummond, Elizabeth M.....	Tacoma
Drummond, Wallace G.....	Seattle
Duckering, (Mrs.) Grace S.....	Seattle
Duensing, W. F.....	Chesaw
Dunagan, Dessie	Ferndale
Dunmire, Bertha Grace.....	Creekside, Pa.
Dunmore, Blanche.....	Seattle
Dunn, Ima	Seattle
Dunne, Ruth.....	Portland, Ore.
Durkee, Grant	Everett
Durland, (Mrs.) Mary D.....	Seattle
Duskin, Bernard S.....	Seattle
Dustin, Lillian Dale.....	Seattle
Dutcher, Lila Mary.....	Appleton, Wis.
Dwyer, Lottie Belle.....	Hillsdale, Mich.
Dyer, Blanche.....	Juneau, Alaska
Earhart, Blanche V.....	Seattle
Earl, Edith	Seattle
Eby, (Mrs.) Emma H.....	Bulsar, India
Ederer, Pauline	Seattle
Edmonds, Robert Harold Gray.....	Olympia
Edmondson, Netta C.....	Everett
Edwards, Marian C.....	Seattle
Eells, Ida Myra.....	Tacoma
Ehlert, Herman W.....	Toppenish
Erichholzer, Rupert	Seattle
Elliott, (Mrs.) Dora Baisden.....	Seattle
Elliott, Madge	Seattle
Elliott, Preston Green.....	Boulder, Col.
Ellis, Eleanor	Seattle
Ellsperman, Winifred	Blaine
Elmer, Dorothy	Seattle
Emerson, Frances Marie.....	Seattle
Emery, Elisabeth	Drummond, Mont.
Emery, Ethel A.....	Seattle
Engel, (Mrs.) Pearl E.....	Elbe
Engstrom, Ella C.....	Seattle
Engstrom, Hannah B.....	Renton
Etsell, Erma	Seattle
Eustis, Stella Annette.....	Minneapolis, Minn.
Evans, E. H.....	Olympia
Everton, Clara M.....	Edmonds
Fahrenwald, Alice	Seattle
Fairchild, Ethel	Seattle
Falkoff, (Mrs.) Anna.....	Seattle
Fancolly, Zeta May.....	Atlantic, Iowa

Farley, Guy F.	Seattle
Farrar, Grace H.	Seattle
Farrar, Mayme	Seattle
Farwell, Raymond F.	Seattle
Faussett, Madge G.	Monroe
Fay, Alice Ober.	Seattle
Fay, Helen Frances.	Seattle
Feely, (Mrs.) Mabel.	Seattle
Fenton, Ione Edith.	Seattle
Ferguson, Margaret.	Portland, Ore.
Ferriss, Emery Nelson.	Seattle
Frink, Erna M.	Seattle
Firth, Mildred	Seattle
Fisher, Howard John.	Kapowsin
Fitch, Helen F.	Tacoma
Fitzsimmons, Margaret	Vancouver
Fleenor, (Mrs.) J. B.	Seattle
Fleming, Eva	Aberdeen
Floe, Martha	Florence
Flowers, Ruby J.	Chehalls
Forbes, Amy Victoria.	Seattle
Forbes, Edith.	Portland, Ore.
Forster, George F.	Seattle
Fossen, Clara A.	Parkland
Foster, Florence M.	Ellensburg
Foster, Harry E.	Seattle
Frahm, Ida H.	Seattle
Frame, Paul Warren.	Seattle
Francis, (Mrs.) Elinor.	Northport
Fraser, Mabel	Port Blakely
Freeman, David W.	Seattle
Freeman, Robert	Spokane
French, Bertha I.	Seattle
Frey, Lorena M.	Seattle
Freyd, Florence S.	Seattle
Fried, David	Seattle
Fringer, Emma	Seattle
Frye, Ruth L.	Seattle
Frye, Verna Catherine.	Silver City, Idaho
Fuller, Emilie Stone.	Seattle
Fullerton, Ida Izeta.	Kalamazoo, Mich.
Fulton, Lester B.	Seattle
Fünfsinn, Rosa	Seattle
Gahagan, Lillian M.	Tacoma
Galbraith, (Mrs.) Laura C.	Spokane
Garland, Martha May.	Seattle
Garrison, Laura Grace.	Seattle
Garvey, Erna C.	Seattle
Gay, Alsea	Seattle
Gay, Ruth Edney.	Seattle
Gayton, Gertrude.	River Forest, Ill.

Geballe, Pauline T.	Portland, Ore.
George, Lulu	St. Helens, Ore.
Gerding, Nellie H.	Astoria, Ore.
Gerischer, Lillian Wilhelmine	Muscatine, Iowa
Gerriets, Minnie	Mt. Vernon
Gerry, Alice	Seattle
Gibson, Clayton E.	Seattle
Gieser, Emiel G.	Seattle
Gieser, Harold F.	Seattle
Gifford, Lola L.	Bellingham
Gilfillan, Lula B.	Union, Ore.
Gillespie, Virgil A.	Seattle
Gillette, Cora M.	Seattle
Gilman, Bonnie	Seattle
Gilmer, Lucy W.	Seattle
Gist, Arthur S.	Seattle
Glaser, Harry	Seattle
Gleason, Ruth	Seattle
Gleeson, Grace	Butte, Mont.
Gleeson, Helena M.	Anaconda, Mont.
Godskesen, William Christian	Vancouver
Goodall, Grace	Portland, Ore.
Gorham, Edna A.	Butte, Mont.
Gorman, Marie	Portland, Ore.
Gorrie, Eda C.	Payette, Idaho
Gottschalk, Gladys	Marysville
Gourman, David Z.	Seattle
Gourman, Mottle	Seattle
Graham, Elmina E.	Seattle
Graham, Felicia	New Westminster, B. C.
Graham, Joseph W.	Seattle
Granning, Martin Louis	Portland, Ore.
Gray, Clarence Hubert	Seattle
Gray, Harold E.	Seattle
Green, Frances E.	Bellingham
Greene, Clyde J.	Grouse, Ore.
Greene, G. W.	Seattle
Greene, Mabel	Seattle
Greffoz, Hortense Perrine	Portland, Ore.
Gregory, Frank	Seattle
Grenland, Amos Sovereign	Seattle
Grimm, Azella May	Tacoma
Grindrod, Ione	Seattle
Grover, Isabel Margaret	McMinnville, Ore.
Groves, Mary Luella	Seattle
Grundler, Augustus Ferdinand	Pullman
Guitteau, Florence	Renton
Gunn, Arthur, Jr.	Wenatchee
Gunn, Mary	Wenatchee
Gunther, Earl J.	Seattle
Gwin, Byrl Newton	La Center

Gwin, George A.....	Oakville
Gwinn, Bessie A.....	Garfield
Haack, Wilhelmina Margaret.....	Seattle
Haas, Frances E.....	Constantine, Mich.
Haecker, Mary M.....	Seattle
Hagerty, Genevieve	Seattle
Hagerty, Mary	Seattle
Haggland, Vera Charlotte.....	Pt. Blakeley
Hagood, George Floyd.....	Durant, Okla.
Hale, Beatrice E.....	Spring Valley, Minn.
Hale, Grace T.....	Ridgefield
Hall, Verne.....	N. Yakima
Hallinan, Laura C.....	Portland, Ore.
Halling, George	Seattle
Hallingby, Rachel.....	Portland, Ore.
Halpin, Catharine B.....	Seattle
Hamel, Floyd	Seattle
Hamilton, Juanita	Seattle
Hampton, Orpha.....	Blackfoot, Idaho
Hanawalt, Harold O.....	Everett
Handforth, T. Schofield.....	Tacoma
Hanlein, Adelaide	Tacoma
Hannan, Mark	Seattle
Hansome, Marius	Kongsmark, Germany
Hanson, Ruth Leonora.....	Seattle
Hargrove, Oscar Lee.....	Payette, Idaho
Harris, Besse	Seattle
Harrison, Mary	Madras, Ore.
Harstad, T. Amelia.....	Parkland
Hart, Nell M.....	Everett
Hartman, Albert Gus.....	Victoria, B. C.
Harty, Melvin E.....	Pe Ell
Hatch, Ethel Sumner.....	Tacoma
Hatch, Harriet	Tacoma
Hatcher, Ida Mae.....	Seattle
Hathaway, Alta	Tacoma
Hatlen, Olaf Charles.....	Everett
Haugum, Evelyn A.....	Seattle
Havens, Mareta	Seattle
Hawkins, M. Estelle.....	Seattle
Hawley, Ruth A.....	Ashwood, Ore.
Hawley, Winifred.....	Portland, Ore.
Hayes, Alice	Seattle
Hayner, Norman S.....	Seattle
Hazeltine, Jessie	Everett
Hazelton, Cecilia.....	Townsend, Mont.
Heath, Esther Carolyn.....	Butte, Mont.
Hedges, Blanche	Seattle
Hedges, Genevieve.....	Atlantic, Iowa
Heflin, Nannie France.....	Tacoma
Hegman, Bertha	Seattle

Heines, Thomas S.....	Seattle
Hell, Estelle A.....	Portland, Ore.
Henderson, Mary.....	Hall, Mont.
Hermann, Ida M.....	Seattle
Hermansen, Clara.....	Omaha, Neb.
Herren, Dora.....	Seattle
Hertges, Frances.....	Tacoma
Hevly, Martin B.....	Silvana
Hickenlooper, Anna.....	Everett
Hicks, Ethel D.....	Seattle
Hicks, Lola N.....	Seattle
Higgins, Irene Frances.....	Seattle
Hill, Leila Dunwody.....	Augusta, Ga.
Hill, Thomas James.....	Prineville, Ore.
Hillis, Arnetta.....	Seattle
Hills, Herbert Vincent.....	Oak Harbor
Hinman, Maude E.....	Leavenworth
Hjertaas, Edith.....	Brush Prairie
Hoffman, Goldie.....	Parkland
Hagan, Philip.....	Vader
Hohberger, William.....	Spokane
Hollingsworth, Myrtle.....	Seattle
Hollingsworth, R. R.....	Seattle
Holloway, Lucile.....	New York City
Holmes, Winnifred.....	Edmonds
Holmquist, H. Edwin.....	Aberdeen
Holtorf, Clara.....	Vancouver, B. C.
Hong, Harold Wiborg.....	Parkland
Hong, Nils Joseph.....	Parkland
Hoover, Glenn E.....	Seattle
Hopper, George Thomas.....	Coeur d'Alene, Idaho
Hostetter, Ingomar.....	Tacoma
Houlahan, Annie Aileen.....	Seattle
Huff, Virginia.....	Seattle
Hughes, Anne.....	Seattle
Hultgrenn, Elmer F.....	Mabton
Humphreys, Lida.....	Curwensville, Pa.
Hunt, Margaret Jean.....	Seattle
Hutchinson, Pansy.....	Seattle
Hyames, Frank M.....	Seattle
Indridson, Emma.....	Pt. Townsend
Ingersoll, Louise.....	Seattle
Ingraham, Laura Winifred.....	Astoria, Ore.
Irons, (Mrs.) Eleanor Lewis.....	Seaside, Ore.
Irvine, Helen E.....	Seattle
Irvine, Iantha.....	Seattle
Irvine, Paul.....	Joseph, Ore.
Jackson, Dorothea Mignonette.....	Seattle
Jackson, F. C.....	Seattle
Jacobs, Gladys.....	Vashon
Jacobson, Wilhelmina Emelia.....	Devils Lake, N. D.

Jarvis, Emma J.....	Victoria, B. C.
Jenks, Gracia Latham.....	Seattle
Jennings, (Mrs.) Agnes E.....	Oakdale
Jennings, Alva M.....	Oakdale
Jensen, Arne S.....	Sylvania
Johnson, Alice M.....	Seattle
Johnson, Anna Christine.....	Seattle
Johnson, Ben W.....	Seattle
Johnson, Bertha E.....	Seattle
Johnson, Clara M.....	N. Yakima
Johnson, Daisy M.....	Tacoma
Johnson, David H.....	Tacoma
Johnson, Effie.....	Seattle
Johnson, Euphemia.....	Seattle
Johnson, Fannie.....	Seattle
Johnson, Gladys A.....	Waterman
Johnson, John Earl.....	Bickleton
Johnson, Paul.....	Walla Walla
Johnston, Alma Covey.....	Seattle
Johnston, Jeannette.....	Seattle
Jones, Effie D.....	N. Yakima
Jones, Lucien Norton.....	Seattle
Jones, (Mrs.) Lulu Ione Mower.....	Blaine
Jones, Marie Eloise.....	McMinnville, Ore.
Jones, Nancy Emerson.....	Seattle
Jones, Weaver Judson.....	Centralia
Joseph, Belle B.....	Portland, Ore.
Kahler, Herbert.....	Tacoma
Kane, Mary Eleanor.....	Seattle
Kastner, Louis R.....	Seattle
Keeffe, Helen Marguerite.....	Sioux City, Iowa
Keenan, Helen Rose.....	Seattle
Keith, Walter Cassels.....	Seattle
Kellett, Gwendolyn Olive.....	Seattle
Kellner, Frank Everts.....	Hamilton
Kellogg, Alvah C.....	Selah
Kellogg, Mrs. Alvah C.....	Selah
Kellogg, George A.....	Anacortes
Kelly, Ellen.....	Butte, Mont.
Kelly, Katherine.....	Seattle
Kelton, Viola.....	Dawson, Y. T.
Kampkes, Elisabeth.....	Everett
Kennedy, Jennette.....	Portland, Ore.
Kennedy, Mary A.....	Seattle
Kennedy, Mary Helen.....	Seattle
Kenward, Hazel De.....	Seattle
Keppel, Mary.....	N. Yakima
Kibbe, Lynus A.....	Seattle
Kiemle, Katherine.....	Portland, Ore.
Kilgore, Owen.....	Spokane
Kincaid, Airdie.....	Seattle

King, Constance	Portland, Ore.
King, Dessa M.	Seattle
King, Ella D.	Seattle
King, Grace E.	Seattle
King, Grace Marie.	Seattle
King, Hammond A.	Seattle
King, Malie A. D.	Seattle
King, Marianne	Seattle
King, William Arthur	Cosmopolis
Kingsbury, Ola	Farmington
Kirk, Bessie L.	Everett
Kittredge, Marguerite	Snohomish
Knapp, Dora E.	Everett
Knapp, Lena	Seattle
Knapton, Mary Alice	Seattle
Knight, Frederick Stuart	Forest Grove, Ore.
Knowles, Ruth	Florence, Ore.
Knowlton, Viola	Salt Lake City, Utah
Knox, William Albert	Tono
Knox, Mrs. W. A.	Tono
Knutsen, Emma	Seattle
Koester, Christine Marie	Seattle
Kolstad, Arthur	East Stanwood
Kortmeyer, Clara D.	Mabton
Kozlowski, Frances	Seattle
Krafft, Gertrude	Spokane
Kriener, Augusta	Pasco
Krisher, Emma Curnow	Seattle
Krokset, Jennie C.	Vashon
Laird, Allie L.	Seattle
Laird, Cecil W.	Seattle
Landen, Margaret	Seattle
Langdon, Anna Y.	Seattle
Langrell, William F.	Baker, Ore.
Lansen, Jack J. R.	Seattle
Lansen, (Mrs.) Mae Pratt	Seattle
La Porte, Ruth Isabelle	Seattle
Larrabee, Emma D.	Suquamish
Larson, Esther Emelia	Actoria, Ore.
Larssen, Kirsten	Seattle
Lawler, Lillian Donovan	Seattle
Lawson, Grace C.	Puyallup
Leaf, Alice	Seattle
Leaf, Grace M.	Emporia, Kans.
Leaming, Gertrude	Castle Rock
Leaming, Ruth	Castle Rock
Leaton, Ethel Ann	Glenwood
Lee, Fairman B.	Seattle
Lee, Vaughn Watson	Seattle
Leedham, Charles M.	Medina
Le Fevre, Katherine B.	Tacoma

Legg, Mable Marie.....	Chewelah
Leggett, Henry Joseph.....	Burton
Lehman, Ralph.....	Coeur d'Alene, Idaho
Lemon, John Francis.....	Meridian
Leo, Ernest.....	Seattle
Leslie, Eleanor.....	Seattle
Lewis, David Charles.....	Emporia, Kans.
Lewis, Isaac I.....	Naches
Lewis, Mabel A.....	Seattle
Lewis, Marjorie.....	Portland, Ore.
Lewis, Theo.....	Helena, Mont.
Lewis, Wilfred.....	Seattle
Libby, Isaac Chase.....	Spokane
Libby, Jessie H.....	Seattle
Lichtenberger, Jessie.....	Decatur, Ill.
Lieberg, Vivian H.....	Seattle
Lietz, Jessie E.....	Clinton, Iowa
Lindahl, Harry Anderson.....	Cheney
Lipscomb, Ray S.....	Hillyard
Liska, Martha.....	Seattle
Littlefield, Grace G.....	Ogunquit, Me.
Lively, John W.....	Seattle
Livengood, C. A.....	Dayton
Livesey, Esther E.....	Seattle
Loftus, Wilhelmina.....	Gladstone, Mich.
Logan, Ettie.....	Portland, Ore.
Logan, John A.....	Seattle
Logan, Joshua R.....	Randle
Lohman, Loretto.....	Chinook, Mont.
Long, Nellie C.....	N. Yakima
Long, William G.....	Missoula, Mont.
Lord, W. Clifford.....	Seattle
Love, Grover Allan.....	Elbe
Lovejoy, Winifred.....	Pilchuck
Lovett, Egbert Percival.....	Mill City, Ore.
Lucas, Anne.....	Seattle
Luce, Anne Elizabeth.....	Grandview
Ludgate, Katie Eva.....	Seattle
Lusian, Edith J.....	Spokane
Lynch, Agnes.....	Weiser, Idaho
Lynch, Anna M.....	Butte, Mont.
Lynch, Veronica.....	Butte, Mont.
McAbee, Earl Whatmore.....	Seattle
McAllister, Bess Lydia.....	Morrison, Ill.
McArdle, Joseph Rice.....	South Bend
McBride, Katherine.....	Berkeley, Cal.
McCabe, Lucile.....	Seattle
McCarney, Margaret.....	Seattle
McCauley, Grace E.....	Seattle
McClellan, Helena Rilla.....	Seattle
McClellan, Hortense.....	Seattle

McClure, Worth	Seattle
McConaughy, Alfred	Walla Walla
McConnell, Ruth Adele	Seattle
McCorkill, Minnie	Northumberland, Pa.
McCorkle, Mae Diana	Lexington
McCormack, Jennie Mae	Spokane
McCormick, Earl Orvis	Wilbur
McCormick, Irma Alnita	Seattle
McCormick, (Mrs.) Norma	Wilbur
McCracken, Bertha	Holguin, Cuba
McCulloch, Isabella Jane	Astoria, Ore.
McCullough, Ella C.	Duluth, Minn.
McDaniel, Richard C.	Sprague
McDonald, Claire	Seattle
McDonnell, Edward Leon	Hoquiam
McDonnell, (Mrs.) Mae Rose	Hoquiam
MacDougall, Bruce	Seattle
MacDougall, James Clinton	Seattle
McElvain, Jason Neely	Seattle
McGill, Alice	Seattle
McGill, Merrie P.	Seattle
McGill, Vivian Jerauld	Seattle
McGregor, Jessie	Portland, Ore.
McInnis, Sadie	Portland, Ore.
MacInnis, Sara	Spokane
McIntire, Doris Helen	Auburn
McIntosh, Elizabeth	Rolling Bay
McIntyre, Estelle J.	Seattle
McKay, Charlotte L.	Friday Harbor
McKay, Iva Virginia	Seattle
McKean, Ruby Edna	Manette
MacKechnie, H. Grace	Pt. Angeles
MacKenzie, Grace M.	Portland, Ore.
McKibben, Irene Miriam	Seattle
McKinney, Eva	Meadow Creek
McKinney, Grace Keene	Seattle
McKinney, Mark Ward	Seattle
McKinney, Nellie	N. Yakima
MacKinnon, Marion Grace	Seattle
McKinstry, Edna Virginia	Seattle
McMahon, Alice	Parsons, Kans.
MacMaster, Sara C.	Seattle
McMillen, Mabel	Cle Elum
McNeill, George Albert	Loveland, Ohio
McNicholas, Nettie Helen	Durango, Col.
McPhail, Zora Laird	Seattle
McWhirter, Earl J.	Tacoma
Macaulay, Jessie May	Deming
Mackenzie, Annie Sadie	Mission City, B. C.
Madsen, Anna Christina	Kent
Magillicuddy, Martha	Seattle

Main, Alice E.	Hoquiam
Malcroft, Abe	Seattle
Mallery, Emma S.	Butte, Mont
Malloy, Ralph Willard	Seattle
Maloney, Margaret	Ashland, Wis.
Maltby, Jeannette E.	Seattle
Manley, Maude	Seattle
Mann, Charlotte	Seattle
Mann, Florence	Seattle
Mark, Mae L.	N. Yakima
Marot, Vivian May	Kirkland
Marsh, Olivemay	Seattle
Marshall, George R.	Seattle
Marshall, Hazel E.	Gibbs, Idaho
Marston, Althea W. B.	Seattle
Martin, Alice J.	Seattle
Martin, Earl B.	Bremerton
Martin, Julia M.	Post Falls, Idaho.
Martin, Mamie A.	Tacoma
Maryott, Ruth	Seattle
Mason, Lois A.	Tacoma
Matson, Rose Adeline	Astoria, Ore.
Matthews, William P.	Sutherlin, Ore.
Melby, Sigurd	Everett
Mendham, Jeanne B.	Spokane
Menzies, Ida L.	Portland, Ore.
Messamore, Ruby	Latah
Metheany, (Mrs.) Elizabeth	Seattle
Meyer, Emma	Langley
Meyer, John D.	Lind
Michelson, Aimee	Seattle
Miller, Belle	Spokane
Miller, Elvena	Bellingham
Miller, Evalena	Seattle
Miller, B. Evelyn	Bellingham
Miller, George B.	Aberdeen
Miller, Harry D.	Spokane
Miller, Helen A.	Tacoma
Miller, Ruth A.	Seattle
Miller, William M.	Portland, Ore.
Millican, Alfred Clay	Seattle
Mills, Jessie Mary	Tacoma
Miltimore, Cora A.	Forest Grove, Ore.
Minnis, Marjorie Elizabeth	Seattle
Minnis, Wesley	Seattle
Misner, Alta	Lakewood
Mitchell, Neva	Spokane
Mitchell, Richard S.	Olympia
Moen, Sarah	Bellingham
Moffett, Lambert Benton	Seattle
Mohn, Esther	Bothell

Monis, Carrie A.	Oconomowoc, Wis.
Monnett, (Mrs.) Ora	Waitsburg
Montandon, Charles Armand	Enterprise, Ore.
Montandon, Florence Sammons	Enterprise, Ore.
Montgomery, Catherine	Bellingham
Moody, Ruth	Everett
Moore, Felix E.	Ashland, Ore.
Moore, Harold	Seattle
Moore, Henry F., Jr.	Seattle
Moore, John Brooks	Seattle
Moore, R. W.	Seattle
Morehouse, Gertrude	Seattle
Morgan, Miles Evan	Seattle
Morgan, J. H.	Everett
Morris, William Harry	Seattle
Morrison, Alice	Corvallis, Ore.
Morrison, Rae D.	Crystal Falls, Mich.
Morse, Frederica Louise	Warrensburg, Mo.
Moser, Evalina	Saxton, Mo.
Moss, Mayzelle Anita	Seattle
Mott, Stella M.	Seattle
Moultrop, Lena V.	Blair, Neb.
Mount, Wallace, Jr.	Olympia
Mudgett, Goldie Evans	Everett
Mulhollan, Henry W.	Seattle
Mullane, Winifred	Hoquiam
Murray, Kenneth G.	Seattle
Mutty, Louis	Pt. Townsend
Myer, Bernice	Seattle
Myers, Ernest W.	Seattle
Myers, Harriet C.	Butte, Mont.
Myers, Hazel Golda	Cooksville, Ill.
Myers, Margaret	Seattle
Myhrman, Andrew M.	Over-Purmo, Finland
Mykland, Albert A.	Everett
Nagle, Margaret C.	Butte, Mont.
Nakasawa, George K.	Seattle
Nash, Neal N.	Parma, Idaho
Neagle, Della	Seattle
Neander, Stanley B.	Seattle
Nefzger, Gertrude	Portland, Ore.
Neill, Frank William	Seattle
Nelson, Adilene R.	Friday Harbor
Nelson, Amanda Catherine	Seattle
Nelson, Andrew N.	Seattle
Nelson, Annette	Norman
Nelson, Ellen Austina	Randolph, Kans.
Nelson, Gertrude	Montesano
Neufeld, Anna	Portland, Ore.
Neustel, Benjamin G.	Rathdrum, Idaho
Neville, Florence	Kewanee, Ill.

Newell, Polly Clover.....	Kirkland
Newton, Cornelia E.....	Seattle
Newton, Florence E.....	Everett
Nichols, Ethel Sarah.....	Pt. Stanley
Nichols, Frances.....	Butte, Mont.
Nichols, Walter Robert.....	Pt. Stanley
Nichols, William Robert.....	Tacoma
Niven, Jessie H.....	Sheridan, Wis.
Nixon, Hattie M.....	Seattle
Noble, Meda.....	Seattle
Noble, Minnie Lucille.....	N. Yakima
Norcross, (Mrs.) Bertha.....	Chewelah
Nordeen, Elida Josephine.....	Everett
Nordeen, Mary.....	Everett
Norfolk, Genevieve.....	Everett
Nugent, Margaret.....	Portland, Ore.
Oakley, June.....	Seattle
Oberkotter, Lena.....	Seattle
O'Brien, Mary.....	Renton
O'Connor, Thomas Edward.....	Seattle
Odle, M. F.....	Foster
O'Donnell, George Hugh Roe, Jr.....	Moscow, Idaho
Offutt, Marie Louise.....	Seattle
Ohlson, David.....	Everett
Olein, Huldah Elenora.....	Seattle
Olmsted, Amy Catherine.....	Enterprise, Ore.
Olsen, Agnes Elizabeth.....	Seattle
Olsen, Leah I.....	Tacoma
Olson, J. Almeda.....	Seattle
Olson, Cecelia O.....	Pt. Townsend
Olson, Effie Adelia.....	Mukilteo
Olson, Inga.....	Seattle
Olson, Pauline.....	Seattle
Olson, Samuel C.....	Seattle
Olswang, Cecelia.....	Seattle
Orr, (Mrs.) Maude.....	Morton
Orr, Paul J.....	Morton
Osborn, Bertha Charlotte.....	Blaine
Palmer, Irwin Ross.....	Sunnyside
Pannebaker, Myra Elizabeth.....	Spokane
Parker, Laura Angenette.....	Seattle
Parks, Helena E.....	Seattle
Parrott, James Clifford.....	Sioux Falls, Idaho
Parsons, Elva Tillman.....	Seattle
Pascoe, Myra Aurelia.....	Warehouse Point, Conn.
Patrick, Grace Havergal.....	Vancouver, B. C.
Patton, Ysabel.....	Hoquiam
Paulsen, Mark George.....	Albert Lee, Minn.
Payne, Calista R.....	Seattle
Peabody, Alexander Marshall.....	Seattle
Pearce, Stella E.....	Seattle

REGISTER OF STUDENTS

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Pearson, Hilder J.....	Pearson
Pease, Ira J.....	Seattle
Peffley, Etta	Slater
Pepper, Ruth A.....	Seattle
Perisho, Floyd Warder.....	Newberg, Ore.
Perry, M. Blanche.....	Farmington
Perry, Helen Jeannette.....	Seattle
Perry, Mary Agnes.....	Van Buren
Peterson, Frank W.....	Bellingham
Peterson, Grace Howard.....	Ipswich, Mass.
Peterson, Huldah E.....	Seattle
Peterson, Ida G.....	Marinette, Wis.
Peterson, Inez Helena.....	Seattle
Peterson, Mabel	Everett
Peterson, Sophie	Kent
Petteys, Grace Ferne.....	Newton, Kans.
Petteys, Iona.....	Newton, Kans.
Pfingsten, H. F.....	The Dalles, Ore.
Philbrook, Madge H.....	Seattle
Phillips, James Commons.....	Seattle
Phillips, Ruth N.....	Seattle
Pinney, (Mrs.) Della Delight.....	Seattle
Pitt, Mildred E.....	Seattle
Platner, Evelyn I.....	Seattle
Platner, Goldie	Seattle
Poessel, Ida Francesca.....	St. Paul, Minn.
Pool, Perry L.....	Seattle
Porter, Lillian.....	Portland, Ore.
Post, Anna Louise.....	Seattle
Post, Edith	Seattle
Potter, Mabel Idella.....	Blaine
Potter, Walter Everett.....	Seattle
Pottle, Vera Althea.....	Grinnell, Iowa
Powell, Hazel Florence.....	Weiser, Idaho
Powell, Sargent Gastman.....	Seattle
Powers, Floss E.....	Coeur d'Alene, Idaho
Powers, Leona Verne.....	Seattle
Prall, (Mrs.) Mary C.....	Tulalip
Preston, Lucile	Tacoma
Price, William K.....	Outlook
Prichard, James Milton.....	Cardonado
Prins, Johan Willem.....	Seattle
Pritchard, J. G.....	Sorrento, Idaho
Pritchard, Millie Margret.....	Seattle
Pucher, George Walter.....	Seattle
Purdy, Florence W.....	Tacoma
Pusey, Gertrude	Seattle
Quackenbush, Rollie	Seattle
Quast, Ruth Iola.....	Seattle
Querry, Clara Clarke.....	Boise, Idaho
Quilliam, Louise Maud.....	Portland, Ore.

Quinn, Vivienne R.	Seattle
Radmaker, Frank	Chehalis
Ramsdell, Rucy C.	Salem, Ore.
Ramsey, S. Gertrude	Seattle
Randell, Laura	Seattle
Randle, Agnes	Nehalem, Ore.
Raper, Lulu	Elwood, Ind.
Rasmussen, Violet	Seattle
Ray, Selah	Seattle
Raymond, Rena Bowne	Seattle
Raynor, George Emil	Seattle
Reagan, Marguerite	Portland, Ore.
Reavis, Nan Preston	Seattle
Reed, Jessica	Spokane
Reed, Kathryn	Seattle
Reid, Jessica Eileen	Attica, Ind.
Reilly, Esther	Seattle
Reinertson, Maymie	Park River, N. D.
Rensing, Herman	Castle Rock
Revenaugh, Carl Nelhouse	Renton
Revenaugh, (Mrs.) Ina F.	Renton
Rhoads, Luke Caldwell	Clarksville, Iowa
Rhodes, William P.	Seattle
Rice, William J.	Seattle
Richardson, Dio	Seattle
Richardson, Margaret	Spokane
Rieschl, Mary S.	Bellingham
Ritari, Emma	Seattle
Ritchie, Jennie B.	Kalispell, Mont.
Rittenhouse, Lilly M.	Seattle
Robb, James M.	Everett
Roberts, Cynthia Harte	Seattle
Roberts, Mary Christina	Seattle
Robertson, Alice	Seattle
Robertson, Myrtle C.	Seattle
Robinson, Edna	Tacoma
Robinson, Fred O.	Seattle
Robinson, Helen Lorna	Seattle
Robinson, Ruth J.	Seattle
Rodell, Lucretia A.	Aberdeen
Roder, Thula	Butte, Mont.
Rogers, Anna R.	Seattle
Rogers, H. E.	Centralia
Root, Mary Hortense	Seattle
Roper, Marion	Kettle Falls
Rose, Helen F.	Seattle
Rose, Jennie	N. Yakima
Rosenthal, Elizabeth	Seattle
Ross, Blanche H.	Portland, Ore.
Ross, Ella May	Chewelah
Rud, Mable J.	Fergus Falls, Minn.

Russ, Louise	Tacoma
Russell, Pearl Elizabeth	Seattle
Rutherford, William L.	Cascade, Mont.
Ryan, Marie L.	Seattle
Sakamoto, Kei	Seattle
Salisbury, Frank S.	Seattle
Salladay, Flora E.	Seattle
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Sanders, William J.	Spokane
Sandy, William Ross.	Tekoa
Sapp, Salena G.	White Bluffs
Sargent, Noel Gharrett.	Seattle
Sargent, Winford	Seattle
Sater, Gertrude Pauline.	Seattle
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Schulstad, Lottie.	Reynolds, N. D.
Schumacher, Wilhelmina	Seattle
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Schumacher, Herman J.	Humphrey, Neb.
Schumaker, Katherine.	Marshall, Ill.
Schusman, Richard J.	Charleston
Scott, Carolyn M.	Everett
Scott, Charles E.	Battleground
Scott, Edna Agnes.	Monmouth, Ill.
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Scott, Winfield, Jr.	Seattle
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Scudder, Beth.	Seattle
Seaman, Lella Maude.	Tacoma
Sexton, Orpha Dell.	Echo
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Shane, Elizabeth.	Tacoma
Shannon, Emerine	Seattle
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Shave, Ethel.	Seattle
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Smith, Augustine.....	Hockinson
Smith, Catharine Wright.....	Puyallup
Smith, Cora Lynn.....	Okanogan
Smith, Emery E.....	Seattle
Smith, Lillian E.....	Spokane
Smith, (Mrs.) Lottie R.....	Wenatchee
Smith, (Mrs.) Mary A.....	Pueblo, Col.
Smith, Olga L.....	Tacoma
Smith, Winifred E.....	Tacoma
Snere, Irma Louise.....	Creswell, Ore.
Sorensen, Beatrice M.....	Everett
Sowers, Joe M.....	Sunnyside
Spence, Hanna Marie.....	Haverhill, Iowa
Spick, Mary.....	Lewiston, Idaho
Splane, Hazel Mary.....	Sedro Woolley
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Staeger, David Arthur.....	Seattle
Stanton, Kathryn Bryce.....	Seattle
Stauffer, Frederic Pross.....	Portland, Ore.
Stearns, Charlotte G.....	Seattle
Steele, Gladys Jones.....	Black Diamond
Steinke, (Mrs.) Della.....	Palouse
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Stephen, May Elliott.....	Portland, Ore.
Sternberg, Betsy Pauline.....	Bellingham
Sterling, (Mrs.) Elizabeth.....	Vancouver
Stevens, Belle A.....	Malthy
Stevens, Carolyn A.....	Suquamish
Stillinger, Charles R.....	Moscow, Idaho
Stinson, Harry L.....	Seattle
Stone, M. Elizabeth.....	Thornton
Stone, Hazel E.....	Thornton
Stone, Helen M.....	Seattle

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Storlie, Carl J.....	Goshen
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Streator, Inez Gertrude.....	Seattle
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Stuart, Zara Althea.....	Hatton
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Tanner, Josephine Warren.....	Seattle
Tanner, Margaret V.....	Port Townsend
Tanzer, Alice.....	Seattle
Tashjian, Victoria Viola.....	Seattle
Taylor, Edith Rhoda.....	Seattle
Taylor, Fern Earl.....	Deming
Tellier, Belle.....	Seattle
Terry, Harriet B.....	Selah
Thayer, Georgie De Morst.....	Colville
Thickins, Jane G.....	Seattle
Thomas, Ellen A.....	Seattle
Thomas, (Mrs.) Letty K.....	Seattle
Thomas, Lucile.....	Seattle
Thomas, Rose A.....	Le Sueur, Minn.
Thomas, Ruth Katharine.....	Walla Walla
Thomle, Gudveig Marie.....	East Stanwood
Thomle, Kristine.....	Stanwood
Thompson, Marvelle Beatrice.....	Harrington
Thompson, Claude Sims.....	Seattle

Thompson, Emma Louise.....	Stanwood
Thompson, Faye	Bellingham
Thompson, Genevieve	Seattle
Thompson, Guy W.....	Seattle
Thompson, Jessie M.....	Eudora, Mont.
Thompson, Kate	Seattle
Thompson, Maud	Seattle
Thompson, Mrs. William LeRoy.....	N. Yakima
Thomson, Marion Wing.....	Seattle
Thurmond, Viola	Centralia
Ticknor, Florence M.....	Mountain Home, Idaho
Tidball, Lewis C., Jr.....	Bellingham
Tillett, (Mrs.) Arie Gray.....	Seattle
Tillman, Mabel Frances.....	Seattle
Tilton, Charles Sumner.....	Seattle
Timmons, Orpha.....	Suquamish
Tinker, George H.....	Seattle
Tirrill, (Mrs.) Nellie G.....	Prineville, Ore.
Tobler, Elizabeth M.....	Victoria, B. C.
Townsend, Annie	Portland, Ore.
Townsend, Eunice.....	Portland, Ore.
Townsend, (Mrs.) Eunice E.....	Portland, Ore.
Townsend, Henry H.....	Portland, Ore.
Townsend, Mary	Portland, Ore.
Tracy, Floy	Seattle
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Van Cleave, Calla	Wenatchee
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Van Ostrand, Pearl.....	Ferndale

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Vaughan, Clara.....	Portland, Ore.
Vejar, Eleanor Hiatt.....	Portland, Ore.
Vennus, Helen Marie.....	Butte, Mont.
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Venn-Watson, John William.....	Shine
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Wall, Florence.....	Seattle
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Wapler, Edna.....	Bellingham
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Warren, Jessie A.....	Seattle
Wassberg, Clarence E.....	Seattle
Watkins, G. F.....	McMillin
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Waugh, Howard C.....	Seattle
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Wheeler, Gladys F.....	Seattle
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Whildin, (Mrs.) Martha Louisa.....	Black Diamond
White, Addie	Seattle
White, Eva L.....	Seattle
White, Maynard Osborne.....	Woodinville
White, Robert James.....	Port Angeles
Whitelaw, William Neill.....	Everett
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Wight, Ada L. Sargent.....	Seattle
Wikander, Alma.....	Portland, Ore.
Wilcox, Gladys.....	Payette, Idaho
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Wilson, S. Bertta.....	Spokane
Wilson, Edith Olga.....	Palouse
Wilson, Elsie	Spokane
Wilson, Emma	Seattle
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Wilson, Lena E.....	Mabton
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Young, Irma Verne.....	Seattle
Young, Jennie Rose.....	Seattle
Young, Wesley G.....	Winslow

SUMMARY OF ENROLLMENT 1916-1917.**RESIDENT STUDENTS****BY COLLEGES AND SCHOOLS**

Graduate School	202
College of Liberal Arts.....	1629
College of Science.....	453
College of Education.....	247
College of Engineering.....	521
Chemical Engineering.....	85
Civil Engineering.....	94
Electrical Engineering.....	215
Mechanical Engineering.....	127
College of Fine Arts.....	200
College of Forestry.....	80
Four-year Course.....	67
Short Course (3 months).....	13
School of Law.....	173
College of Mines.....	119
Four-year Course.....	72
Short Course (3 months).....	47
College of Pharmacy.....	77
Students at Large.....	16
	<hr/>
	3716

BY CLASSES

Graduates	202
Seniors	352
Juniors	527
Sophomores	676
Freshmen	1150
Unclassified	319
Students at Large.....	16
Third Year Law.....	29
Second Year Law.....	26
First Year Law.....	43
Special Students.....	316
Liberal Arts	113
Science	23
Education	21
Engineering	72
Fine Arts	24
Forestry	2
Law	34
Mines	9
Pharmacy	18

REGISTER OF STUDENTS**587**

Short Course Students (Forestry and Mines)	60
Total Students in Residence, September to June	3716
Summer Session Enrollment 1916	1386
	<hr/>
	5102
Deduct Summer Students now attending the University	278
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Net total for the year	4824

EXTENSION STUDENTS

Correspondence Study	391
Extension Classes	974
	<hr/>
Total Extension Students	1365

The Extension Division enrolls students at any time during the twelve months, so that its registration is constantly changing. The above figures represent the number who were actually studying by correspondence, or in 44 extension classes during the year from March 1, 1916, to March 1, 1917.

Of the correspondence students about 75 per cent are working for credit toward a degree, and of those in classes 25 per cent.

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