

# **BULLETIN UNIVERSITY OF WASHINGTON**

## **CATALOGUE ISSUE 1946-1947**

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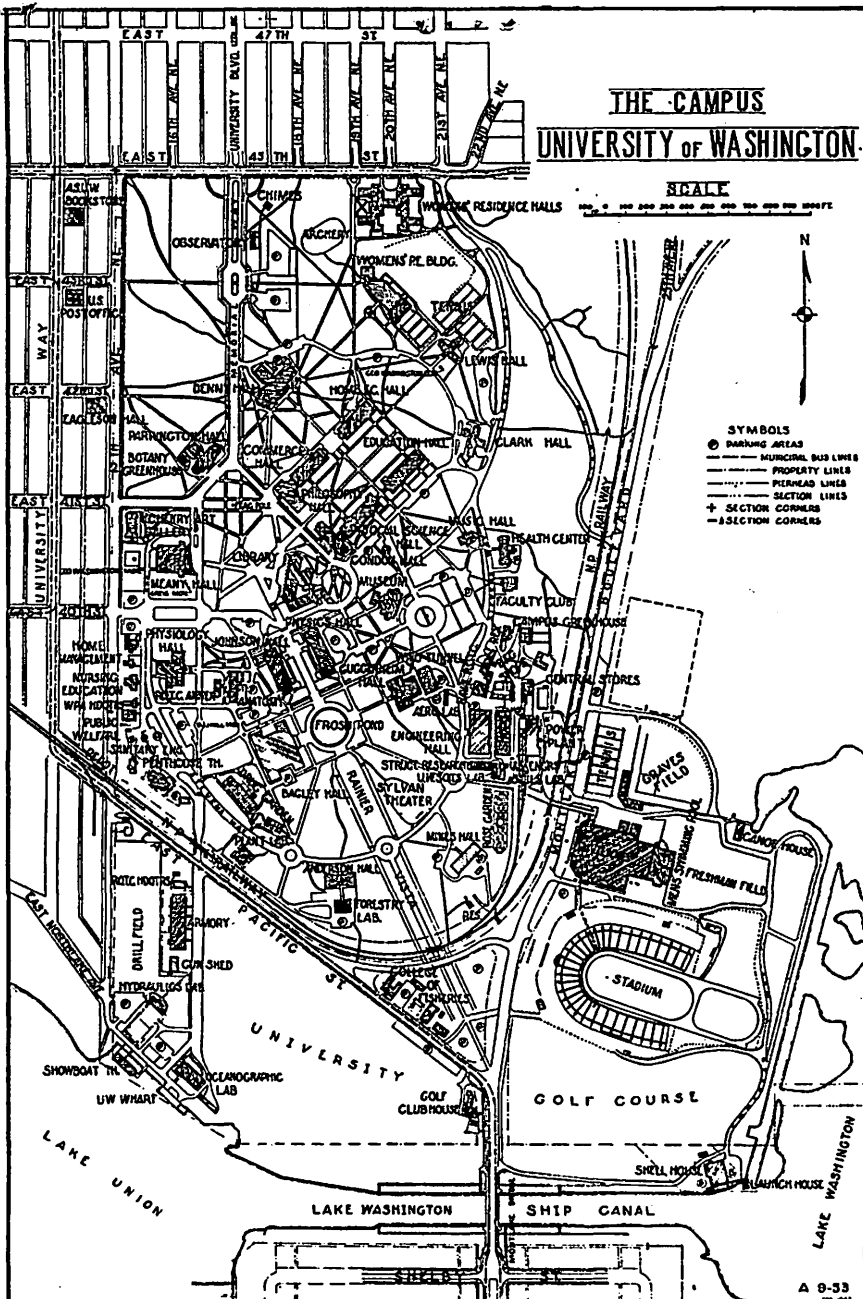
**GENERAL SERIES**

**JUNE 1, 1946**

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THE UNIVERSITY CAMPUS, composed of 605 acres, lies between Fifteenth Avenue Northeast and Lake Washington, and East Forty-fifth Street and Lake Union. The 15th Ave. N.E.-East 65th St., Ravenna, and Montlake trolley coach lines run one block west of the campus; Laurelhurst-Sand Point motor coach line passes the campus on the north; University-Ballard coaches come to East Forty-fifth Street and University Way. The offices of administration are located in Education Hall.

# FOR INFORMATION ON

*Housing*, see pages 58-59

*Employment*, see page 59

*Veterans* (admission, credits, etc.), see pages 45-47, 60-61

*School of Dentistry*, see page 92

*School of Medicine*, see pages 115-116

*Prospector's Course*, see page 117

## NOTICE

The University and its various colleges and schools reserve the right to change the rules regulating admission to, instruction in, and graduation from the University and its various divisions; and to change any other regulations affecting the student body. Such regulations shall go into force whenever the proper authorities so determine, and shall apply not only to prospective students, but also to those who at such time are matriculated in the University. The University also reserves the right to withdraw courses or change fees at any time.

### *Preserve This Catalogue for Future Use*

The attention of all students is called to the following regulation (see paragraph 1, "Degrees—Regulations," page 54 of this catalogue): "A student shall have the option of being held to the graduation requirements of the catalogue under which he enters, *or* those of the catalogue under which he expects to graduate. All responsibility for fulfilling the requirements for graduation is thrown upon the student concerned." For your own guidance, therefore, you should retain this catalogue and familiarize yourself with all the provisions that apply to you.

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# UNIVERSITY OF WASHINGTON CALENDAR — 1946-47

## SUMMER QUARTER, 1946

General registration in person.....June 3 to June 22, 12 m.

*All fees must be paid at time of registration*

### Instruction begins:

All University courses, including Law School.....June 24, 7:30 a.m.  
Nursing: Hospital Division and Public Health Field Work only.....June 10, 8:00 a.m.  
Independence Day (holiday).....Thursday, July 4  
First term ends.....July 24, 6:00 p.m.  
Second term begins.....July 25, 7:30 a.m.  
Last day to add a University course:

First term.....June 26, 4:30 p.m.  
Full quarter.....June 29, 12 m.  
Second term.....July 27, 12 m.

### Instruction ends:

University courses.....August 23, 6:00 p.m.  
Nursing: Hospital Division and Public Health Field Work only.....August 31, 6:00 p.m.  
Law School.....September 6, 6:00 p.m.

## AUTUMN QUARTER, 1946

### Registration dates:

For students in residence, Spring, 1946.....September 3 to September 28, 12 m.  
Appointments may be secured at Registrar's Office upon presentation of A.S.U.W. card.  
For former students not in residence, Spring, 1946.....September 9 to September 28, 12 m.  
Appointments may be secured by writing or calling at the Registrar's Office.  
For new students.....September 9 to September 28, 12 m.  
Appointments will be mailed with the Notification of Admission Blank.

*All fees must be paid at time of registration*

Last registration day before beginning of instruction.....Saturday, September 28, 12 m.  
Special instruction for new freshmen.....Begins 9 a.m. September 27, ends September 28  
Instruction begins.....Monday, September 30, 8 a.m.  
The President's Convocation.....Friday, October 4, 10:50 a.m.  
Last day to register with a late fee and to add a course.....Saturday, October 5, 12 m.  
Armistice and Admission Day (Holiday).....Monday, November 11  
Thanksgiving recess begins.....Wednesday, November 27, 6 p.m.  
Thanksgiving recess ends.....Monday, December 2, 8 a.m.  
Instruction ends.....Wednesday, December 18, 6 p.m.

## WINTER QUARTER, 1947

### Registration dates:

For students in residence, Autumn Quarter, 1946.....November 18 to January 4, 12 m.  
Appointments will be issued on presentation of A.S.U.W. card,  
beginning October 25, 12:15 p.m.  
For former students not in residence, Autumn Quarter, 1946.....December 16 to January 4, 12 m.  
Appointments will be issued beginning November 1, 12:15 p.m.  
For new students.....December 16 to January 4, 12 m.  
Appointments will be mailed with the Notification of Admission Blank.

*All fees must be paid at time of registration*

Last registration day before beginning of instruction.....Saturday, January 4, 12 m.  
Instruction begins.....Monday, January 6, 8 a.m.  
Last day to register with a late fee and to add a course.....Saturday, January 11, 12 m.  
Washington's Birthday (Founder's Day and Legal Holiday).....Saturday, February 22  
Instruction ends.....Friday, March 21, 6 p.m.

SPRING QUARTER, 1947 *11 March 47*

Registration dates:

- For students in residence, Winter Quarter, 1947.....February 17 to March 29, 12 m.  
Appointments will be issued on presentation of A.S.U.W. card,  
beginning January 24, 12:15 p.m.
- For former students not in residence, Winter Quarter, 1947.....March 17 to March 29, 12 m.  
Appointments will be issued beginning January 31, 12:15 p.m.
- For new students.....March 17 to March 29, 12 m.  
Appointments will be mailed with the Notification of Admission Blank.

*All fees must be paid at time of registration*

- Last registration day before beginning of instruction.....Saturday, March 29, 12 m.
- Instruction begins.....Monday, March 31, 8 a.m.
- Last day to register with late fee, and to add a course.....Saturday, April 5, 12 m.
- Honors Convocation.....Wednesday, May 28, 10 a.m.
- Memorial Day (Holiday).....Friday, May 30
- Baccalaureate Sunday.....Sunday, June 8
- Instruction ends.....Friday, June 13
- Commencement.....Saturday, June 14

SCHEDULE OF UNIVERSITY SENATE AND EXECUTIVE COMMITTEE MEETINGS  
FOR THE YEAR 1946-1947

Autumn Quarter 1946

- Senate (Election of Executive Committee).....Thursday, October 3, 3:10 p.m.
- Executive Committee.....Tuesday, October 15, 3:10 p.m.
- Senate.....Thursday, October 24, 3:10 p.m.
- Executive Committee.....Tuesday, November 12, 3:10 p.m.
- Senate.....Thursday, November 21, 3:10 p.m.

Winter Quarter 1947

- Executive Committee.....Tuesday, January 14, 3:10 p.m.
- Senate.....Thursday, January 23, 3:10 p.m.
- Executive Committee.....Tuesday, February 4, 3:10 p.m.
- Senate.....Thursday, February 13, 3:10 p.m.

Spring Quarter 1947

- Executive Committee.....Tuesday, April 8, 3:10 p.m.
- Senate.....Thursday, April 17, 3:10 p.m.
- Executive Committee.....Tuesday, May 6, 3:10 p.m.
- Senate.....Thursday, May 15, 3:10 p.m.

## BOARD OF REGENTS†

1945-1946

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Term ends March, 1947	
EUGENE A. WHITE, <i>Vice-President</i> .....	Seattle
Term ends March, 1946	
EVA ANDERSON .....	Chelan
Term ends March, 1946	
CLARENCE J. COLEMAN.....	Everett
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JOSEPH DRUMHELLER .....	Spokane
Term ends March, 1950	
WINLOCK W. MILLER.....	Seattle
Term ends March, 1947	
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Term ends March, 1950	
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EXECUTIVE.....	Balmer, Coleman, Miller, White
FINANCE.....	White, Drumheller, Balmer
UNIVERSITY LANDS.....	Coleman, Fox, Miller
UNIVERSITY WELFARE.....	Anderson, Drumheller, White
STUDENT ACTIVITIES.....	Drumheller, Miller, White

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VICE-PRESIDENT.....	Mrs. Payne Karr, B.A., 1929
VICE-PRESIDENT.....	Armand Marion, Jr., B.A., 1925
TREASURER.....	Harold C. Philbrick, B.A., 1930
SECRETARY.....	R. Bronsdon Harris, B.S.F., 1931

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† Revised as of March 1, 1946.

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\* On leave.

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HOARD, MARY, B.A., LL.B., LL.M., B.S. (L.S.).....	Catalog Division

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HILSENBERG, ERNEST B., B.A.....	Captain, Infantry
MERRICK, ARTHUR W.....	Captain, Infantry
PUTNAM, MAX D.....	Staff Sergeant, D.E.M.L. (Infantry)
GAGE, HAZEN T.....	Sergeant, D.E.M.L. (C.A.C.)

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MYERS, ROBERT W., B.S.....	Ensign, U.S.N.R.
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Supervisors of Field Work	
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CATHOLIC CHARITIES	Irene Weber
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FAMILY SOCIETY OF TACOMA	Frances Hoffman
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KING COUNTY JUVENILE COURT	Charles Shireman
KING COUNTY WELFARE DEPARTMENT	Leonard L. Hegland, Mildred Hoskins, Catherine Macdonald
PIERCE COUNTY WELFARE DEPARTMENT	Mildred E. Armstrong
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RYTHER CHILD CENTER	Lillian Burns, Marie Germain
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Division of Mental Hygiene	Marguerite Hunt
WASHINGTON CHILDREN'S HOME SOCIETY	Florence Bradford, Emily Brown, Elizabeth Weinzirl

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BRUGGER, MINNIE KRAUS, B.A.	Graduation
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PAPE, EVA GENE	Registration
TATE, FRANCES E.	Transcripts

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FLAHAUT, MARTHA REEKIE, B.A., B.S. (L.S.)	Curator of Biology
IVEY, MARGARET A.	Museum Assistant

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ISAACS, WALTER F., B.S. (F.A.)	Director
SAVERY, HALLEY	Curator

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### Board

LOEW, EDGAR ALLAN, B.S., E.E.	Chairman
KIRSTEN, FREDERICK KURT, B.S., E.E.	Aeronautical Engineering
BENSON, HENRY KREITZER, Ph.D.	Chemical Engineering
HARRIS, CHARLES WILLIAM, B.S., C.E.	Civil Engineering
EASTMAN, AUSTIN VITRUVIUS, B.S., in E.E., M.S.	Electrical Engineering
GRONDAL, BROR LEONARD, B.A., M.S.F.	Forest Products
GOODSPEED, GEORGE EDWARD, B.S. (Min.E.)	Geology
WILSON, GEORGE SAMUEL, B.S.	Mechanical Engineering
ROBERTS, MILNOR, B.A.	Mining and Metallurgy
UTTERBACK, CLINTON LOUIS, Ph.D.	Physics
FARQUHARSON, FREDERICK BURT, B.S. in M.E., M.E.	Director

## OCEANOGRAPHIC LABORATORIES

THOMPSON, THOMAS GORDON, Ph.D.	Director
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## OFFICE OF STATE CHEMIST

GOODRICH, FOREST JACKSON, Ph.C., Ph.D.	Director
KRUPSKI, EDWARD, B.S., M.S.	Assistant State Chemist



## NORTHWEST EXPERIMENT STATION, UNITED STATES BUREAU OF MINES

YANCEY, HARRY F., Ph.D.....	Supervising Engineer
JOHNSON, KENNETH A., B.S.....	Assistant Chemist
McGUIRE, L. H., B.S. in Min.E.....	Mining Engineer
SKINNER, KENNETH G., M.S. in Cer.E.....	Chemical Engineer
GEER, M. R., M.S. in Min.E.....	Mining Engineer
ROMISCHER, WILLIAM M., M.S. in Geol. and Min.E.....	Mining Engineer
ZANE, R. E., M.S. in Met.E.....	Chemical Engineer
FATZINGER, ROBERT W., M.S. and Min.E.....	Metallurgical Engineer
KELLY, HAL J., B.S. in Min.E.....	Metallurgical Engineer
KEATING, HENRY T.....	Principal Clerk
STRONG, WILLIE V.....	Clerk-Stenographer
BLY, DORIS L.....	Clerk
LANCE, WILLIAM E.....	Mill Mechanic

## UNIVERSITY HEALTH SERVICE

POWERS, LELAND E., M.D.....	University Health Officer
LESTER, CHARLES N., M.D.....	Assistant Health Officer
LOVEWELL, C. H., Major.....	Assistant Health Officer

## BUREAU OF BUSINESS RESEARCH, COLLEGE OF ECONOMICS AND BUSINESS

ENGLE, NATHANAEL H., A.B., M.A., Ph.D.....	Director
MILLER, CHARLES J., B.B.A., M.B.A.....	Editor, <i>Pacific Northwest Industry</i>
BURD, HENRY A., B.S., M.A., Ph.D.....	Chairman, Advisory Committee
BUTTERBAUGH, GRANT I., A.B., M.B.A., Ph.D.....	Advisory Committee
GREGORY, HOMER E., A.B., M.A.....	Advisory Committee
PRESTON, HOWARD H., B.S., M.A., Ph.D., LL.D.....	Advisory Committee
THAYER, RALPH I., B.S., M.A.....	Advisory Committee
BLACKBURN, ALICE K., B.A. in Librarianship.....	Research Librarian
HERRING, JOHN P., B.A., Ph.D.....	Statistician
MILLIGAN, BARBARA I., B.A.....	Secretary
SHANAFELT, ANNE L., B.A.....	Statistical Assistant
SILVEY, HARRIETT E., B.A.....	Secretary, <i>Pacific Northwest Industry</i>

## BOARDS AND COMMITTEES, 1945-1946\*

### Administrative

- Admissions*—Dean of the College or School concerned, and Registrar.
- Board of Deans*—Lauer, Falknor, Goodrich, Guthrie, Jones, Loew, Marckworth, F.F. Powers, Preston, Roberts, Soule, Turner, and Registrar.
- Board of Health Sciences*—Chairman, Turner; Goodrich, Guthrie, Jones, Lauer, L. E. Powers, S. Smith, Soule, Tartar.
- Board of Veterans' Problems*—Chairman, Burd; A. V. Eastman, Steiner; Registrar, secretary.
- General Publications Board*—Chairman, Guthrie; Burd, Eastman, Lauer, Savage, Vail, Winger, the Comptroller, the Registrar, the University Editor.
- Traffic Judge*—J. Grattan O'Bryan.

### Executive Committee of University Senate

Bror L. Grondal, Donald Mackenzie, Kathleen Munro, Everett J. Nelson, Rex Robinson, Sophus K. Winther; Registrar, secretary.

### Committees of the Faculty, 1945-1946

- Adult Education*—Chairman, Vail; Chairman pro tem, Lauer; Blankenship, Burd, Edgar Draper, Mander, Quainton, Soule, Williston; Director of Adult Education, ex officio; Representative of Engineering, Science, and Management War Training Program, ex officio; Director of Extension Service, ex officio; Comptroller, ex officio.
- Athletics*—Chairman, Nottelmann; Corbally, Griffith, Lauer, D. H. Mackenzie, Pellegrini, Schaller; Manager of Athletics, ex officio; Superintendent of Buildings and Grounds, ex officio.
- Audio-Visual Activities*—Chairman, Loew; E. H. Adams, Cochran, Hayden, P. Johnson, Normann, H. E. Smith, Vail; Director, University News Service, ex officio.
- Budget*—Chairman, W. E. Cox; Carpenter, R. L. Taylor, Tymstra, Wood; Comptroller, ex officio.
- Building Needs*—Chairman, McMinn; G. H. Cady, Farquharson, Irvine, Isaacs, Orr; Superintendent of Buildings and Grounds, ex officio.
- Curriculum*—Chairman, Svihla; and the chairmen of the college or school curriculum committees (including Graduate School and Law School), together with a representative from each college or school having no curriculum committee; University Editor, ex officio.

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\* The President is ex officio member of all University boards and committees.

*Graduation*—Chairman, Grondal; Coombs, Dakan, A. V. Eastman, Munro, Plein, Ray, Clotilde Wilson; Registrar, ex officio.

*Honors*—Chairman, Densmore; Church, F. S. Eastman, Hatch, H. C. Meyer, Pries, Rahskopf; Registrar, ex officio.

*Library*—Chairman, C. W. Smith; Benham, Gallagher, Guthrie, A. V. Hall, Hayner, Jessup, Marckworth, Preston, Rising, Thomson.

*Medical School*—Chairman, C. E. Martin; Carrell, W. E. Cox, Falknor, Guthrie, D. C. Hall, Lindblom, A. W. Martin, Rising, Weiser; Comptroller, ex officio.

*Public Exercises*—Chairman, Daniels; Corbally, Franzke, Hanley, Jerbert, Kingston, Lawrence, Lindblom, Michael, A. L. Miller, Powell.

*Public Lectures and Concerts*—Chairman, Quainton; Astel, Conway, Gunther, McKay, Mander, Savage; Director of Student Affairs, ex officio.

*Public Relations*—Chairman, Burd; T. R. Cole, Eby, Everest, C. E. Martin; Comptroller, ex officio; Director, Bureau of Business Research, ex officio; Director, University News Service, ex officio; Executive Secretary, Alumni Association, ex officio.

*Relations with Secondary Schools and Colleges*—Chairman, T. R. Cole; Arestad, Beaumont, Stephen Brown, Emery, Gates, Hitchcock, Lawson, Utterback, Warner; Dean of the College of Education, ex officio; Registrar, ex officio.

*Rhodes Scholarships*—Chairman, Harrison; K. C. Cole, Cook, Densmore.

*Rules*—Chairman, Stirling; Harry Cross, H. C. Douglas, Hennes, Lorig, Thomson; Registrar, ex officio; University Editor, ex officio.

*Schedule and Registration*—Chairman, Griffith; Butterbaugh, Obst, Powell, Van Horn, Woodcock, Registrar, ex officio; Assistants to the Dean of the College of Arts and Sciences, ex officio.

*Student Campus Organizations*—Chairman, A. L. Miller; E. H. Adams, Dwinnell, Haller, F. R. Simpson, Zillman; Counselor for Women, ex officio; Director of Student Affairs, ex officio.

*Student Discipline*—Chairman, S. D. Brown; E. G. Benson, K. C. Cole, Dobie, Edwards, Reeves.

*Student Welfare*—Chairman, Hutchinson; Carrell, E. M. Draper, Engel, Foote, Garfield, Marckworth, Walters, Ruth Wilson; Director of Student Affairs, ex officio; Registrar, ex officio.

*Tenure and Academic Freedom*—Chairman, Falknor; Goodspeed, Mund, Pearce, R. J. Robinson, Rowntree, C. T. Williams, G. S. Wilson, Winther.

#### Graduate School Committees

*Graduate Publications*—Guthrie, Carpenter, K. C. Cole, Goodspeed, Griffith, Gunther, Mund, Ordal, Rigg, Savage, C. W. Smith; the University Editor, ex officio.

*University Research*—Carpenter, Guthrie, Lauer, Preston, Weaver.

#### UNIVERSITY SENATE FOR 1945-1946

- I. **LETTERS.** *Terms expire spring, 1948:* Helen Kahin, *English*; Jane Sorrie Lawson, *English*; Sophus K. Winther, *English*. *Terms expire spring, 1947:* Brents Stirling, *English*; David Thomson, *Classics*; William C. E. Wilson, *Romanic Languages*. *Terms expire spring, 1946:* Dudley D. Griffith, *English*; Horace G. Rahskopf, *Speech*; William M. Read, *Classics*; Lawrence Zillman, *English*.
- II. **ARTS.** *Term expires spring, 1948:* Demar B. Irvine, *Music*. *Term expires spring, 1947:* George F. McKay, *Music*. *Terms expire spring, 1946:* Edna Benson, *Art*; Kathleen Munro, *Music*.
- III. **SCIENCE.** *Terms expire spring, 1948:* Ross A. Beaumont, *Mathematics*; Howard A. Coombs, *Geology*. *Terms expire spring, 1947:* George Goodspeed, *Geology*; Rex Robinson, *Chemistry*. *Terms expire spring, 1946:* C. Leo Hitchcock, *Botany*; Herman V. Tartar, *Chemistry*.
- IV. **TECHNOLOGY.** *Terms expire spring, 1948:* Robert Q. Brown, *General Engr.*; Bror Grondal, *Forestry*; Fred H. Rhodes, *Civil Engr.*. *Terms expire spring, 1947:* Fred S. Eastman, *Aero. Engr.*; Bryan T. McMinn, *Mech. Engr.*; Gordon Shuck, *Elec. Engr.*. *Terms expire spring, 1946:* George S. Wilson, *Mech. Engr.*; Austin V. Eastman, *Elec. Engr.*; Robert G. Hennes, *Civil Engr.*; Joseph Daniels, *Mines*.
- V. **SOCIAL STUDIES.** *Term expires spring, 1948:* Phil Church, *Geography*. *Term expires spring, 1947:* Verne Ray, *Anthropology*. *Terms expire spring, 1946:* Melville Jacobs, *Anthropology*; Everett Nelson, *Philosophy*.
- VI. **APPLIED SOCIAL STUDIES.** *Terms expire spring 1948:* William E. Cox, *E.&B.*; Jennie Rowntree, *Home Econ.*; Robert L. Taylor, *Law*. *Terms expire spring, 1947:* Henry M. Foster, *Physical Education for Men*; Donald Mackenzie, *E.&B.*; Rudolph Nottelmann, *Law*. *Terms expire spring, 1946:* Arthur N. Lorig, *E.&B.*; John E. Corbally, *Education*; Joseph Demmery, *E.&B.*; R. E. Belshaw, *Physical Education for Men*.

#### FACULTY MEMBERS ON LEAVE

ANDERSON, JULIA M., 1940 ..... Instructor in Nursing

BACON, ELIZABETH EMALINE, 1942 ..... Instructor in Far Eastern Studies

BALLANTINE, JOHN PERRY, 1926 (1937) ..... Professor of Mathematics

BIRD, WINFRED W., 1928 (1940) ..... Assistant Professor of Speech

BOSTETTER, EDWARD E., 1940 ..... Assistant Professor of English

BRAKER, THELMA, 1940 ..... Instructor in Nursing  
 CADY, WILLOUGHBY MILLER, 1941 ..... Assistant Professor of Physics  
 CHERTKOV, MORRIS, 1934 (1937) ..... Assistant Professor of Business Law  
 COHEN, JOSEPH, 1932 (1941) ..... Assistant Professor of Sociology  
 COREY, C. R., 1907 (1929) ..... Associate Professor of Mining Engineering and Metallurgy  
 CREORE, ALVIN EMERSON, 1940 ..... Instructor in Romanic Languages  
 CROSS, HARRIET, 1932 (1941) ..... Assistant Professor of Nursing  
 CROUNSE, DOROTHY, 1937 ..... Assistant Professor of Social Work;  
     Supervisor of Field Work, Graduate School of Social Work  
 DAVIDSON, LUCY W., 1944 ..... Assistant Professor of Physical Education  
 DILLE, JAMES M. 1936 (1941) ..... Professor of Pharmacology  
 DORMAN, HELEN THOMPSON, 1933 (1942) ..... Assistant Professor of Social Work;  
     Supervisor of Field Work, Graduate School of Social Work  
 DRAPER, OSCAR ELDRIDGE, 1920 (1923) ..... Lecturer in Economics and Business  
 DVORAK, AUGUST, 1923 (1937) ..... Professor of Educational Research and Statistics  
 ESPER, ERWIN A., 1927 (1934) ..... Professor of Psychology  
 ETHEL, GARLAND, 1927 ..... Instructor in English  
 FARWELL, RAYMOND FORREST, Commander, U.S.N.R., 1921 (1940) (1943) .....  
     Professor of Transportation; Associate Professor of Naval Science and Tactics  
 GRAY, ROBERT SIMPSON, 1939 ..... Associate in Drama  
 HAGE, ROBERT EVANS, 1940 ..... Instructor in Aeronautical Engineering  
 HAMACK, FRANK HARTMOND, 1921 (1942) ..... Lecturer in Economics and Business  
 HANSEN, THOMAS LOUIS, 1941 ..... Instructor in Architecture  
 HUDSON, ALFRED EMMONS, 1940 ..... Associate in Anthropology  
 JOHNSON, SYLVIA G., 1939 ..... Instructor in Nursing  
 KEITH, WENDELL PAISLEY, 1939 ..... Instructor in Ceramic Engineering  
 KENWORTHY, RAY W., 1929 (1939) ..... Assistant Professor of Physics  
 KUNDE, NORMAN FREDERICH, 1930 (1937) ..... Assistant Professor of Physical Education  
 LOCKLING, WILLIAM BRUCE, 1939 ..... Assistant Professor of Economics  
 McDUFFEE, ALICE ELLA, 1941 ..... Instructor in Nursing  
 MCKENZIE, VERNON, 1928 ..... Professor of Journalism  
 MACKIN, J. HOOVER, 1934 (1940) ..... Associate Professor of Geology  
 MAKI, JOHN, McGILVREY, 1939 ..... Associate in Oriental Studies  
 MIKESELL, RAYMOND, 1937 (1941) ..... Assistant Professor of Economics and Business  
 MILLER, MARY ANNICE, 1941 ..... Instructor in Nursing  
 MOSER, LOUISE, 1940 ..... Instructor in Nursing  
 NOSTRAND, HOWARD L., 1939 ..... Professor of Romanic Languages;  
     Executive Officer of the Department of Romanic Languages  
 PEEK, CLIFFORD, 1938 ..... Assistant Professor of Physical Education  
 PENCE, ORVILLE LEON, 1941 ..... Associate in Speech  
 QUANTON, C. EDEN, 1924 (1936) ..... Associate Professor of History  
 ROMAN, HERSHEL, 1942 ..... Assistant Professor of Botany  
 SCHULTHEIS, FREDERIC D., 1938 (1942) ..... Associate Professor of Chinese Language and History  
 SPELLACY, EDMUND F., 1935 (1936) ..... Associate Professor of Political Science  
 STEVENS, LEONARD W., 1937 ..... Associate in Physical Education  
 SUTERMEISTER, ROBERT ARNOLD, 1940 (1943) ..... Instructor in Economics and Business  
 TAUB, ABRAHAM H., 1936 (1943) ..... Associate Professor of Mathematics  
 TAYLOR, GEORGE EDWARD, 1939 (1941) ..... Professor of Far Eastern History;  
     Executive Officer of the Far Eastern Department  
 WILLISTON, F. G., 1943 ..... Associate Professor in the Far Eastern Department  
 WINGER, ROY MARTIN, 1918 (1925) ..... Professor of Mathematics  
 WITTE, ERNEST F., 1939 ..... Professor of Social Work  
 WOOD, RALPH F., Rear Admiral, U.S.N., 1940 ..... Lecturer in Naval Science  
 ZUMWALT, EUGENE V., 1936 (1940) ..... Assistant Professor of Forestry  
 ZWERMANN, CARL HENRY, 1939 ..... Assistant Professor of Ceramics

# ALPHABETICAL LIST OF THE UNIVERSITY FACULTY

1945-1946†

LEE PAUL SIEG, 1934.....	President of the University B.S., 1900, M.S., 1901, Ph.D., 1910, Iowa; LL.D., 1934, Pittsburgh; 1941, Iowa
ADAMS, EDWIN HUBBARD, 1939 (1942).....	Instructor in English B.A., 1927, M.A., 1931, Washington State
AIKEN, HENRY DAVID, 1945.....	Assistant Professor of Philosophy B.A., 1935, Reed College; M.A., 1937, Stanford; M.A., 1942, Ph.D., 1943, Harvard
ALLEN, JAMES E., 1945.....	Acting Associate in General Engineering
ALLISON, MARY, 1944.....	Associate in Romanic Languages B.A., 1926, College of Idaho; M.A., 1928, Northwestern
ALPS, GLEN E., 1945.....	Acting Associate in Art B.A., 1940, Colorado
ANDERSON, CLARENCE L., 1945.....	Lecturer in Fisheries B.S., 1917, M.S., 1924, Washington
ANDERSON, ELAM D. M.D., 1940.....	Lecturer in Nursing A.B., 1928, Utah; M.D., 1932, Northwestern
ANDERSON, FRED, 1945.....	Acting Associate in Art B.A., 1941, Washington
ANDERSON, HELEN, 1945.....	Instructor in Nursing
ANDERSON, SYLVIA FINLAY, 1920 (1943).....	Instructor in English B.A., 1919, M.A., 1923, Washington
ANDERSON, VICTORIA, 1937.....	Associate in English B.A., 1914, M.A., 1917, Washington
ANDREWS, MARY JANE, 1945.....	Associate Professor of Physical Education M.A., 1936, Columbia
ANKELE, FELICE CHARLOTTE, 1929 (1936).....	Instructor in German B.A., 1925, M.A., 1926, Ph.D., 1936, Washington
ARESTAD, SVERRE, 1937 (1945).....	Ass't Prof. of Scandinavian Languages and Literature B.A., 1929, Ph.D., 1938, Washington
ARRIGONI, LOUIS, 1943 (1945).....	Assistant Professor of Pharmaceutical Chemistry B.S., 1938, M.S., 1940, Washington
ASTEL, GEORGE B., 1943.....	Assistant Professor of Journalism B.A., 1923, Washington
AUERNHEIMER, AUGUST A., 1928 (1937).....	Assistant Professor of Physical Education B.P.E., Normal College; M.A., 1932, Columbia
AVERY, DONALD EDWARD, 1945.....	Acting Instructor in General Engineering B.S. in M.E., 1937, Washington
AYER, LESLIE JAMES, 1916.....	Professor of Law B.S., 1899, Upper Iowa; J.D., 1906, Chicago
BAILEY, ALAN JAMES, 1939 (1942).....	Associate Professor of Lignin and Cellulose Research B.S.F., 1933, M.S.F., 1934, Ph.D., 1936, Washington
BAISLER, PERRY, 1937 (1941).....	Instructor in Speech B.A., 1932, Washington
BAKER, MARGARET S., 1941.....	Instructor in Speech B.A., 1929, Boston University; M.A., 1935, Washington
BALLARD, ARTHUR C., 1929.....	Research Associate in Anthropology B.S., 1932, Washington
BANGS, NAN J., 1944.....	Acting Associate in Art B.A., 1937, State Teachers College, Nebraska
BARKSDALE, JULIAN D., 1936 (1943).....	Associate Professor of Geology B.A., 1930, Stanford; Ph.D., 1936, Yale
BARNABY, JOSEPH THOMAS, 1934.....	Lecturer in Fisheries B.S., 1929, Washington; M.S., 1932, Stanford
BARNETT, ARTHUR GORDON, 1944.....	Lecturer in Social Work B.S., 1932, Washington

A single date following a name indicates the beginning of service in the University. When two dates are given, the first indicates the beginning of service in the University; the second, in parentheses, is the date of appointment to present rank. Dates of appointment of deans are not shown.

† Revised as of March 1, 1946.

- BARR, ERIC L., Captain, U.S.N., 1936 (1946).....Director of the Summer Sessions; Professor Emeritus of Naval Science and Tactics  
Graduate, 1911, U.S. Naval Academy; Ph.D., 1938, Washington
- BARRY, FRANCES EVELYN, 1945.....Instructor in Nursing  
B.S., 1938, Wisconsin; M.S., 1943, Chicago
- BAUER, HARRY C., 1945.....Assistant Librarian  
A.B., 1927, M.S., 1929, Washington University;  
Certificate of Librarianship, 1931, St. Louis Library School
- BEAL, MAUD L., 1933 (1941).....Instructor in English  
B.A., 1926, M.A., 1929, Washington
- BEAM, FLORENCE, 1945.....Associate in Physical Education  
B.A., 1944, Washington
- BEARD, HARRY RANDALL, 1945.....Lecturer in Fisheries  
B.A., 1917, Colorado; M.S., 1920, Wisconsin
- BEAUMONT, ROSS A., 1940 (1944).....Assistant Professor of Mathematics  
A.B., 1936, M.S., 1937, Michigan; Ph.D., 1940, Illinois
- BECK, EARL J., 1946.....Acting Associate in Mechanical Engineering
- BECK, ELEANOR N., 1932.....Associate in Music  
Pupil of Marcel Grandjany, Harpist, American School, Fontainebleau, Paris
- BECKER, ROLAND FREDERICK, 1946.....Assistant Professor of Anatomy  
B.S., 1935, M.S., 1937, Massachusetts State College;  
Ph.D., 1940, Northwestern
- BELL, F. HEWARD, 1931.....Lecturer in Fisheries  
B.A., 1924, British Columbia
- BELSHAW, ROLAND E., 1930 (1943).....Professor of Physical Education  
B. A., 1927, Oregon; M.A., 1930, Columbia
- BELZER, KATHARINE, 1943.....Assistant Professor of Social Work  
A.B., 1922, Butler; A.M., 1924, Indiana
- BENHAM, ALLEN ROGERS, 1905 (1916).....Professor of English  
A.B., 1900, A.M., 1901, Minnesota; Ph.D., 1905, Yale
- BENSON, EDNA G., 1927 (1936).....Associate Professor of Design  
A.B., 1909, Iowa; M.A., 1923, Columbia
- BENSON, HENRY KREITZER, 1904 (1912).....Professor of Chemical Engineering;  
Executive Officer, Departments of Chemistry and Chemical Engineering  
A.B., 1899, A.M., 1902, Franklin and Marshall; Ph.D., 1907, Columbia;  
D.Sc., 1926, Franklin and Marshall
- BENSON, MERRITT E., 1931 (1937).....Associate Professor of Journalism  
LL.B., 1930, Minnesota
- BIRNBAUM, WILLIAM ZYGMUNT, 1939 (1945).....Associate Professor of Mathematics  
LL.M., 1925, Ph.D., 1929, University of Lwow
- BLACKMAN, HELEN MARIE, 1943.....Instructor in Nursing  
R.N., 1929, St. Luke's, Iowa; B.S. in Nursing, 1942, Washington
- BLANKENSHIP, RUSSELL, 1932 (1943).....Professor of English  
A.B., 1914, Missouri; M.A., 1929, Ph.D., 1935, Washington
- BLISS, A. JEANNETTE, 1922 (1937).....Associate Professor of Home Economics  
B.A., 1906, Washington; M.A., 1917, Columbia
- BLIVEN, PAUL, 1941.....Lecturer in General Engineering  
B.S. in M.E., 1927, Minnesota; LL. B., 1933, Georgetown
- BOEHMER, HERBERT, 1937 (1945).....Assistant Professor of General Engineering  
Dipl. Ing. Braunschweig, 1928, Germany; M.S. in A.E., 1934, Washington
- BOLTON, FREDERICK ELMER, 1912.....Research Professor in Education; Dean Emeritus of the College of Education  
B.S., 1893, M.S., 1896, Wisconsin; Ph.D., 1898, Clark
- BOYER, HARVEY KINSEY, 1944.....Acting Instructor in Mathematics  
A.B., 1902, Wheaton
- BOYKEN, VERDENE V., 1945.....Instructor in Home Economics  
B.S., 1944, Iowa State College
- BOSTWICK, IRENE NEILSON, 1930 (1942).....Assistant Professor of Music  
B.M., 1922, Washington
- BRACE, LT. (J.G.) DOMINIC, Jr., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics
- BRAKEL, HENRY LOUIS, 1905 (1936).....Professor of Engineering Physics  
B.S., 1902, Olivet College; M.A., 1905, Washington; Ph.D., 1912, Cornell
- BRAKER, THELMA M., 1940.....Instructor in Nursing  
B.S., 1931, Washington

- BRAZEAU, WENDALL P., 1945.....Acting Associate in Art  
B.A., 1933, Washington
- BRAZIER, SUSAN HOWARD, 1944.....Associate in Speech  
B.A., 1941, Washington
- BRONSON, BEULAH, 1944.....Instructor in Nursing  
B.S., 1938, Washington
- BROSE, LT. COMDR, ROBERT W., U.S.N.R., 1945...Ass't Prof. of Naval Science and Tactics  
B.S., 1941, California
- BROWN, ROBERT ELDON, 1943.....Instructor in History  
B.A., 1938, Washington; Ph.D., 1946, Wisconsin
- BROWN, ROBERT QUIXOTE, 1919 (1941).....Associate Professor of General Engineering  
B.S. in E.E., 1916, Washington
- BROWN, ROBERT WHITCOMB, M.D., 1940.....Lecturer in Nursing  
B.A., 1923, Wisconsin; M.D., 1928, Harvard
- BROWN, STEPHEN DARDEN, 1930 (1937).....Associate Professor of Business Law  
LL.B., 1925, B.A., 1932, Washington; LL.M., 1938, Stanford
- BRUENNER, BERTRAM F., M.D., 1938.....Lecturer in Nursing  
B.S., 1925, M.D., 1929, Minnesota
- BUCKLEY, ROBERT WILLIAM, 1942.....Associate in Physical Education
- BURD, HENRY ALFRED, 1924 (1927).....Professor of Marketing  
B.S., 1910, Illinois Wesleyan; M.A., 1911, Ph.D., 1915, Illinois
- BURGESS, JANNA P., 1937 (1943).....Instructor in English  
B.A., 1918, Iowa; M.A., 1928, Washington
- BURKE, AGNES EVELYN, 1943.....Instructor in Nursing  
B.S., 1930, Akron Municipal University; M.A., 1941, Western Reserve
- BURMEISTER, VIOLA, 1943 (1944).....Instructor in Speech  
B.A., 1929, Washington
- BURN, JUNE, 1944.....Instructor in English  
B.S., 1914, University of Oklahoma
- BURNS, HARRY H., 1934 (1943).....Assistant Professor of English  
B.A., 1928, Ph.D., 1935, Washington
- BURRUS, MARY EMMA, 1943.....Lecturer in Economics and Business  
B.A., 1935, LL.B., 1937, Washington
- BUTLER, CHARLES, 1945.....Lecturer in Fisheries  
B.S., 1929, Monmouth
- BUTLER, RALPH H. R., 1942 (1943).....Acting Instructor in Physics  
B.S., 1940, M.S., 1945, Washington
- BUTTERBAUGH, GRANT I., 1922 (1937).....Associate Professor of Statistics  
A.B., 1916, Wisconsin; M.B.A., 1923, Washington; Ph.D., 1942, Chicago
- BUTTERWORTH, JOSEPH, JR., 1929.....Associate in English  
B.A., 1919, M.A., 1921, Brown
- CADY, GEORGE H., 1938 (1943).....Associate Professor of Chemistry  
A.B., 1927, A.M., 1928, Kansas; Ph.D., 1931, California
- CAMPBELL, THOMAS HERBERT, 1945....Acting Assistant Professor of Civil Engineering  
B.S. in C.E., 1934, Washington; M.S. in C.E., 1938, Massachusetts Institute of Technology
- CAPLIN, JESSIE, 1946.....Acting Assistant Professor of Home Economics  
B.S., 1897, Minnesota; M.S., 1917, Columbia
- CARLSON, CARL B., 1945.....Lecturer in Fisheries  
B.S. in Chem. Eng., 1935, Washington
- CARLSON, LOREN D., 1945.....Instructor in Animal Biology  
B.S., 1937, St. Ambrose; Ph.D., 1941, Iowa
- CARPENTER, ALLEN FULLER, 1909 (1926).....Professor of Mathematics; Executive Officer of the Department of Mathematics  
A.B., 1901, Hastings College; A.M., 1909, Nebraska; Ph.D., 1915, Chicago;  
D.Sc., 1937, Hastings College
- CARR, KENNETH M., 1944 (1945).....Associate in Drama  
B.A., 1942, Eastern Washington College of Education
- CARRELL, JAMES AUBREY, 1939 (1941).....Associate Professor of Speech  
A.B., 1927, Nebraska Wesleyan; M.A., 1929, Ph.D., 1936, Northwestern
- CASSILL, C. HARVEY, 1946.....Manager of Athletics
- CHAMPERS, JESSE, 1946.....Acting Instructor in General Engineering  
B.S., 1928, Washington
- CH'EH, TSU-YING, 1943 (1946).....Acting Instructor in Chinese Language  
Baccalaureate, 1936, Central Political Institute of China, Nanking

- CHENG, CH'ENG-K'UN, 1942 (1945).....Assistant Professor of Sociology  
B.A., 1931, Yenching University (Peiping); M.A., 1937, Ph.D., 1946, Washington
- CHESSEX, JEAN CHARLES WILLIAM, 1928 (1934).....Associate Professor of Romanic Languages  
B.A., 1920, B.D., 1922, M.A., 1925, Lausanne (Switzerland)
- CHITTENDEN, HIRAM MARTIN, 1923 (1936).....Assistant Professor of Civil Engineering  
B.S. in C.E., 1920, C.E., 1935, Washington
- CHRANE, CHARLES L., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics  
B.S., 1937, Daniel Baker University
- CHRISTIAN, BYRON H., 1926 (1936).....Associate Professor of Journalism  
A.B., 1921, M.A., 1929, Washington
- CHURCH, PHIL E., 1935 (1943).....Associate Professor of Geography and Meteorology  
B.S., 1923, Chicago; M.A., 1932, Ph.D., 1937, Clark University
- CLAPP, EDWIN R., 1945.....Lecturer in English  
A.B., 1923, Stanford; A.M., 1925, Ph.D., 1931, Harvard
- CLARK, EARL F., 1935.....Associate in Physical Education
- CLARK, ERNEST D., 1945.....Lecturer in Fisheries  
B.A., 1908, Harvard; M.A., 1909, Ph.D., 1910, Columbia
- CLARK, JANE OLIVE, 1945.....Instructor in Nursing  
B.S.N., 1945, Washington
- CLARK, LOIS, 1940.....Research Associate in Botany  
B.A., 1907, M.A., 1910, Washington; Ph.D., 1919, Minnesota
- CLOUGH, RAY WILLIAM, 1945.....Lecturer in Fisheries  
B.A., 1908, M.A., 1909, Tufts; Ph.D., 1922, Washington
- COCHRAN, LYALL BAKER, 1923 (1943).....Associate Professor of Electrical Engineering  
B.S. in E.E., 1923, E.E., 1936, Washington
- COE, HERBERT E., M.D., 1942.....Lecturer in Nursing  
A.B., 1904, M.D., 1906, Michigan
- COFFMAN, GRACE, 1939.....Instructor in Nursing  
B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago)
- COLE, KENNETH C., 1924 (1936).....Professor of Political Science  
B.Lit., 1924, Oxford; Ph.D., 1930, Harvard
- COLE, THOMAS RAYMOND, 1930.....Professor of Educational Administration and Supervision  
M.A., 1902, Upper Iowa; Ph.B., 1904, DePauw; LL.D., 1931, Upper Iowa
- COLLIER, IRA LEONARD, 1919.....Assistant Professor of Civil Engineering  
B.S. in C.E., 1913, C.E., 1917, Washington
- COLTON, AGNES LOUISE, 1941.....Associate in English  
B.A., 1925, Whitman; M.A., 1928, Oregon; Ph.D., 1939, Washington
- CONDON, HERBERT T., 1903.....Dean of Students  
B.A., 1892, Oregon; LL.B., 1894, Michigan
- CONWAY, JOHN ASHBY, 1927 (1943).....Associate Professor of Drama  
B.A., 1927, Carnegie Institute of Technology
- COOK, THOMAS I., 1939 (1945).....Professor of Political Science  
B.S., 1928, London University; Ph.D., 1938, Columbia
- COOMBS, HOWARD A., 1935 (1943).....Associate Professor of Geology  
B.S., 1929, M.S., 1931, Ph.D., 1935, Washington
- COOPER, LEMUEL BROWNING, 1939 (1943).....Assistant Professor of Mechanical Engineering  
B.S. in M.E., 1931, Washington
- COOPEY, RAYMOND W., 1945.....Associate in Animal Biology  
B.S., 1930, M.S., 1938, Oregon State College
- CORBALLY, JOHN E., 1927 (1942).....Professor of Secondary Education and Director of Cadet Teaching  
B.A., 1918, Whitworth; M.A., 1925, Ph.D., 1929, Washington
- COREY, THEODORA, 1945.....Instructor in Home Economics  
A.B., 1932, Santa Barbara College; M.A., 1944, Columbia Teachers College
- CORNELL, BARBARA, 1945.....Instructor in Nursing  
B.S., 1945, Washington
- CORNU, DONALD, 1928 (1945).....Associate Professor of English  
LL.B., 1922, M.A., 1926, Ph.D., 1928, Washington
- CORY, HERBERT ELLSWORTH, 1923.....Professor of Liberal Arts; Executive Officer of the Department of Liberal Arts  
A.B., 1906, Brown; Ph.D., 1910, Harvard
- COSTIGAN, GIOVANNI, 1934 (1942).....Associate Professor of History  
A.B., 1926, Oxford; M.A., 1928, Wisconsin; M.A., 1930, Oxford; Ph.D., 1930, Wisconsin

- COURVILLE, DONOVAN A., 1945.....Acting Associate in Chemistry  
B.A., 1931, Emanuel Missionary College; M.A., 1934, Indiana University
- COVINGTON, DUANE MARSHALL, 1945.....Instructor in Forestry; Resident Manager at Pack Forest
- COX, EDWARD GODFREY, 1911 (1926).....Professor of English  
B.A., 1899, Wabash College; M.A., 1901, Ph.D., 1906, Cornell
- COX, WILLIAM EDWARD, 1919 (1923).....Professor of Economics and Accounting  
B.A., 1909, M.A., 1910, Texas
- CRAIG, JOSEPH A., 1931.....Lecturer in Fisheries  
B.A., 1923, M.A., 1931, Stanford
- CRAIN, RICHARD W., 1936.....Instructor in Mechanical Engineering  
B.S. in E.E., 1930, B.S. in M.E., 1931, Colorado State College
- CRAMLET, CLYDE M., 1920 (1934).....Associate Professor of Mathematics  
A.B., 1916, Walla Walla; M.S., 1920, Ph.D., 1926, Washington
- CREEL, WILHELMINE SCHAEFFER, 1940 (1944).....Assistant Professor of Music;  
Acting Assistant Professor in the Far Eastern Department  
B.M., 1927, M.M., 1929, American Conservatory of Music; work with Bela Bartok and  
Zoltan Kodaly
- CROSS, HARRY MAYBURY, 1943 (1945).....Associate Professor of Law  
B.A., 1936, Washington State; LL.B., 1940, Washington
- CUNNINGHAM, WARREN, 1945.....Research Associate in Bureau of Governmental Research  
B.A., 1927, Juris Doctor, 1930, California (Berkeley)
- CURTIS, ELIZABETH, 1930 (1943).....Instructor in Art  
B.F.A., 1929, M.F.A., 1933, Washington
- CUTLER, RUSSELL K., 1946.....Acting Assistant Professor in Physical Education  
B.Ed., 1930, U.C.L.A.; M.S., 1934, Oregon
- DAHLGREN, EDWIN HAROLD, 1934.....Lecturer in Fisheries  
B.S., 1931, Washington
- DAKAN, CARL SPENCER, 1919 (1923).....Professor of Corporation Finance and Investments  
B.S., 1909, Missouri
- DANIELS, JOSEPH, 1911 (1923).....Professor of Mining Engineering and Metallurgy  
S.B., 1905, Massachusetts Institute of Technology; M.S., 1908, E.M., 1933, Lehigh
- DAVID JEAN FERDINAND, 1936.....Assistant Professor of Romanic Languages  
A.B., 1924, Sorbonne, Paris; B.A., 1927, M.A., 1931, Saskatchewan;  
Ph.D., 1936, Johns Hopkins
- DAVIS, ERMA NELSON, 1926.....Associate in History  
B.A., 1918, Denver; M.A., 1924, Utah
- DAVIS, JOHN M., 1945.....Lecturer in Law  
B.A., 1936, LL.B., 1940, Washington
- DAVIS, MELVIN ALAN, C.B.M., U.S.N., 1945.....Associate in Naval Science and Tactics
- DEHN, WILLIAM MAURICE, 1907 (1919).....Professor of Organic Chemistry  
A.B., 1893, A.M., 1896, Hope; Ph.D., 1903, Illinois
- deMERS, DOROTHY NORTON, 1945, Field Work Supervisor in Graduate School of Social Work  
B.A., 1928, Montana
- DEMMEY, JOSEPH, 1928 (1934).....Professor of Business Fluctuations and Real Estate  
Ph.B., 1920, M.A., 1924, Chicago
- DENNIS, KERNAN R., 1946.....Acting Instructor in Electrical Engineering  
B.S. in E.E., 1939, Washington
- DENNY, GRACE GOLDENA, 1913 (1934).....Professor of Home Economics  
A.B., 1907, Nebraska; M.A., 1919, Columbia
- DENNY, KATHERINE E., 1945.....Instructor in Ceramics  
B.A., 1941, Washington; M.S., 1943, Ohio State
- DENSMORE, HARVEY BRUCE, 1907 (1933).....Professor of Greek; Chairman, General Studies;  
Executive Officer of the Dept. of Classical Languages and Literature  
A.B., 1903, Oregon; A.B., 1907, Oxford
- DeROIN, HURLEY, 1944.....Associate in Men's Physical Education  
B.S., 1934, Washington
- deVRIES, MARY AID, 1921 (1939).....Associate Professor of Physical Education  
B.A., 1920, Wisconsin
- DOBIE, EDITH, 1926 (1937).....Associate Professor of History  
B.A., 1914, Syracuse; A.M., 1922, Chicago; Ph.D., 1925, Stanford
- DONALDSON, LAUREN R., 1935 (1945).....Associate Professor of Fisheries  
B.S., 1926, Intermountain Union College; M.S., 1931, Ph.D., 1939, Washington



- DOUGLAS HOWARD CLARK, 1941 (1943).....Assistant Professor of Bacteriology  
A.B., 1936, Ph.D., 1942, California
- DOUGLASS, CLARENCE EADER, 1939 (1945)....Assistant Professor of General Engineering  
B.S. in C.E., 1927, Washington State
- DRAPER, EDGAR MARION, 1925 (1936)....Professor of Secondary Education and Curriculum  
B.A., 1916, M.A., 1925, Ph.D., 1927, Washington
- DRESSLAR, MARTHA ESTELLA, 1918 (1937).....Associate Professor of Home Economics  
A.B., 1913, Southern California; B.S., 1917, Washington; M.S., 1918, Columbia
- DUCHOW, ESTHER, 1940.....Associate in Bacteriology  
B.S., 1934, Washington
- DUNLOP, HENRY A., 1931.....Lecturer in Fisheries  
B.A., 1919, M.A., 1922, British Columbia
- DUPEN, EVERETTE, 1945.....Instructor in Art  
B.F.A., 1937, Yale
- DUPUIS, A., 1945.....Associate in Music  
Graduate, 1916, Paris Conservatory
- DUTTON, HARRY H., M.D., 1938.....Lecturer in Nursing  
M.D., 1914, Vermont
- DWINNELL, JAMES HERBERT, 1941 (1945)....Ass't Professor of Aeronautical Engineering  
B.S. in A.E., 1939, Washington
- EARLE, FRANCES M., 1931 (1941).....Associate Professor of Geography  
B.A., 1918, Winthrop; M.S., 1926, Columbia; Ph.D., 1929, George Washington
- EASTMAN, AUSTIN VITRUVIUS, 1924 (1942).....  
Professor of Electrical Engineering; Executive Officer of the Dept. of Electrical Engineering  
B.S. in E.E., 1922, M.S., 1929, Washington
- EASTMAN, FLOREEN G., 1943.....Associate in Mathematics  
A.B., 1923, Nebraska
- EASTMAN, FRED S., 1927 (1943).....Professor of Aeronautical Engineering  
B.S. in E.E., 1925, Washington; M.S., 1929, Massachusetts Institute of Technology
- EASTWOOD, EVERETT OWEN, 1905.....  
Professor of Mechanical Engineering; Executive Officer of the Departments of  
Aeronautical and Mechanical Engineering; Director Guggenheim Laboratories  
C.E., 1896, A.B., 1897, A.M., 1899, Virginia;  
B.S., 1902, Massachusetts Institute of Technology
- EBY, EDWIN HAROLD, 1927 (1942).....Associate Professor of English  
Ph.B., 1923, Chicago; Ph.D., 1927, Washington
- ECHTERNACH, Lt. JOHN N., U.S.N.R., 1946.....Assistant Professor of Naval Science and Tactics  
A.A., 1941, A.B., 1944, University of California
- ECKELMAN, ERNEST OTTO, 1911 (1934).....Professor of Germanic Literature  
B.A., 1897, Northwestern College; B.L., 1898, Wisconsin;  
Ph.D., 1906, Heidelberg (Germany)
- EDMUNDSON, CLARENCE S., 1920.....Associate in Physical Education  
B.S., 1910, Idaho
- EDWARDS, ALLEN L., 1944.....Associate Professor of Psychology  
B.A., 1937, Central College, Chicago; M.A., 1938, Ohio State; Ph.D., 1940, Northwestern
- EGGERS, ROLF VAN KERVAL, M.D., 1942.....Lecturer in Nursing  
B.A., B.S., 1930, North Dakota; M.D., 1933, Chicago
- EICHINGER, WALTER A., 1936 (1945).....Assistant Professor of Music  
M.M., 1933, Northwestern
- EMERY, DONALD WILLIAM, 1934 (1943).....Instructor in English  
B.A., 1927, M.A., 1928, Iowa
- ENGEL, ERNEST DIRCK, 1934 (1941).....Assistant Professor of General Engineering  
B.S. in E.E., 1930, Washington
- ENGLE, NATHANAEL HOWARD, 1941.....Professor and Director of Bureau of Business Research  
B.A., 1925, M.A., 1926, Washington; Ph.D., 1929, Michigan
- ENQUIST, LUCILLE, 1944.....Associate in Speech  
B.A., 1937, Washington
- ERIKSEN, GOSTA, 1942.....Associate in Physical Education  
B.A., 1939, Washington
- ERWIN, EVALYN, 1944.....Associate in Nursery School  
B.S., 1934, Iowa State; M.S., 1938, Tennessee
- EVANS, ELEANOR, 1944 (1945).....Acting Assistant Professor of Nursery School; Acting Director of Nursery School  
B.S., 1934, Illinois; M. Education, 1936, Winnetka

- EVANS, MARGARET, 1945.....Associate in Music  
B.A., 1929, Washington
- EVEREST, HAROLD P., 1940 (1945) ..Professor of Journalism; Director, School of Journalism  
B.A., 1939, Washington
- FALKNOR, JUDSON F., 1936.....Professor of Law; Dean of the School of Law  
B.S., 1917, LL.B., 1919, Washington
- FARQUHARSON, FREDERICK BURT, 1925 (1940).....Professor of Civil Engineering; Director of Engineering Experiment Station  
B.S. in M.E., 1923, M.E., 1927, Washington
- FELTON, VIRGINIA ELLEN, 1943.....Instructor in Nursing  
B.S., in Nursing, 1942, Washington
- FERGUSON, GRACE BEALS, 1941 (1945).....Professor of Medical Social Work; Director, Graduate School of Social Work  
A.B., 1917, Minnesota; M.A., 1930, Indiana
- FISCHER, LOUIS, 1935 (1945).....Professor of Pharmaceutical Chemistry  
B.S., Ph.C., 1926, M.S., 1928, Ph.D., 1933, Washington
- FISHER, JAMES H., 1945.....Acting Associate in General Engineering  
B.S. in M.E., 1944, Washington
- FLOTHOW, PAUL G., M.D., 1940.....Lecturer in Nursing  
M.D., 1923, Pennsylvania; M.S. in Surgery, 1927, Minnesota
- FOLEY, BARBARA, 1946.....Associate in Drama
- FOOTE, HOPE LUCILLE, 1923 (1937).....Associate Professor of Interior Design  
A.B., 1920, Iowa State; M.A., 1923, Columbia
- FORDON, JOHN VIVIAN, 1935 (1936).....Instructor in Accounting  
B.B.A., 1931, M.B.A., 1934, Washington
- FORREST, CHARLES DORSEY, 1946.....Lecturer in Economics and Business  
B.S., 1933, Northwestern; M.B.A., 1940, U.S.C.
- FOSTER, FREDERIC JOHN, 1935.....Lecturer in Fisheries
- FOSTER, HENRY MELVILLE, 1927 (1936).....Professor of Physical Education;  
Executive Officer, Department of Physical Education for Men  
B.S., 1924, Oregon; M.A., 1926, Columbia
- FOX, KATHERINE S., 1945.....Instructor in Physical Education  
B.S., 1938, Washington; M.S., 1943, University of Oregon
- FRANCIS, BYRON F., M.D., 1940.....Lecturer in Nursing  
B.A., 1922, Washington; M.D., 1926, Washington University (St. Louis)
- FRANZKE, ALBERT L., 1936 (1939).....Associate Professor of Speech  
B.A., 1916, M.A., 1933, Lawrence
- FREEMAN, GEORGE WILLIAM, M.D., 1942.....Lecturer in Nursing  
B.S., 1924, Washington; M.D., 1928, Johns Hopkins
- FREIN, PIERRE JOSEPH, 1903.....Professor of Romanic Languages  
A.B., 1892, Williams College; Ph.D., 1899, Johns Hopkins
- FRITTER, CHARLES T., Commander, U.S.N., 1946.....Associate Professor of Naval Science and Tactics  
B.S., 1933, U.S. Naval Academy
- FROST, VERNON, 1945.....Assistant Professor of Journalism  
B.A., 1926, Washington
- FRYE, THEODORE CHRISTIAN, 1903.....Professor of Botany  
B.S., 1894, Illinois; Ph.D., 1902, Chicago
- FUJIOKA, MOMOKU, 1945.....Acting Associate in Far Eastern Department
- FULLER, RICHARD E., 1930 (1940).....Research Professor of Geology  
B.S., 1924, M.S., 1925, Ph.D., 1930, Washington
- GALLAGHER, MARIAN COULD, 1944.....Law Librarian and Assistant Professor of Law  
B.A., 1935, LL.B., 1937, B.A. in L.S., 1939, Washington
- GARCIA-PRADA, CARLOS, 1925 (1939).....Professor of Spanish  
A.B., 1918, Colombia (South America); A.M., 1924, Michigan;  
Ph.D., 1929, Bogota (South America)
- GARFIELD, VIOLA, 1937 (1945).....Assistant Professor of Anthropology  
B.A., 1928, M.A., 1931, Washington; Ph.D., 1939, Columbia
- GATES, CHARLES M., 1936 (1943).....Associate Professor of History  
B.A., 1926, Yale; M.A., 1928, Harvard; Ph.D., 1934, Minnesota
- GERSEVSKY, NOAH DAVID, 1943.....Instructor in Russian Language  
B.S., 1930, Montana School of Mines
- GIFFORD, GILBERT LEE, 1942.....Acting Assistant Professor of Transportation  
B.B.A., 1930, Washington State; M.B.A., 1938, Washington

- GIFT, RALPH E., 1945.....Associate in Music  
B.S., 1931, Kansas State Teachers College
- GILLETTE, ALLETTA MARIA, 1912.....Instructor in English  
B.S., 1907, Smith; M.A., 1911, Washington
- GITLER, ROBERT LAURENCE, 1946.....Associate Professor of Librarianship; Director of the School of Librarianship  
A.B., 1930, California; M.S., 1939, Columbia
- GOEHRING, VIOLA ELSIE, 1942.....Associate in Economics and Business  
B.B.A., 1925, M.A., 1933, Washington
- GOFF, WILLARD FREDERICK, M.D., 1942.....Lecturer in Nursing  
B.S., 1931, Washington; M.D., 1935, Oregon
- GOGGIO, CHARLES, 1920 (1936).....Professor of Romanic Languages  
A.B., 1910, Harvard; A.M., 1914, Ph.D., 1919, Wisconsin
- GOODRICH, FOREST JACKSON, 1914 (1934).....Professor of Pharmacognosy; State Chemist; Dean of the College of Pharmacy  
Ph.C., 1913, B.S., 1914, M.S., 1917, Ph.D., 1926, Washington
- GOODSPEED, GEORGE EDWARD, 1919 (1934).....Professor of Geology; Executive Officer of the Department of Geology  
B.S.(Min.E.), 1910, Massachusetts Institute of Technology
- GOSE, J. GORDON, 1946.....Professor of Law  
B.A., 1926, Whitman; LL.B., 1928, Washington
- GOWEN, HERBERT HENRY, 1909 (1914).....Professor Emeritus of Oriental Studies  
St. Augustine's College (Canterbury); D.D., 1912, Whitman College
- GOWEN, LANCE E., 1924 (1937).....Professor of Architecture  
B.A. in Arch., 1916, M.A. in Arch., 1921, Gr. Arch., 1922, California
- GRAF, HUBERT ARTHUR, 1936.....Associate in Music  
Theoretical work with H. J. Williams, London, England; Enrico Tramonti, Chicago;  
Graduate, Holy Names Academy
- GRAVES, DORSETT V., 1922.....Associate in Physical Education
- GRAVES, LUCIUS WALLIS, 1943.....Lecturer in Economics and Business  
B.B.A., 1922, Washington; M.A., 1923, California
- GRAY, FLORENCE, 1945.....Instructor in Nursing  
B.S.N., 1945, Washington
- GRAY, MARGARET, 1946.....Instructor in Nursing  
B.S., 1943, Washington
- GREEN, MILTON D., 1944.....Professor of Law  
B.A., 1926, J.D., 1928, University of Michigan; LL.M., 1938, J.D.Sc., 1943, Columbia
- GREGORY, HOMER EWART, 1920 (1933).....Professor of Management and Accounting  
A.B., 1914, Washington State; M.A., 1917, Chicago
- GRIFFITH, DUDLEY DAVID, 1924 (1927).....Professor of English; Executive Officer of the Department of English  
B.A., 1903, Simpson College; Ph.D., 1916, Chicago
- GRONDAL, BROR LEONARD, 1913 (1929).....Professor of Forestry  
B.A., 1910, Bethany; M.S.F., 1913, Washington; D.Sc., 1943, Bethany
- GROVES, ELIZABETH ALICE, 1945.....Assistant Professor of Librarianship  
B.A., 1929, British Columbia; B.S. in L.S., 1930, Washington
- GUBERLET, MURIEL LEWIN, 1943.....Associate in English  
A.B., 1910, Bethany; A.M., 1928, Washington
- GULLIKSON, ALBERT CLARENCE, 1942.....Instructor in General Engineering  
B.S. in M.E., 1924; M.E., 1938, Washington
- GUNDLACH, RALPH, 1927 (1937).....Associate Professor of Psychology  
B.A., 1924, M.A., 1925, Washington; Ph.D., 1927, Illinois
- GUNTER, CRAIG G., 1945.....Associate in Political Science  
B.A., 1943, Illinois; Ph.M., 1945, Wisconsin
- GUNTHER, ERNA, 1923 (1941).....Professor of Anthropology; Director of the Museum;  
Executive Officer, Department of Anthropology  
A.B., 1919, Barnard; A.M., 1920, Ph.D., 1928, Columbia
- GUTHRIE, EDWIN RAY, 1914 (1928).....Professor of Psychology; Dean of the Graduate School  
A.B., 1907, A.M., 1910, Nebraska; Ph.D., 1912, Pennsylvania; LL.D., 1945, Nebraska
- HADLEY, RICHARD H., 1946.....Associate in Mechanical Engineering
- HALL, AMY VIOLET, 1924 (1945).....Associate Professor of English  
B.A., 1920, M.A., 1923, Ph.D., 1940, Washington
- HALL, DAVID CONNOLLY, M.D., 1908.....Professor of Hygiene  
Ph.B., 1901, Brown; Sc.M., 1903, Chicago; M.D., 1907, Rush Medical College;  
Fellow, American College of Physicians

- HALL, HELEN, 1931 (1943).....Associate Professor of Music  
B.M., 1925, Washington
- HALL, JAMES KENDALL, 1930 (1934).....Professor of Public Utilities and Public Finance  
B.A., 1925, M.A., 1926, Oregon; Ph.D., 1929, Stanford
- HALLER, MARY E., 1931 (1941).....Assistant Professor of Mathematics  
B.A., 1924, M.S., 1931, Ph.D., 1934, Washington
- HANSBERRY, MARY EVELYN, 1943.....Associate Director of Student Affairs  
B.A., 1940, Washington
- HAPP, MAURINE, 1945.....Lecturer in Economics and Business  
B.A., 1930, Northwestern; M.B.A., 1937, University of Chicago School of Business Adm.
- HARRINGTON, DONAL FRANCIS, 1938 (1943).....Assistant Professor of Drama  
B.A., 1928, Montana; M.A., 1933, Columbia
- HARRIS, CHARLES WILLIAM, 1906 (1924).....Professor of Hydraulic Engineering  
B.S. in C.E., 1903, Washington; C.E., 1905, Cornell
- HARRIS, Lt. ELMER A. (D), U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.S., 1940, Southern California
- HARRISON, JOSEPH BARLOW, 1913 (1933).....Professor of English  
B.A., 1910, Washington; A.B., 1913, Oxford
- HARRISON, ROGER W., 1945.....Lecturer in Fisheries  
B.S., 1925, Washington State; M.S., 1928, George Washington
- HARSCH, ALFRED E., 1930 (1940).....Professor of Law  
B.A., 1926, LL.B., 1928, Washington
- HATCH, MELVILLE H., 1927 (1941).....Professor of Zoology  
B.A., 1919, M.A., 1921, Ph.D., 1925, Michigan
- HAUAN, MERLIN JAMES, 1928.....Lecturer in Civil Engineering  
B.S. in E.E., 1925, Washington
- HAYDEN, ALICE HAZEL, 1942.....Assistant Professor of Educational Research  
Ph.C., 1928, B.S., M.S., 1929, Oregon State College; Ph.D., 1932, Purdue
- HAYNER, NORMAN SYLVESTER, 1925 (1937).....Professor of Sociology  
B.A., 1920, Washington; A.M., 1921, Ph.D., 1923, Chicago
- HEATHERS, LOUISE, 1945.....Assistant Professor of Psychology  
B.A., 1933, Washington; Ph.D., 1940, Yale
- HELBERG, BRUCE F., 1943.....Associate in Journalism  
B.A., 1936, Washington
- HELMINGE, CHARLES LOUIS, 1911 (1940).....Professor Emeritus of Romanic Languages  
B.Ph., 1911, Berea; M.A., 1915, Washington
- HENDERSON, JOSEPH E., 1929 (1942).....Professor of Physics  
B.S., 1922, Wooster; Ph.D., 1928, Yale
- HENNES, ROBERT G., 1934 (1941).....Associate Professor of Civil Engineering  
B.S. in C.E., 1927, Notre Dame; M.S.(C.E.), 1928, Massachusetts Institute of Technology
- HENRY, BERNARD S., 1931 (1941).....Professor of Bacteriology;  
Executive Office of Department of Bacteriology  
B.S., 1925, M.A., 1926, Ph.D., 1931, California
- HENRY, DORA PRIAULX, 1932.....Research Associate in Oceanography and Zoology  
Ph.D., 1931, California
- HENSLEY, MERDECES H., 1939 (1945).....Instructor in Art  
B.F.A., 1930, M.F.A., 1938, Washington
- HEPPERLE, CHARLOTTE, 1945.....Acting Associate in Germanics  
A.B., 1928, Washington
- HERMANS, THOMAS G., 1929 (1940).....Assistant Professor of Psychology  
B.S., 1923, M.A., 1927, Washington
- HERR, Lt. BARTON K., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B. of Education, 1942, Southern Illinois Normal University
- HERRMAN, ARTHUR PHILIP, 1923 (1937).....Professor of Architecture; Executive Officer of the School of Architecture  
B.A.(Arch.), 1920, Carnegie Institute of Technology
- HICKS, MARIE, 1945.....Instructor in Nursing  
B.S.N., 1944, Washington
- HIERSTEIN, HELEN MARY ELIZABETH, 1943.....Instructor in Nursing  
B.S. in Nursing, 1939, Washington
- HIGGS, PAUL McCLELLAN, 1926 (1939).....Assistant Professor of Physics  
B.S., 1919, Washington
- HILEN, ANDREW, 1945.....Instructor in English  
B.A., 1937, Washington; Ph.D., 1943, Yale

- HILL, RAYMOND L., 1927 (1945).....Professor of Painting  
Rhode Island School of Design, 1913
- HILL, WILLIAM RYLAND, JR., 1941.....Assistant Professor of Electrical Engineering  
B.S. in E.E., 1934, Washington; M.S. in E.E., 1938, E.E., 1941, California
- HILLES, Lt. (j.g.) RICHARD P. (DC), U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics; Dental Officer  
B.S., 1936, Oregon; D.M.D., 1945, Northern Pacific College of Oregon
- HILSENBERG, ERNEST B., Captain, Infantry, 1942 (1944).....Assistant Professor of Military Science and Tactics  
B.A., 1934, Washington
- HINES, HAROLD, 1944 (1946).....Supervisor of Housing  
A.B., 1939, Washington
- HITCHCOCK, C. LEO, 1937 (1944).....Professor of Botany; Executive Officer of the Department of Botany  
A.B., 1927, A.M., 1929, Pomona; Ph.D., 1931, Washington University (St. Louis)
- HITCHMAN, JEAN, 1945.....Instructor in Nursing  
B.S.N., 1944, Washington
- HOARD, GEORGE LISLE, 1920 (1941).....Professor of Electrical Engineering  
B.S. in E.E., 1917, M.S. in E.E., 1926, Washington
- HOFFMAN, KATHERINE JANET, 1942 (1945).....Assistant Professor of Nursing  
B.A., 1929, College of Puget Sound; R.N., 1934, Tacoma General School of Nursing;  
M.N., 1941, Washington
- HOFFSTADT, RACHEL EMILIE, 1923 (1939).....Professor of Bacteriology  
B.S., 1908, Hanover; M.S., 1913, Chicago; Ph.D., 1915, D.Sc., 1921, Johns Hopkins
- HOLMES, HARLAN B., 1931.....Lecturer in Fisheries  
B.A., 1922, M.A., 1931, Stanford
- HOLT, WILLIAM STULL, 1940.....Professor of American History; Executive Officer of Department of History  
A.B., 1920, Cornell; Ph.D., 1926, Johns Hopkins
- HORNE, DORTHALEE, 1944.....Assistant Professor of Physical Education  
B.S., 1930, Missouri; M.S., 1939, Oregon
- HORSFALL, FRANK, 1935.....Associate in Music
- HORTON, GEORGE P., 1934 (1946).....Associate Professor of Psychology  
B.S., 1926, M.A., 1930, Ph.D., 1932, Princeton
- HOSKINS, MILDRED, 1945.....Field Work Supervisor in the Graduate School of Social Work  
B.A., 1937, Texas State College for Women
- HOTSON, JOHN WILLIAM, 1911 (1936).....Professor of Botany  
A.B., 1901, A.M., 1902, McMaster; Ph.D., 1913, Harvard
- HSU, W. SIANG, 1944.....Instructor in Botany, Zoology, and the Far Eastern Department  
B.S., 1922, Illinois; M.S., 1923, D.Sc., 1928, Harvard
- HUBER, JOHN RICHARD, 1939 (1942).....Associate Professor of Economics  
B.A., 1931, Wooster; M.A., 1933, Ph.D., 1937, Princeton
- HUGHES, GLENN, 1919 (1930).....Professor of English; Director of the School of Drama  
B.A., 1916, Stanford; M.A., 1921, Washington
- HUGHES, RUBY S., 1945.....Research Associate in Graduate School  
B.A., 1945, Washington
- HUMPHREYS, LLOYD G., 1946.....Associate Professor of Psychology; Supervisor of the Division of Testing  
B.S., 1935, Oregon; M.A., 1936, Indiana; Ph.D., 1938, Stanford
- HUSTON, FRANCES, 1944.....Acting Associate in English  
B.A., 1931, Reed College
- HUTCHINSON, MARY GROSS, 1919 (1936).....Professor of Physical Education  
Executive Officer, Department of Physical Education for Women  
A.B., 1912, Goucher College; M.A., 1915, Columbia
- IRVINE, DEMAR B., 1937 (1938).....Assistant Professor of Music  
B.A., 1929, M.A., 1931, California; Ph.D., 1937, Harvard
- ISAAC, LEO, 1945.....Research Associate in Forestry
- ISAACS, WALTER F., 1922 (1929).....Professor of Fine Arts; Director of the School of Art  
B.S.(F.A.), 1909, James Millikin
- JACOBS, MELVILLE, 1928 (1945).....Associate Professor of Anthropology  
A.B., 1922, New York; A.M., Ph.D., 1931, Columbia
- JACOBSEN, PHILIP A., 1927 (1939).....Assistant Professor of General Engineering  
B.S., 1926, Washington
- JACOBSEN, THEODOR S., 1928 (1941).....Associate Professor of Astronomy and Mathematics;  
Executive Officer of the Department of Astronomy  
B.A., 1922, Stanford; Ph.D., 1926, California

- JACOBSON, BERTHE P., 1937 (1939).....Associate Professor of Music  
Graduate Conservatory of Geneva; Diploma Schola Cantorum, Paris;  
Diploma Dalcroze Institute of Geneva
- JACOBSON, TECKLA H., 1945.....Instructor in Nursing  
B.S., 1939, Washington
- JAMIESON, ANN NORRELL, 1943..Supervisor of Field Work, Graduate School of Social Work  
B.S. in Education, 1926, Minnesota
- JAMISON, LAURA MAUDE, 1946.....Instructor in Nursing  
B.S., 1936, Washington
- JARVI, ALBERT O., 1945.....Instructor in General Engineering  
B.S. in C.E., 1938, Washington
- JENNINGS, G. W., CSM, U.S.N.R., 1944.....Associate in Naval Science and Tactics
- JENSEN, ALFRED, 1930 (1939).....Assistant Professor of General Engineering  
B.S., in C.E., 1925, M.S. in C.E., 1937, Washington
- JERBERT, ARTHUR RUDOLPH, 1921 (1937).....Associate Professor of Mathematics  
B.S., 1916, M.S., 1923, Ph.D., 1928, Washington
- JESSUP, JOHN H., 1926 (1927).....Associate Professor of Educational Sociology  
A.B., 1920, Earlham College; M.A., 1924, Iowa
- JOHNSON, B. PAULINE, 1941 (1945).....Associate Professor of Art  
B.A., 1929, Washington; M.A., 1936, Columbia
- JOHNSON, CHARLES WILLIS, 1903 (1904).....Professor of Pharmaceutical Chemistry;  
Dean Emeritus of the College of Pharmacy  
Ph.C., 1896, B.S., 1900, Ph.D., 1903, Michigan
- JOHNSON, MARY LOUISE, 1945.....Instructor in Home Economics  
B.A., 1940, Hardin-Simmons; M.S., 1942, Wisconsin
- JOHNSON, SYLVIA G., 1939.....Instructor in Nursing  
Grad., 1926, New York City Hospital; Certificate, 1931, B.S. in Nursing, 1939, Washington
- JONES, AMARETTA, 1944.....Assistant Professor of Community Organization, Graduate School of Social Work  
B.A., 1921, Wisconsin; M.A., 1938, Chicago
- JONES, CLAYTON C., 1946.....Research Associate in Political Science
- JONES, ERNEST M., 1945...Prof. of Operative Dentistry; Acting Dean of School of Dentistry  
D.D.S., 1916, Northwestern
- JONES, ROBERT WILLIAM, 1920 (1934).....Professor of Journalism  
B.A., 1906, LL.B., 1913, Missouri; M.A., 1918, South Dakota
- JONES, COLONEL WILLIAM H., Jr., 1946.....Professor of Military Science and Tactics  
B.A., 1908, Ogden College; B.S., 1913, U.S. Military Academy
- JOSEPH, HENRY BURTON, LIEUTENANT COLONEL, C.A.C., 1941 (1946).....Acting Professor of Military Science and Tactics  
B.S.F., 1927, Washington
- KAHIN, HELEN, 1930 (1943).....Assistant Professor of English  
B.A., 1909, Wilson College; M.A., 1911, Indiana; Ph.D., 1934, Washington
- KASTNER, ETHEL DEVER, 1943 (1945).....Instructor in the Far Eastern Department  
B.A., 1943, Washington
- KATZ, SOLOMON, 1936 (1943).....Associate Professor of History  
A.B., 1930, Ph.D., 1933, Cornell
- KAUFMAN, S. HARVARD, 1945.....Lecturer in Social Work  
B.A., 1934, M.D., 1936, Wisconsin
- KELLER, JEAN PAUL, 1945.....Instructor in Romanic Languages  
B.A., 1933, Heidelberg, Ohio; M.A., 1940, Ohio State
- KELLEY, TIM K., 1944.....Acting Instructor in Geography  
B.S., 1936, M.A., 1940, Washington
- KENNEDY, FRED WASHINGTON, 1909 (1938).....Associate Professor of Journalism
- KIDWELL, KATHRO, 1939 (1944).....Assistant Professor of Physical Education  
B.S., 1927, Nebraska; M.A., 1928, Wisconsin
- KIMMEL, EDWARD, Colonel, U.S. Army, retired, 1932 (1939).....Lecturer in History  
B.S., 1897, M.A., 1907, Washington State College
- KINCAID, TREVOR, 1899 (1901).....Professor of Zoology  
B.S., 1899, M.A., 1901, Washington; D.Sc., College of Puget Sound
- KING, ARDEN ROSS, 1944 (1945).....Instructor in Anthropology  
B.A., 1938, Utah
- KING, J. C., CTC, U.S.N., 1944.....Associate in Naval Science and Tactics
- KINGSTON, J. MAURICE, 1940 (1946).....Assistant Professor of Mathematics  
B.A., 1935, Western Ontario; M.A., 1936, Ph.D., 1939, Toronto

- KINSCHELLA, HAZEL GERTRUDE, 1942.....Lecturer in Music  
B.M., 1916; B.F.A., 1928, B.A., 1931, Nebraska; M.A., 1934, Columbia;  
Ph.D., 1941, Washington
- KINTNER, NANCY JANE, 1942.....Instructor in Nursing  
B.S., 1940, Washington
- KIRCHNER, GEORGE, 1919 (1939).....Assistant Professor of Music  
Leipzig
- KIRKLAND, ERIC BROOKS, 1942 (1943).....Instructor in Physical Education  
B.S., 1937, Washington
- KIRSTEN, FREDERICK K., 1915 (1923).....Professor of Aeronautical Engineering  
B.S. in E.E., 1909; E.E., 1914, Washington
- KNISELEY, WADE A., 1942.....Associate in Speech  
B.A., 1936, Washington
- KNORR, ERIC, 1945.....Acting Associate in Sociology  
B.D., 1924, Luther Seminary; B.A., 1929, M.A., 1930, Washington State College
- KOCHER, PAUL, 1938 (1942).....Assistant Professor of English  
B.A., 1926, Columbia; J.D., 1929, M.A., 1932, Ph.D., 1936, Stanford
- KOHLER, ELLEN LUCILLE, 1942.....Acting Associate in Classical Languages  
B.A., 1938, M.A., 1942, Washington
- KONIRSH, SUZANNE G., 1945.....Associate in Journalism  
Doctor Juris Utriusque, 1923, University of Vienna
- KRUPSKI, EDWARD, 1944.....Assistant State Chemist  
B.S., 1939, M.S., 1941, Washington
- KUHN, BERTHA M., 1940 (1945).....Instructor in English  
B.A., 1916, M.A., 1917, North Dakota; Ph.D., 1940, Washington
- LAMBERTY, ELIZABETH REGINA, 1941.....Instructor in Nursing  
R.N., 1934, B.S., 1938, Minnesota
- LAUBE, FRANK J., 1945.....Lecturer in Political Science  
B.L., 1899, Wisconsin; M.A., 1913, Washington
- LAUER, EDWARD HENRY, 1934.....Professor of Germanic Languages and Literature;  
Dean of the College of Arts and Sciences  
A.B., 1906, A.M., 1909, Ph.D., 1916, Michigan
- LAWRENCE, CHARLES WILSON, 1926 (1934).....Associate Professor of Music  
B.M., 1918, Oberlin; M.A.(Music), 1930, Washington
- LAWRENCE, WELDON, 1945.....Acting Associate in Philosophy  
A.B., 1938, Washington
- LAWSON, JANE SORRIE, 1922 ((1939).....Associate Professor of English  
M.A., 1906, St. Andrews (Scotland)
- LEAHY, KATHLEEN M., 1927 (1943).....Associate Professor of Nursing  
A.B., 1926, Oregon; M.S., 1932, Washington
- LEE, ALBERT FRANCIS, M.D., 1943.....Lecturer in Nursing  
B.S., 1935, College of Puget Sound; M.D., 1937, Duke
- LEIGHTON, ROY S., 1946.....Lecturer in College of Economics and Business  
B.A., 1927, Washington
- LEVY, ERNST, 1937.....Professor of History, Law, and Political Science  
D.J.U., 1906, Berlin
- LEWIS, LAUREL J., 1946.....Assistant Professor of Electrical Engineering  
A.B., 1933, Electrical Engineer, 1935, Stanford
- LINDBLOM, ANNA MATHILDA, 1943.....Instructor in Nursing  
B.A., 1941, Colorado State College of Education
- LINDBLOM, ROY ERIC, 1924 (1945).....Professor of Electrical Engineering  
B.S. in E.E., 1922, M.S. in E.E., 1929, Washington
- LINGAFELTER, EDWARD CLAY, 1939 (1945).....Assistant Professor of Physical Chemistry  
B.S., 1935; Ph.D., 1939, California
- LIPPINCOTT, STUART W., 1946.....Professor of Pathology;  
Executive Officer of the Pathology Department  
A.B., 1929, Clark University; M.D., 1934, C.M., 1935, McGill University
- LIVINGSTON, EUGENIA, 1945.....Clinical Instructor in Nursing  
B.S.N., 1943, Washington
- LLOYD, FLORENCE, 1944.....Instructor in Home Economics  
B.S., 1932, M.S., 1934, Montana State
- LOEW, EDGAR ALLAN, 1909 (1923).....Professor of Electrical Engineering;  
Dean of the College of Engineering; Chairman of the Engineering Experiment Station  
B.S.(E.E.), 1906, E.E., 1922, Wisconsin

- LONGWOOD, ROSEMARY, 1945.....Associate in Psychology  
B.S., 1943, Washington
- LORIG, ARTHUR N., 1934 (1941).....Associate Professor of Accounting  
B.A., 1922, Wisconsin; C.P.A., 1927; M.A., 1932, Stanford; Ph.D., 1936, Chicago
- LOUCKS, ROGER B., 1936 (1946).....Associate Professor of Psychology  
B.S. in C.E., 1927, Ph.D., 1930, University of Minnesota
- LOUGHRIDGE, DONALD H., 1931 (1942).....Professor of Physics  
B.S., 1923, Ph.D., 1927, California Institute of Technology
- LOW, Lt. DANIEL S., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.A., 1926, Amherst College
- LUCAS, HENRY STEPHEN, 1921 (1934).....Professor of History  
A.B., 1913, Olivet; A.M., 1915, Indiana; Ph.D., 1921, Michigan
- LUCKERATH, CARL, 1945.....Lecturer in Business Law  
B.A., LL.B., 1930, Washington
- LUNDBERG, GEORGE ANDREW, 1945.....Professor of Sociology;  
Executive Officer of the Department of Sociology  
B.A., 1920, North Dakota; M.A., 1923, Wisconsin; Ph.D., 1925, Minnesota
- LUNDQUIST, RUTH E., 1945.....Instructor in Nursing  
B.S.N., 1944, Washington
- LUTEY, WILLIAM GLEN, 1934 (1940).....Instructor in Liberal Arts  
B.A., 1930, M.A., 1931, Washington
- LYNCH, JAMES E., 1931 (1943).....Professor of Fisheries  
B.A., 1917, M.A., 1921, Nebraska; Ph.D., 1929, California
- McADAMS, LAURA ELIZABETH, 1945.....Assistant Professor of Home Economics  
B.S., 1923, M.S., 1932, Kansas State College
- McCARTHY, JOSEPH L., 1941 (1943).....Assistant Professor of Chemical Engineering  
B.S. in Chem. E., 1934, Washington; M.S., 1936, Idaho; Ph.D., 1938, McGill
- McCONAHEY, JAMES M., 1921 (1945).....Professor of Accounting  
B.S., 1896, M.S., 1899, Washington and Jefferson; LL.B., 1899, Northwestern; CPA, 1914
- McCREERY, LESTER LYLE, 1943.....Instructor in Speech  
B.A., 1933, M.A., 1940, Washington
- McCULLOUGH, WILLIAM H., 1943.....Assistant Professor of Social Work  
A.B., 1932, DePauw University; A.M., 1940, University of Chicago
- McDUFFEE, ALICE E., 1941.....Instructor in Nursing  
R.N., 1931, Good Samaritan Hospital; B.S. in Nursing, 1940, Washington
- McFARLAN, LEE HORACE, 1927 (1934).....Associate Professor of Mathematics  
B.S., 1917, Kansas State Teachers' College; A.M., 1921, Ph.D., 1924, Missouri
- McGOWND, JANE, 1924 (1928).....Assistant Professor of Physical Education  
B.S., 1917, M.A., 1923, Columbia
- McINTOSH, HOWARD D., Captain, U.S.N., 1945...Professor of Naval Science and Tactics;  
Executive Officer of the Department of Naval Science and Tactics  
B.S., 1922, U.S. Naval Academy
- McINTYRE, HARRY JOHN, 1919 (1943).....Professor of Mechanical Engineering  
B.S. in M.E., 1915, M.B.A., 1923, Washington
- McKAY, GEORGE F., 1927 (1943).....Professor of Music  
B.Mus., 1923, Rochester
- McKINLAY, FLORENCE, 1937 (1945).....Instructor in English  
B.A., 1908, Lombard College; M.A., 1931, Washington
- McLELLAN, HELEN, 1937 (1945).....Associate Professor of Physical Education  
B.S., 1930, Wisconsin; M.A., 1931, Columbia
- McMAHON, EDWARD, 1908 (1927).....Professor Emeritus of American History  
Ph.B., 1898, Washington; M.A., 1907, Wisconsin
- McMAHON, THERESA SCHMID, 1901 (1929).....Professor Emeritus of Economics and Labor  
B.A., 1899, M.A., 1901, Washington; Ph.D., 1909, Wisconsin
- McMINN, BRYAN TOWNE, 1920 (1939).....Professor of Mechanical Engineering  
B.S. in M.E., 1918, Oregon State; M.S. in M.E., 1926, M.E., 1931, Washington
- McMULLEN, LYLE, 1945.....Associate in Music  
B.A., 1929, M.A., 1942, Washington
- MACARTNEY, THOMAS H., 1946.....Acting Instructor in General Engineering  
B.S. in C.E., 1939, Washington
- MACDONALD, CATHERINE JOAN, 1945.....Supervisor of Field Work, Graduate School of Social Work  
B.A., 1936, Washington
- MACKENZIE, DONALD H., 1929 (1944).....Professor of Management and Accounting  
B.B.A., M.B.A., 1925, Washington; C.P.A.



- MacIVOR, VIRGINIA, 1945.....Instructor in Nursing  
B.S.N., 1945, Washington
- MacLEAN, DOROTHY, 1936 (1943).....Assistant Professor of Physical Education  
B.S., 1933, Oregon; M.S., 1938, Washington
- MANDER, LINDEN A., 1928 (1937).....Professor of Political Science  
M.A., 1921, Adelaide (Australia)
- MANSFIELD, ROBERT S., 1932 (1937).....Assistant Professor of Journalism  
B.A., 1926, M.A., 1931, Michigan
- MARCKWORTH, GORDON DOTTER, 1939.....Professor of Forest Management;  
Dean of the College of Forestry  
B.S.F., 1916, Ohio; M.F., 1917, Yale
- MARK, SARA N., 1937.....Associate in English  
B.A., B.S., 1911, M.A., 1929, Washington
- MARTIN, ARTHUR W., 1937 (1943).....Associate Professor of Physiology  
B.S., 1931, College of Puget Sound; Ph.D., 1936, Stanford
- MARTIN, CHARLES EMANUEL, 1924.....Professor of Political Science; Executive  
Officer of the Department of Political Science  
B.L., 1914, A.M., 1915, California; Ph.D., 1917, Columbia; LL.D., 1942, Southern California
- MARTIN, HOWARD HANNA, 1930 (1940).....Professor of Geography;  
Executive Officer of the Department of Geography  
B.S., 1922, Pennsylvania; M.A., 1923, Ph.D., 1929, George Washington;  
Sc.D., 1937, Monmouth
- MARTIN, VICTOR J., 1937 (1942).....Associate Professor of Aeronautical Engineering  
B.S., 1934, California; M.S. in M.E., 1935, M.S. in A.E., 1936,  
California Institute of Technology
- MASON, MARY L., 1943.....Acting Associate in English  
B.A., 1923, Grinnell
- MATHY, LEONARD G., 1945.....Acting Instructor in Economics and Business  
A.B., 1941, M.A., 1943, Illinois
- MATTSON, JOHN I., 1946.....Acting Instructor in Architecture  
B.A., 1925, Washington
- MAXEY, LOUISE HENRIETTA.....Instructor in Nursing  
B.S., 1944, Washington
- MAY, CHARLES CULBERTSON, 1912 (1929).....Professor of Civil Engineering and  
Architecture; Superintendent of Buildings and Grounds  
B.S. in C.E., 1910, Washington
- MEISNEST, FREDERICK WILLIAM, 1906.....Professor of Germanic Literature  
B.S., 1893, Ph.D., 1904, Wisconsin
- MERRICK, Captain ARTHUR W., 1946.....Instructor in Military Science and Tactics
- MEYER, BETTY, 1944.....Lecturer in Social Work  
B.A., 1934, Wisconsin
- MEYER, HERMAN CARL H., 1934 (1942).....Associate Professor of Germanic Languages  
B.A., 1924, Capital University (Ohio); Ph.D., 1936, Chicago
- MICHAEL, FRANZ HENRY, 1942 (1943).....Associate Professor of Far Eastern History;  
Acting Executive Officer of the Far Eastern Department  
D.J.U., 1933, Freiburg
- MILLER, ALFRED LAWRENCE, 1923 (1937).....Professor of Mechanics and Structures  
B.S. in C.E., 1920, C.E., 1926, Washington
- MILLER, CHARLES JOHN, 1927 (1945).....Professor of Marketing  
B.B.A., 1922, M.B.A., 1927, Washington
- MILLER, MARY ANNICE, 1941.....Instructor in Nursing  
R.N., 1934, Good Samaritan Hospital; B.S. in Nursing, 1939, Washington
- MILLER, RICHARD F., 1944.....Acting Associate in English
- MILLS, BLAKE D., 1946.....Associate Professor of Mechanical Engineering  
B.S. in M.E., B.S. in E.E., 1934, Washington; M.S. in M.E., 1935 Massachusetts Institute  
of Technology
- MILLS, CASWELL ALBERT, 1942 (1943).....Instructor in Physical Education  
B.A., 1935, Minot Teachers College
- MITTET, HOLGER, 1946.....Instructor in General Engineering  
B.S. in C.E., 1937, Washington; M.S. in C.E., 1938, Massachusetts Institute of Technology
- MIYAMOTO, SHOTARO FRANK, 1941 (1945).....Assistant Professor of Sociology  
B.A., 1936, M.A., 1938, Washington
- MONROE, DAY, 1943.....Acting Professor of Home Economics  
A.B., 1908, Washburn; 1916, Teachers College, Columbia; Ph.D., 1930, Chicago

- MORE, CHARLES CHURCH, 1900 (1912).....Professor of Structural Engineering  
C.E., 1898, Lafayette; M.C.E., 1899, Cornell; M.S., 1901, Lafayette
- MORGAN, MARGARET BANK, 1945.....Instructor in Nursing  
B.S.N., 1944, Washington
- MORITZ, HAROLD KENNEDY, 1928 (1939).....Associate Professor of Civil Engineering  
B.S.(M.E.), 1921, Massachusetts Institute of Technology
- MOSER, LOUISE G., 1940.....Instructor in Nursing  
A.B., 1930, Wittenberg College; R.N., 1936, Massachusetts General Hospital
- MOULTON, RALPH WELLS, 1941 (1945).....Associate Professor of Chemical Engineering  
B.S. in Chem. E., 1932, M.S. in Chem. E., 1934, Ph.D., 1938, Washington
- MOUNT, JAMES N., 1943.....Acting Instructor in Physics  
B.A., 1920, M.A., 1922, Washington
- MUHLENBERG, HENRY C. K., 1943.....Acting Instructor in Mathematics  
B.S., 1908, U.S. Military Academy
- MULLEMEISTER, HERMAN, 1918 (1945).....Associate Professor of Mathematics  
Ph.D., 1913, Royal University of Utrecht (Holland)
- MUND, VERNON A., 1932 (1937).....Professor of Economics  
B.B.A., 1928, M.B.A., 1929, Washington; Ph.D., 1932, Princeton
- MUNRO, KATHLEEN, 1929 (1945).....Professor of Music  
B.M., 1924, Washington; M.A., 1929, Columbia; Ph.D., 1937, Washington
- MURPHY, CAMPBELL GARRETT, 1945.....Lecturer in Social Work  
B.A., 1936, Swarthmore; M.A., 1943, Washington
- MURTON, CLARENCE CHARLES, 1943.....Associate in Journalism  
B.A., 1924, Washington
- MYERS, MARGARET, 1944.....Acting Instructor in Home Economics  
B.S., 1939, M.S., 1940, Illinois
- MYERS, Lt. (j.g.) ROBERT W., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.S., 1945, U.S. Naval Academy
- NEFF, ELIZABETH, 1945.....Acting Associate in English  
B.A., 1934, M.A., 1941, Oklahoma
- NELSON, EVERETT J., 1930 (1941).....Professor of Philosophy  
B.A., 1923, M.A., 1925, Washington; M.A., 1928, Ph.D., 1929, Harvard
- NELSON, OLIVER, 1945.....Instructor in Speech  
B.A., 1933, M.A., 1939, Washington
- NETTLER, GWYNNE, 1945.....Assistant Professor of Sociology  
B.A., 1934, California; M.A., 1936, Claremont College
- NEWCOMB, WILBUR K., 1945.....Associate in Economics and Business  
B.S., 1923, East Central Teachers College; M.S., 1929, Oklahoma
- NEWHOUSE, DEAN SCHOLFIELD, 1934.....Director of Student Affairs  
B.A., 1930, Washington
- NEWKIRK, PAUL RICHARD, M.D., 1944.....Lecturer in Nursing  
M.D., 1909, Heidelberg
- NIX, MARTHA J., 1928 (1941).....Instructor in English  
B.A., 1922, M.A., 1925, Washington
- NOBLE, GEORGE BERNARD, 1945.....Lecturer in Labor  
B.A., 1915, M.A., 1923, Oxford; Ph.D., 1935, Columbia
- NORMANN, THEODORE F., 1940.....Associate Professor of Music  
B.A., 1925, Macalaster College; M.A., 1928, Columbia
- NORRIS, ALBERT R., 1945.....Instructor in Animal Biology  
B.S. in Anatomy, 1939, Washington
- NORRIS, ANNA CHURCH, 1938.....Research Associate in Oceanography  
B.S., 1924, M.S., 1927, Ph.D., 1931, Washington
- NORRIS, EARL R., 1927 (1940).....Professor of Chemistry  
B.A., 1919, Montana State; Ph.D., 1924, Columbia
- NOTTELMANN, RUDOLPH H., 1927.....Professor of Law  
A.B., 1912, Monmouth; M.A., 1913, Illinois; LL.B., 1922, Yale
- NYGREEN, GLEN T., 1942 (1943).....Counselor for Men  
B.S. in Chemistry, 1939, Washington
- O'BRIEN, ROBERT WILLIAM, 1939 (1945).....Assistant Professor of Sociology  
A.B., 1929, Pomona; A.M., 1931, Oberlin; Ph.D., 1945, Washington
- O'BRYAN, JOSEPH GRATTAN, 1914 (1927).....Professor of Law  
B.A., Jesuit College (Denver); LL.D., 1928, Regis College

- OBST, FRANCES, 1944.....Assistant Professor of Home Economics  
B.S., 1934, M.A., 1938, Minnesota
- OLCOTT, VIRGINIA, 1931 (1945).....Associate Professor of Nursing  
R.N., Peter Bent Brigham Hospital; B.S., 1927, M.S., 1931, Washington
- OLMER, ARTHUR, 1945.....Acting Associate in English  
B.A., 1935, Seattle College
- OLSEN, BJARNE C., 1946.....Acting Instructor in Architecture  
B.A., 1938, Washington
- OLSON, KENNETH, M.D., 1944.....Lecturer in Nursing  
B.S., 1929, Washington; M.D., 1933, Harvard Medical School
- ORDAL, ERLING J., 1937 (1943).....Associate Professor of Bacteriology  
A.B., 1927, Luther; Ph.D., 1936, Minnesota
- ORR, FREDERICK WESLEY, 1925 (1928).....Professor of Speech;  
Executive Officer of the Department of Speech  
B.L., 1901, Drury; G.C.D., 1905, Boston School of Expression; M.A., 1925, Lawrence College
- OSBURN, WORTH J., 1936.....Professor of Remedial and Experimental Education  
A.B., 1903, Central College; A.M., 1904, Vanderbilt; B.S.(Educ.), 1908, Missouri;  
Ph.D., 1921, Columbia
- OSTROTH, JEAN CONNELL, 1944.....Instructor in Nursing  
B.S., 1936, Washington
- PADELFORD, PHILIP S., 1945.....Acting Assistant Professor of History  
A.B., 1935, M.A., 1936, Washington; Ph.D., 1941, Yale
- PALMER, VINSON LE ROY, 1943.....Acting Instructor in Electrical Engineering  
B.S. in E.E., 1940, Washington
- PALMQUIST, EMIL EUGENE, M.D., 1944.....Lecturer in Nursing  
B.A., 1930, Gustavus Adolphus College; M.D., 1937, Northwestern;  
M.P.H., 1942, Michigan
- PATTERSON, AMBROSE, 1919 (1939).....Professor of Painting  
Melbourne National Gallery, Victoria, Australia; Julien, Colorossi and Delocluse Academies,  
Europe
- PATTERSON, LILLIAN, 1944.....Assistant Professor of Nursing  
B.A., 1942, M.A., 1943, Washington
- PAYNE, BLANCHE, 1927 (1942).....Professor of Home Economics  
B.S., 1916, Kansas State Teachers College; M.A., 1924, Columbia
- PEACH, Lt. WILLIAM BERNARD, U.S.N.R., 1946.....Assistant Professor of Naval Science and Tactics  
A.B., 1940, Whitman College
- PEACOCK, ALEXANDER H., M.D., 1935.....Lecturer in Nursing  
M.D., 1903, Pennsylvania
- PEARCE, JOHN KENNETH, 1921 (1943).....Professor of Forestry  
B.S.F., 1921, Washington
- PEARSON, Lt. WALTER ROSCOE (D) L-X, U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
A.B., 1940, Principia College; M.B.A., 1942, Harvard
- PELLEGRINI, ANGELO M., 1930 (1945).....Assistant Professor of Speech  
B.A., 1927, Ph.D., 1942, Washington
- PENDLETON, R. L., CSM, U.S.N., 1945.....Associate in Naval Science and Tactics
- PENINGTON, RUTH, 1928 (1943).....Associate Professor of Design  
B.F.A., 1927, M.F.A., 1929, Washington
- PERKS, LILIAN CHARLOTTE, 1942.....Associate in Mathematics  
B.S., M.A., 1906, St. Andrews, Scotland
- PERROTT, MURIEL, 1945.....Acting Associate in Art  
B.A., 1935, Washington
- PERSON, HENRY, 1937 (1941).....Instructor in English  
B.A., 1927, Ph.D., 1942, Washington
- PETERSON, CLAIRE G., 1944.....Associate in Music
- PETERSON, DONALD LEWIS, 1946.....Acting Instructor in Mechanical Engineering  
B.S. in M.E., 1944, Washington
- PETERSON, JOHN A., 1945.....Associate in General Engineering  
B.S. in Engineering, 1945, Washington
- PETTIBONE, MARIAN, 1945.....Acting Associate in Animal Biology  
B.S., 1931, Linfield; M.A., 1932, Oregon
- PHILLIPS, HERBERT JOSEPH, 1920 (1934).....Assistant Professor of Philosophy  
B.A., 1920, Ph.D., 1933, Washington

- PHILLIPS, RONALD, 1935.....Associate in Music
- PIERCE, FRANK RICHARDSON, 1945.....Lecturer in English
- PIERSON, WILLIAM H., 1937 (1943).....Assistant Professor of Geography  
B.A., 1925, Texas; M.S., 1934, Washington
- PIFER, DRURY AUGUSTUS, 1945.....Acting Associate in Mines  
B.S. in Mining Engineering, 1930, M.S. in Mining Engineering, 1931, Washington
- PLATT, VIRGINIA, 1945.....Acting Instructor in Physics  
B.S. in M.E., 1945, Washington
- PLEIN, ELMER M., 1938 (1945).....Associate Professor of Pharmacy  
Ph.C., B.S., 1929, M.S., 1931, Ph.D., 1936, Colorado
- PLUMB, JAMES RICHARD (S), Lt. Commander, U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.S., 1936, Wyoming
- POSELL, EDWARD A., M.D., 1938.....Lecturer in Nursing  
B.S., 1923, City of New York; M.D., 1927, Boston
- POTTER, EMERSON, 1944.....Acting Associate in English  
B.A., 1935, Washington
- POWELL, SARGENT, 1919 (1943).....Professor of Chemistry  
B.S., 1913, M.S., 1916, Washington; Ph.D., 1919, Illinois
- POWER, Lt. (j.g.) JOHN L. (MC), U.S.N.R., 1946.....Medical Officer for N.R.O.T.C.  
M.D., 1943, University of Tennessee Medical School
- POWERS, FRANCIS FOUNTAIN, 1928 (1939).....Professor of Educational Psychology; Dean of the College of Education  
B.A., 1924, Washington; M.A., 1927, Oregon; Ph.D., 1928, Washington
- POWERS, LELAND E., 1946.....Director of the University Health Service  
M.D., 1933, Iowa; M.S. in Public Health, 1938, Michigan
- PRESTON, HOWARD HALL, 1920 (1922).....Professor of Money and Banking;  
Dean of the College of Economics and Business  
B.S., 1911, Coe College (Iowa); M.A., 1914, Ph.D., 1920, Iowa; LL.D., 1938, Coe College
- PRIES, LIONEL HENRY, 1928 (1938).....Associate Professor of Architecture  
A.B., 1920, California; M.Arch., 1921, Pennsylvania
- PRIOR, ENSIGN DOROTHY MARY, U.S.N.R. (W), 1946.....Supply and Disbursing Officer  
B.A., 1932, Washington State
- RADER, MELVIN MILLER, 1930 (1944).....Associate Professor of Philosophy  
B.A., 1925, M.A., 1927, Ph.D., 1929, Washington
- RADFORD, ETHEL SANDERSON, 1919.....Associate in Chemistry  
B.A., 1925, McGill
- RAGGE, HAL D., 1945.....Acting Associate in General Engineering
- RAHSKOPF, HORACE G., 1928 (1944).....Professor of Speech  
B.A., 1920, Willamette; M.A., 1927, Ph.D., 1935, Iowa
- RAY, DIXY LEE, 1945.....Instructor in Animal Biology  
B.A., 1937, M.A., 1938, Mills College; Ph.D., 1945, Stanford
- RAY, VERNE F., 1933 (1945).....Associate Professor of Anthropology  
B.A., 1931, M.A., 1933, Washington; Ph.D., 1937, Yale
- READ, WILLIAM MERRITT, 1927 (1945).....Professor of Classical Languages; University Editor  
A.B., 1923, DePauw; A.M., 1924, Ph.D., 1927, Michigan
- REDDING, WILLIAM CHARLES, 1943.....Instructor in Speech  
A.B., 1936, A.M., 1937, Denver
- REDFORD, GRANT, 1945.....Assistant Professor of English  
B.S., 1937, Utah State College; M.A., 1940, Iowa
- REEVES, GEORGE SPENCER, 1935 (1939).....Assistant Professor of Physical Education  
B.S., 1933, M.S., 1938, Oregon
- REICHART, NATALIE, 1945.....Acting Associate in Physical Education  
B. S., 1924, Columbia Teachers College; M.A., 1929, New York University
- REISS, GRACE DEWEY, 1945.....Field Work Supervisor in Graduate School of Social Work  
B.A., 1932, Iowa; M. A., 1940, Minnesota
- REITH, GERTRUDE McKEAN, 1945.....Acting Assistant Professor of Geography  
B.A., 1939, M.A., 1940, Washington
- RHODES, FRED H., JR., 1927 (1943).....Associate Professor of Civil Engineering  
B.S., (C.E. and M.E.), 1926, C.E., 1935, Washington
- RHYSNBERGER, WILLERT, 1945.....Acting Instructor in Geography  
B.A., 1937, Washington
- RICHARDS, JOHN W., 1931 (1937).....Professor of Law  
B.A., 1933, Wisconsin; LL.B., 1926; LL.M., 1930, S.J.D., 1931, Harvard

- RICHARDSON, WILLIAM W., 1945.....Lecturer in Nursing  
B.A., 1934, Amherst; M.D., 1938, Pennsylvania
- RIGG, GEORGE BURTON, 1909 (1928).....Professor of Botany  
B.S., 1896, Iowa; A.M., 1909, Washington; Ph.D., 1914, Chicago
- RISEGARI, EILEEN, 1945.....Instructor in Music  
B.A., 1916, Washington; M.A., 1920, Columbia
- RISING, LOUIS WAIT, 1934 (1936).....Professor of Pharmacy  
Ph.G., B.S., 1924, Oregon State; M.S., 1926, Ph.C., Ph.D., 1929, Washington
- RIVENBURGH, VIOLA K., 1944.....Acting Associate in English  
A.B., 1919, Nebraska; M.A., 1925, Hawaii
- ROBBINS, FLOYD DAVID, 1946.....Acting Instructor in Electrical Engineering  
B.S. in E.E., 1925, Washington
- ROBERTS, MILNOR, 1901.....Professor of Mining and Metallurgy; Dean of the College of Mines  
B.A., 1899, Stanford
- ROBERTSON, J. C. H., 1945.....Associate Professor of Forest Management  
B.S.F., 1927, Washington; M.S.F., 1933, California
- ROBINSON, REX J., 1929 (1945).....Professor of Chemistry  
B.A., 1925, DePauw; M.A., 1927, Ph.D., 1929, Wisconsin
- ROCKNESS, JOHN MORRIS, 1946.....Acting Instructor in Far Eastern Studies  
Graduate in Theology, Prairie Bible Seminary
- ROGERS, PATRICIA COLLINS, 1945.....Instructor in Nursing
- ROLLER, JULIUS A., 1945.....Assistant Professor of Accounting  
B.B.A., 1934, Washington
- ROSEN, MORITZ, 1909 (1928).....Professor of Music  
Graduate, Warsaw Conservatory, Russia
- ROWLANDS, THOMAS McKIE, 1928 (1943).....Associate Professor of General Engineering  
B.S. (Nav. Arch. and Marine Engr.), 1926, Massachusetts Institute of Technology
- ROWNTREE, JENNIE IRENE, 1925 (1946).....Professor of Home Economics; Director of the School of Home Economics  
B.S., 1918, Wisconsin; M.S., 1924, Chicago; Ph.D., 1929, Iowa
- RULIFSON, LEONE HELMICH, 1926 (1943).....Associate Professor of Physical Education  
B.S., 1922, M.A., 1935, Washington
- RUTHERFORD, FREDERICK WARNER, M.D., 1942.....Lecturer in Nursing  
A.B., 1930, Illinois; M.D., 1935, Harvard Medical School
- ST. CLAIR, LAURA P., 1937.....Associate in English  
A.B., 1915, West Lafayette; M.A., 1917, Adrian College, Michigan
- SAMSON, VICTOR J., 1937.....Lecturer in Fisheries  
B.S., 1930, Washington
- SANDERMAN, LLEWELLYN ARTHUR, 1928 (1944).....Assistant Professor of Physics  
B.S., 1923, Linfield; M.S., 1931, Ph.D., 1943, Washington
- SANDS, R. B., CGM, U.S.N., 1944.....Associate in Naval Science and Tactics
- SAUNDERS, LEONA, 1945.....Associate Counselor for Women  
A.B., 1933, Washington State College
- SAVAGE, GEORGE MILTON, JR., 1935 (1945).....Associate Professor of English  
B.A., 1928, M.A., 1932, Ph.D., 1935, Washington
- SCHAFFENEGGER, Lt. JOHN V. (D), U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
LL.B., 1937, De Paul University
- SCHALLER, GILBERT SIMON, 1922 (1937).....Professor of Mechanical Engineering  
B.S., 1916, Illinois; M.B.A., 1925, Washington
- SCHARDT, L. ALVIN, 1944.....Associate in Music
- SCHERER, ALFRED E., 1943.....Acting Instructor in Physics  
Ph.B., 1911, Hamline; M.S., 1917, Washington
- SCHOFFER, VICTOR B., 1938.....Lecturer in Oceanography  
B.S., 1930, M.S., 1932, Ph.D., 1936, Washington
- SCHENK, C. D., 1945.....Acting Associate in General Engineering  
B.S., 1939, Washington State College
- SCHERTEL, MAX, 1931 (1938).....Instructor in German  
B.A., 1923, M.A., 1928, Ph.D., 1938, Washington
- SCHLOSS, Lt. WILLIAM HAROLD, U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.A., 1940, Brooklyn College
- SCHMID, CALVIN F., 1937 (1941).....Professor of Sociology  
B.A., 1925, Washington; Ph.D., 1930, Pittsburgh

- SCHRADER, O. H., JR., 1936 (1945).....Associate Professor of Forestry  
B.S.F., 1931, Washington; M.S., 1932, Wisconsin
- SCHRAG, CLARENCE, 1944.....Associate in Sociology  
B.A., 1939, Washington State College
- SCHRAM, LLOYD W., 1940 (1945).....Instructor in Political Science;  
Director, Division of Adult Education and Extension Services  
B.A., 1934, LL.B., 1937, Washington; LL.M., 1938, Harvard
- SCHROYER, Lt. COMDR. FRANKLIN KARL, U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
B.A., 1939, Allegheny College; M.A., 1941, Buffalo
- SCOTT, DAVID B., 1943.....Acting Instructor in Physics  
B.S., 1938, Seattle Pacific
- SCUDDER, Lt. (jg) FRANKLIN E., U.S.N.R., 1946.....Assistant Professor of Naval Science and Tactics  
B.A., 1943, U.C.L.A.
- SEELS, FRANCES WINGARD, 1943.....Instructor in Nursing  
B.S.N., 1942, Washington
- SERGEV, SERGIUS, 1923 (1939).....Associate Professor of Civil Engineering  
B.S. in M.E., 1923, M.E., 1931, Washington
- SHATTUCK, WARREN L., 1935 (1941).....Professor of Law; Admin. of Out-of-State Tuition  
A.B., LL.B., 1934, Washington
- SHEFELMAN, S. HAROLD, 1930.....Lecturer in Law  
Ph.B., 1920, Brown; LL.B., 1925, Yale
- SHELDON, CHARLES S., II, 1940.....Instructor in Transportation  
B.A., 1936, M.A., 1938, Washington; A.M., 1939, Harvard
- SHERMAN, JOHN CLINTON, 1942 (1943).....Instructor in Geography  
A.B., 1937, Michigan; M.A., 1942, Clark
- SHERWOOD, D. W., 1945.....Instructor in Chemistry  
B.S., 1939, Purdue; Ph.D., 1942, California
- SHIH, YU-CHUNG (VINCENT), 1945.....Assistant Professor in Chinese Language, Literature, and Philosophy  
B.A., 1925, Fukien Christian University, Foochow; M.A., 1930, Yenching University, Peking; Ph.D., 1939, University of Southern California
- SHINN, EVERILDA B., 1946.....Acting Instructor in Home Economics  
A.B., 1928, Washington
- SHOLLEY, JOHN BURRILL, 1932 (1939).....Professor of Law  
LL.B., 1932, Washington; J.S.D., 1937, Chicago
- SHUCK, GORDON RUSSELL, 1918 (1937).....Professor of Electrical Engineering  
E.E., 1906, Minnesota
- SIDNEY, THOMAS KAY, 1903 (1927).....Professor Emeritus of Latin and Greek  
A.B., 1891, Toronto; Ph.D., 1900, Chicago
- SIMPSON, FLOYD ROBERT, 1943 (1945).....Assistant Professor of Economics and Business  
B.A., 1933, M.A., 1938, Ph.D., 1943, Minnesota
- SIMPSON, LURLINE VIOLET, 1924 (1944).....Associate Professor of French  
B.A., 1920, M.A., 1923, Ph.D., 1928, Washington
- SIVERTZ, VICTORIAN, 1926 (1936).....Assistant Professor of Chemistry  
B.S., 1922, Washington; M.S., 1924, West Virginia; Ph.D., 1926, McGill
- SKAHEN, JULIA GOODSSELL, 1928 (1945).....Acting Assistant Professor of Physical Education  
B.S., 1926, M.S., 1928, Ph.D., 1937, Washington
- SKINNER, MACY MILLMORE, 1916 (1928).....Professor of Foreign Trade  
A.B., 1894, A.M., 1895, Ph.D., 1897, Harvard
- SKOHAN, OLGA E., 1945.....Acting Associate in Romanic Languages  
B.S., 1942, Tampa
- SMITH, CHARLES WESLEY, 1905 (1926).....Librarian; Professor of Librarianship  
B.A., 1903, B.L.S., 1905, Illinois
- SMITH, Lt. DAVID S., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics  
A.B., 1939, Dartmouth; Degré Supérieur, Sorbonne, 1938, Paris, France; LL.B., 1942, Columbia
- SMITH, FREDERICK CHARNLEY, 1926 (1941).....Associate Professor of Civil Engineering  
B.S. in C.E., 1926, C.E., 1929, Washington
- SMITH, GEORGE SHERMAN, 1921 (1941).....Professor of Electrical Engineering  
B.S. in E.E., 1916, E.E., 1924, Washington
- SMITH, HARRY EDWIN, 1914 (1945).....Professor of Insurance; Director of Correspondence and Extension Classes  
A.B., 1906, DePauw; Ph.D., 1912, Cornell
- SMITH, HAZEL MARTHA, 1944.....Acting Instructor in Home Economics  
B.S., 1927, Oregon

- SMITH, JANE K., 1943.....Instructor in Nursing  
B.S., 1943, Washington
- SMITH, STEVENSON, 1911 (1916).....Professor of Psychology;  
Executive Officer, Department of Psychology; Director of the Gatzert Foundation  
A.B., 1904, Ph.D., 1909, Pennsylvania
- SNADER, ELIZABETH, 1945.....Instructor in Music  
B.A., 1935, New England Conservatory of Music; M.A., 1938, Michigan
- SNYDER, WILLIAM ARTHUR, 1940 (1943).....Instructor in Mechanical Engineering  
B.S. in M.E., 1939, Minnesota
- SODERSTROM, KENNETH MALCOLM, M.D., 1941.....Lecturer in Nursing  
M.D., 1931, Nebraska
- SOLA, ANDERS, 1945.....Associate in Animal Biology  
B.S., 1944, Washington
- SOMERS, RAYMOND H., M.D., 1935.....Lecturer in Nursing  
B.S., 1921, M.D., 1921, Northwestern
- SOULE, ELIZABETH STERLING, 1920 (1934).....  
Professor of Nursing; Dean of the School of Nursing  
R.N., Malden Hospital, Massachusetts; B.A., 1926, M.A., 1930, Washington; D.Sc.,  
Montana State College, 1944
- SPECTOR, IVAR, 1931 (1942).....Associate Professor of Russian Language and Literature  
B.A., 1915, Yekaterinoslav (Russia); M.A., 1919, Teachers Seminar (Russia);  
M.A., 1926, Northwestern; Ph.D., 1928, Chicago
- SPEIR, EDWARD B., 1946.....Medical Lecturer in Nursing  
B.A., 1929, University of Kansas; M.D., 1933, University of Kansas Medical School
- SPERLIN, OTTIS BEDNEY, 1921 (1923).....Lecturer in English  
A.B., 1903, Indiana; Ph.M., 1908, Chicago
- SPRAGG, AMOREL N., 1944.....Acting Associate in Art  
B.A., 1934, Washington
- STANDARD, ELLEN MAE, 1944....Field Work Supervisor in Graduate School of Social Work  
B.A., 1930, Northwest Nazarene College; M.A., 1931, Willamette
- STANISLAWSKI, DAN, 1945.....Assistant Professor of Geography  
B.A., 1937, Ph.D., 1943, California
- STANSBY, MAURICE E., 1938.....Lecturer in Fisheries  
B.S., 1930, M.S., 1933, Minnesota
- STEELE, CORALEE I., 1946.....Instructor in Nursing  
B.S. in Nursing, 1933, Washington
- STEINER, JESSE FREDERICK, 1931.....Professor of Sociology and Social Work  
B.A., 1901, Heidelberg College; M.A., 1913, Harvard; Ph.D., 1915, Chicago;  
Litt.D., 1937, Heidelberg College
- STEVENS, BELLE, 1932.....Research Associate in Oceanography and Zoology  
Ph.D., 1931, Washington
- STEVENS, EDWIN B., 1910 (1936).....Professor of Higher Education and Guidance  
A.B., 1896, Tufts College; A.M.(Educ.), 1899, Harvard
- STEVENS, GEORGE C., 1945.....Lecturer in Social Work  
M.D., 1927, Toronto
- STIRLING, BRENTS, 1932 (1943).....Associate Professor of English  
LL.B., 1926, Ph.D., 1934, Washington
- STOLESON, HELEN, 1945.....Instructor in Nursing  
B.S., 1940, Minnesota
- STONE, EDWARD NOBLE, 1910 (1940).....Professor Emeritus of Classical Languages  
A.B., 1891, M.A., 1893, Olivet
- STUBBS, LUCILE, 1940.....Associate in English  
B.A., 1922, Colorado
- STUNTZ, DANIEL ELLIOT, 1940 (1945).....Assistant Professor of Botany  
B.S., 1935, Washington; Ph.D., 1940, Yale
- SULLIVAN, C. L., 1935.....Instructor in Mechanical Engineering
- SUNOO, H. W., 1943.....Instructor in Far Eastern Studies  
A.B., 1942, Pasadena College
- SUNOO, HELEN W., 1945.....Acting Associate in Far Eastern Studies  
B.A., 1937, San Francisco
- SVIHLA, ARTHUR, 1938 (1943).....Professor of Zoology;  
Executive Officer of the Department of Animal Biology  
A.B., 1925, Illinois; Ph.D., 1931, Michigan
- SVIHLA, RUTH DOWELL, 1940.....Research Associate in Zoology and Botany  
A.B., 1920, Smith; M.S., 1923, Illinois; Ph.D., 1930, Michigan

- SWARNER, RACHEL, 1945.....Associate in Music
- SWYGARD, KLINE R., 1943.....Associate in Political Science  
B.A., 1935, Washington
- SYLVESTER, HOWARD, 1943.....Acting Associate in English  
B.A., 1937, M.A., 1941, New Mexico
- TARTAR, HERMAN VANCE, 1917 (1927).....Professor of Chemistry; Director of Chemical Laboratories  
B.S., 1902, Oregon State; Ph.D., 1920, Chicago
- TATSUMI, HENRY S., 1928 (1941).....Assistant Professor of Japanese  
B.A., 1933, M.A., 1935, Washington
- TAYLOR, EDWARD AYERS, 1929.....Professor of English  
B.A., 1909, Denver; M.A., 1918, Ph.D., 1925, Chicago
- TAYLOR, ROBERT LINCOLN, 1941 (1945).....Professor of Law  
B.A., 1927, Yale; J.D., 1930, Northwestern
- TENNANT, HAROLD E., 1944.....Acting Instructor in Geography  
B.A., 1933, M.A., 1937, Washington
- TERRELL, MARGARET ELMA, 1928 (1944).....Professor of Home Economics; Director of Commons; Business Director of Dining Halls  
B.A., 1923, Penn College; M.A., 1927, Chicago
- TERRY, MIRIAM, 1930 (1937).....Assistant Professor of Music  
B.M., 1926, Washington
- THAYER, RALPH IRA, 1945.....Assistant Professor of Economics and Business  
B.S., 1937, Northwestern; M.A., 1944, Washington
- THAYER, THEODORE, 1945.....Assistant Professor of History  
B.A., 1934, M.A., 1937, University of Buffalo; Ph.D., 1940, Pennsylvania
- THIEL, SERRETA, 1945.....Instructor in Music
- THOMAS, BERNERD O. A., 1946.....Associate Professor of Oral Pathology;  
Acting Executive Officer of the Department of Oral Pathology  
D.D.S., 1935, B.A., 1936, M.S., 1939, Minnesota; D.D.S., 1940, Ph.D., 1945, Columbia
- THOMAS, HARLAN, 1926.....Professor of Architecture; Director Emeritus of the School of Architecture  
B.S., 1894, Colorado State College
- THOMPSON, THOMAS G., 1919 (1929).....Professor of Chemistry; Director of Oceanographic Laboratories  
A.B., 1914, Clark College; M.S., 1915, Ph.D., 1918, Washington
- THOMPSON, WILLIAM F., 1930.....Professor of Fisheries; Director of the School of Fisheries  
B.A., 1911, Ph.D., 1931, Stanford
- THOMSON, DAVID, 1902.....Professor of Latin; Vice-Dean of College of Arts and Sciences; Vice-President Emeritus  
B.A., 1892, Toronto; LL.D., 1936, British Columbia
- THORGRIMSON, O. B., 1937.....Lecturer in Law  
LL.B., 1901, Nebraska
- THOMLE, KRISTINE, 1945.....Acting Instructor in Scandinavian
- THORSON, ELEANOR NEWBILL, 1945.....Clinical Instructor in Nursing  
B.S.N., 1943, Washington
- TILLOTSON, H. GENE, 1945.....Instructor in Nursing  
B.S., 1941, Minnesota
- TINSLEY, E. T., C.Stk., U.S.N., 1945.....Associate in Naval Science and Tactics
- TORNEY, JOHN A., Jr., 1930 (1937).....Assistant Professor of Physical Education  
B.S., 1928, Washington; M.A., 1930, Columbia
- TRIBBLE, AILIENE P., 1946.....Acting Instructor in Physical Education  
B.S., 1923, Washington
- TRUAX, ARTHUR, 1924.....Lecturer in Finance
- TSCHUDIN, MARY STICKLES, 1942 (1944).....Assistant Professor of Nursing  
B.S. in Nursing, 1935, M.S., 1939, Washington
- TUELL, JOSEPH IRVING, M.D., 1942.....Instructor in Nursing  
B.S., M.D., 1932, Oregon
- TURNER, EDWARD L., 1945.....Professor of Internal Medicine; Dean of the School of Medicine  
B.S., 1922, M.S., 1923, Chicago; M.D., 1928, Pennsylvania
- TURNER, MABEL ALEXANDRA, 1941.....Instructor in Librarianship  
A.B., 1926, Oregon; B.S. in L.S., 1931, Columbia
- TUSTIN, WHITNEY, 1935.....Associate in Music
- TYLER, INEZ, 1945.....Lecturer in Graduate School of Social Work  
B.A., 1927, Oregon; M.A., 1943, Chicago School of Social Administration



- TYLER, RICHARD G., 1929.....Professor of Sanitary Engineering  
C.E., 1908, Texas; B.S. in C.E., 1910, Massachusetts Institute of Technology
- TYMSTRA, SYBREN RUURD, 1929 (1945).....Professor of Mechanical Engineering  
M.E., 1905, Zwickau
- UEHLING, EDWIN A., 1936 (1943).....Associate Professor of Physics  
B.A., 1925, Wisconsin; M.A., 1930, Ph.D., 1932, Michigan
- ULBRICKSON, ALVIN M., 1927.....Associate in Physical Education  
B.B.A., 1927, Washington
- UMPHREY, GEORGE WALLACE, 1911 (1922).....Professor of Romanic Languages  
A.B., 1899, Toronto; A.M., 1901, Ph.D., 1905, Harvard; Litt.D., 1920, San Marios (Lima)
- UTTERBACK, CLINTON LOUIS, 1918 (1934).....Professor of Physics and Executive  
Officer of Department of Physics; Director of Physics Laboratories  
B.S., 1908, Purdue; M.S., 1918, Washington; Ph.D., 1926, Wisconsin
- VAIL, CURTIS C. D., 1939.....Professor of Germanic Languages and Literature;  
Executive Officer of the Department of Germanic Languages and Literature  
A.B., 1924, Hamilton; M.A., 1929, Ph.D., 1936, Columbia
- VAN HORN, ROBERT B., 1925 (1938).....Professor of Hydraulic Engineering;  
Executive Officer of the Department of Civil Engineering  
B.S. in C.E., 1916, C.E., 1926, Washington
- VAN OGLE, LOUISE, 1915 (1932).....Associate Professor of Music  
Theoretical work with Dr. Bridge, Chester, England; Richter, Leipzig;  
Piano, Godowsky, Lhevinne, Berlin; Harold Bauer, Paris
- VAREY, EDMUND B., 1945.....Associate in General Engineering  
B.S. in C.E., 1945, Washington
- VICKNER, BERTHA ALMEN, 1920.....Associate in English  
B.A., 1910, Gustavus Adolphus; M.A., 1917, Washington
- VICKNER, EDWIN JOHN, 1912.....Professor of Scandinavian Languages;  
Executive Officer of the Department of Scandinavian Languages  
A.B., 1901, A.M., 1902, Ph.D., 1905, Minnesota
- VINCENT, ELEANOR MAY, 1943.....Associate in Journalism  
B.A., 1934, Whitman
- VON BREVERN, MAXIM, 1934 (1942).....Associate Professor of Political Science  
Graduate, Imperial and Royal Maria Theresian Military Academy, Wienerneustadt, Austria,  
1907; Ph.D., 1935, Washington
- WADE, ARTHUR E. M.D., 1928.....Lecturer in Home Economics  
B.S., Cornell College; M.D., 1905, Sioux City College of Medicine
- WAGNER, CHARLOTTE F., 1940.....Associate in Speech  
B.A., 1937, Washington
- WALTERS, MARGARET C., 1929 (1940).....Instructor in English  
B.A., 1917, Mills; M.A., 1919, Yale
- WARDALL, CEDRIC M., 1945.....Acting Instructor in Economics and Business  
B.B.A., 1930, M.B.A., 1945, Washington
- WARNER, FRANK MELVILLE, 1913 (1937).....Professor of Engineering Drawing  
B.S.(M.E.), 1907, Wisconsin
- WARNING, MARGARET, 1944.....Instructor in Home Economics  
B.A., 1936, Morningside College
- WATSON, LYLE S., 1945.....Acting Instructor in Physics  
B.A., 1934, Seattle Pacific College; M.A., 1936, Washington
- WEAVER, CHARLES EDWIN, 1907 (1921).....Professor of Paleontology  
B.S., 1904, Ph.D., 1907, California
- WEBSTER, DONALD H., 1939.....Associate Professor of Political Science;  
Director of Bureau of Governmental Research  
B.A., 1929, LL.B., 1931, Ph.D., 1933, Washington
- WEISER, RUSSELL S., 1935 (1942).....Associate Professor of Bacteriology  
B.S., 1930, M.S., 1931, North Dakota State; Ph.D., 1934, Washington
- WELANDER, ARTHUR D., 1937 (1943).....Instructor in Fisheries  
B.S., 1934, Washington
- WELCH, RALPH, 1942.....Associate in Physical Education
- WELKE, WALTER, 1929 (1943).....Associate Professor of Music  
B.M., 1927, Michigan
- WERNER, AUGUST, 1931.....Professor of Music  
B.S., 1913, College of Agriculture, Stend, Norway
- WESNER, ELENORA, 1924 (1945).....Instructor in German  
A.B., 1915, Chicago; M.A., 1923, Northwestern
- WEST, FRANK B., 1946.....Assistant Professor of Chemical Engineering  
B.S. in Chem. E., 1936, Ph.D., 1939, Minnesota

- WHITE, EDITH MARY, 1945.....Instructor in Nursing  
B.S., 1939, Kansas State College; M.N., 1942, Western Reserve University
- WHITE, NANCY, 1944.....Acting Associate in Drama  
B.A., 1933, Washington
- WHITTLESEY, WALTER BELL, 1909 (1929).....Assistant Professor of French  
B.A., 1907, M.A., 1909, Washington
- WILCOX, ELGIN R., 1921 (1936).....Professor of General Engineering;  
Executive Officer of the General Engineering Department  
B.S., 1915, Washington; Met. E., 1919, U.S. Bureau of Mines
- WILKIE, RICHARD FRANCIS, 1937 (1943).....Instructor in German  
B.A., 1934, M.A., 1936, Washington
- WILLIAMS, CURTIS TALMADGE, 1920 (1936).....Professor of Methods and Philosophy of Education  
A.B., 1913, Kansas State Normal; A.M., 1914, Ph.D., 1917, Clark
- WILLIS, LEOTA SNIDER, 1943.....Associate in English  
B.A., 1923, California; M.A., 1930, Ph.D., 1931, Pennsylvania; Cert. of Studies, 1932, Sorbonne, Paris, France
- WILLIS PARK WEED, JR., Captain, MC-V(S), U.S.N.R., 1940.....Lecturer in Naval Science and Tactics  
B.S., 1916, M.D., 1931, Pennsylvania
- WILSON, CLOTILDE, 1929 (1937).....Assistant Professor of Romanic Languages  
B.A., 1926, M.A., 1927, Ph.D., 1931, Washington
- WILSON, FLORENCE BERGH, 1929 (1930).....Assistant Professor of Music  
B.M., 1917, B.A., 1924, Washington; M.A., 1925, Columbia
- WILSON, GEORGE SAMUEL, 1906 (1924).....Professor of Mechanical Engineering; Consulting Engineer  
B.S., 1906, Nebraska
- WILSON, RUTH, 1936 (1945).....Associate Professor of Physical Education  
B.S., 1931, Utah; M.S., 1936, Wisconsin
- WILSON, WILLIAM CHARLES EADE, 1926 (1940).....Associate Professor of Spanish  
A.B., 1922, Montana; M.A., 1925, Ph.D., 1928, Washington
- WILSON, WILLIAM R., 1919 (1929).....Professor of Psychology  
B.A., 1917, M.S., 1921, Ph.D., 1925, Washington
- WINDLE, WILLIAM F., 1946.....Professor of Anatomy; Executive Officer of the Anatomy Dept.  
B.S., 1921, Denison; M.S., 1923, Ph.D., 1926, Northwestern
- WINKENWERDER, HUGO, 1909 (1912).....Professor of Forestry; Dean Emeritus of the College of Forestry  
B.S., 1902, Wisconsin; M.F., 1907, Yale
- WINNERS, ELSA, 1943 (1945).....Acting Instructor in Economics and Business  
Ph.D., 1933, Berlin, Germany
- WINSLOW, ARTHUR MELVIN, 1918 (1927).....Professor of Mechanical Engineering  
Ph.B., 1903, Brown; B.S., 1906, Massachusetts Institute of Technology
- WINTHER, SOPHUS KEITH, 1925 (1940).....Professor of English  
B.A., 1918, M.A., 1919, Oregon; Ph.D., 1926, Washington
- WOOD, CARL PAIGE, 1918 (1928).....Professor of Music; Director of the School of Music  
B.A., 1906, M.A., 1907, Harvard
- WOODCOCK, EDITH, 1930 (1945).....Associate Professor of Music  
B.M., 1925, Rochester; M.M., 1936, Washington
- WOOLSTON, HOWARD B., 1919.....Professor of Sociology  
A.B., 1898, Yale; S.T.B., 1901, Chicago; M.A., 1902, Harvard; Ph.D., 1909, Columbia
- WORCESTER, JOHN LOCKE, 1917 (1922).....Professor of Anatomy  
M.D., 1900, Birmingham School of Medicine
- WRIGHT, FLORENCE P., 1943.....Acting Associate in English  
B.S., 1926, M.A., 1938, Minnesota
- WRIGHT, PAUL A., 1945.....Instructor in Animal Biology  
B.S., 1941, Bates College; M.A., 1942, Ph.D., 1944, Harvard
- WULFEKOETTER, GERTRUDE, 1944.....Assistant Professor of Librarianship  
B.A., 1917, M.A., 1939, Cincinnati; B.L.S., 1923, Univ. of Illinois Library School
- YAGGY, ELINOR M., 1943.....Acting Associate in English  
B.A., 1929, M.A., 1939, Idaho
- YANG, C. K., 1944 (1945).....Assistant Professor of Far Eastern  
B.A., 1933, M.A., 1934, Yenching University; Ph.D., 1939, Michigan
- YATES, ELMER HOWARD, 1943.....Acting Instructor in Mathematics  
A.B., 1913, Whitman
- YOUNGKEN, HEBER WILKINSON, 1942.....Instructor in Pharmacy  
A.B., 1935, Bucknell; M.S., 1940, Ph.D., 1942, Minnesota

- ZEUSLER, FREDERICK A., Rear Admiral, U.S.C.G., 1937.....Lecturer in Oceanography  
Graduate, Coast Guard School
- ZILLMAN, LAWRENCE J., 1930 (1943).....Associate Professor of English  
B.A., 1928, Ph.D., 1936, Washington
- ZUCKERMAN, HERBERT SAMUEL, 1939 (1943).....Assistant Professor of Mathematics  
B.S., 1932, California Institute of Technology; M.S., 1934, Chicago;  
Ph.D., 1936, California
- ZUMWALT, EUGENE V., 1936 (1940).....Assistant Professor of Forestry  
Cert., 1931, New York State Ranger School; B.S.F., 1934, University of California;  
M.S.F., 1938, Washington

#### WALKER-AMES PROFESSORS AND LECTURERS

- BEACH, JOSEPH WARREN, 1946.....Professor of English
- BONIFAS, PAUL, 1945-1946.....Lecturer in School of Art
- CHEN, HAN-SENG, 1946.....Professor of Far Eastern Studies
- DODD, STEWART C., 1946.....Lecturer in Sociology  
American University of Beirut
- DUCASSE, CURT J., 1946.....Lecturer in Philosophy
- LEIGH, ROBERT D., 1946.....Lecturer in Sociology  
Professor of Political Science at the University of Chicago
- PAYNE, B. IDEN, 1946.....Producer and Lecturer in Drama  
Former Director of the Shakespeare Memorial Theatre at Stratford-on-Avon
- SPEIDEL, C. C., 1946.....Lecturer  
Department of Anatomy, University of Virginia

#### PERSONS WHO PARTICIPATED IN THE INTENSIVE SESSION

January and February, 1946

- BRAZIER, SUSAN H.....Associate in Speech
- DOWD, LAURENCE P.....Associate in Economics and Business
- HENDERSON, EVELYN C.....Acting Instructor in Physics
- KIRSCHNER, E. E.....Acting Instructor in Mathematics
- McINTYRE, MICHAEL P.....Acting Associate in Geography
- MARTS, MARION.....Acting Instructor in Geography
- MUHLENBERG, H. C. K.....Acting Instructor in Mathematics
- PADELFORD, PHILIP.....Acting Assistant Professor of History
- PURDUE, ROBERT.....Lecturer in Economics and Business
- ROWE, OLIVER.....Acting Instructor in Physics
- SMITH, WILLARD S.....Associate in Economics and Business
- STUCKY, PHILIP.....Acting Instructor in Mathematics
- WALDERHAUG, ALBERT.....Associate in Economics and Business
- WALTERS, MARGARET.....Instructor in English
- WINNERS, ELSA.....Acting Instructor in Economics and Business
- ZUCKERMAN, MRS. H.....Acting Instructor in Mathematics

#### LECTURERS IN THE SPECIAL EVENING LAW REFRESHER COURSES, 1945-46

Booth, Wayne C.  
Brown, Stephen Darden  
Cross, Harry M.  
Davis, John M.  
Dunn, Bryant R.  
Falknor, Judson F.  
Foster, Ralph H.  
Franklin, Edward S.  
Gallagher, Marian G.  
Gose, J. Gordon  
Graham, Robert W.

Green, Milton D.  
Harsch, Alfred  
Horswill, Erle W.  
Howe, James B.  
Johnson, Bernard A.  
Kennett, John J.  
LeSourd, F. A.  
Mechem, Frank L.  
Merritt, Fred S.  
Reaugh, Dan M.  
Richardson, Phillip W.

Schweppe, Alfred J.  
Seering, Harold A.  
Shattuck, Warren L.  
Shidler, Roger L.  
Stephan, Albert E.  
Stone, Charles I.  
Thomas Millard J.  
Thorgrimson, O. B.  
Wright, Raymond G.

## THE UNIVERSITY OF WASHINGTON

It was more than three-quarters of a century ago, in 1861, that the University of Washington was established in Seattle by act of the territorial legislature.

On November 4 of that same year classes were opened in a building erected on a ten-acre tract, then on the outskirts of the pioneer city but which now lies in the heart of Seattle's metropolitan district near the Olympic Hotel.

By 1890 the institution had outgrown its first campus and in 1895 it was moved to its present location bordering on Lake Washington and Lake Union. Generally considered one of the most beautiful campuses in the country, it includes more than 600 acres, with a shore line of more than a mile on Lake Washington and a quarter of a mile on Lake Union.

From that first ten-acre campus has grown the great, modern University of Washington. From the first pioneer frame building has developed a plant valued at more than ten million dollars, including 75 vine-covered buildings, Modern Gothic in their style of architecture.

Its faculty has increased from one man in 1861 to more than 500 and its student-body from an original 37 to more than 12,000.

### Interesting Facts

Facilities at the University of Washington compare favorably with the best in the country.

**Library Facilities.** The University Library contains 460,183 bound volumes and receives currently about 8,593 serial publications. The Henry Suzzallo Library building is the most beautiful structure on the campus. It houses the basic collection of books and provides facilities for students and faculty.

Specialized library facilities are provided in the fields of science, the social studies, and Pacific Northwest Americana. A branch in Parrington Hall gives reference service in the field of English language and literature. There are several departmental collections on the campus.

The Pacific Northwest Bibliographic Center, sponsored by the Pacific Northwest Library Association, is located in the library building. It contains a Union Catalog of the books in some thirty libraries of the Pacific Northwest and is used as a basis for interlibrary loans and other forms of cooperative library service.

The Law Library, with 101,133 volumes (September, 1945), contains the decisions of all English and American courts of last resort, and the reported decisions of all the lower courts. Extensive runs of the English, American, and colonial statutes are available, and all legal periodicals published in the English language are received.

Especially noteworthy in the Drama Library collection (17,705 volumes) are 3,000 acting editions of nineteenth-century plays; 500 original manuscript plays; and 1,000 volumes in various fields of drama from the private library of Barrett H. Clark, the well-known editor, critic, and historian. The library also possesses a considerable number of theatrical prints, programs, masks, and other material of historical importance, including a collection of 15,000 theatrical photographs acquired from J. Willis Sayre, drama critic of the *Seattle Post-Intelligencer*.

The libraries of the University, together with the Seattle Public Library and other Seattle library agencies, provide more than a million volumes for the use of students and research workers.

**Museum.** The Museum of the University of Washington was created as the Washington State Museum by law in 1899. Its collections are representative of the natural science and anthropology of the Northwest and the Pacific. The Museum also serves the State through traveling exhibits which are available to schools, libraries, and organized study groups.

**Henry Art Gallery.** The Horace C. Henry Gallery, with its collection representing the work of some 200 nineteenth-century painters, was the gift of the late Horace C. Henry of Seattle. Supplementing the permanent collection, traveling exhibitions are shown during the year.

**University Press.** The University Press, located in Commerce Hall, is a modern and complete printing plant. It publishes the *Pacific Northwest Quarterly* (editor, Charles M. Gates, Ph.D.), the *Modern Language Quarterly* (editor, Edward God-

frey Cox, Ph.D.), the *College of Education Record* (editor, John E. Corbally, Ph.D), and *Pacific Northwest Industry* (editor, Charles J. Miller, M.B.A.), in addition to various scholarly monographs and other general University publications.

**Engineering and Mines Experiment Stations.** The Department of Commerce maintains at the College of Mines on the campus, its Northwest Experiment Station which serves the Pacific Northwest and the coast regions of Alaska.

The Engineering Experiment Station was organized in 1917 to coordinate the engineering investigations in progress and to facilitate the development of industrial research in the University.

**Soil Mechanics Laboratory.** The University has the only Soil Mechanics Laboratory in the Pacific Northwest and one of the finest west of the Mississippi. The Soil Mechanics Laboratory contains apparatus for testing the consolidation, permeability, compaction, shear, triaxial compression, capillarity, plasticity, and grain size of soils. It is also supplied with mixers, grinders, balances, and supplementary equipment for research on a wide variety of problems in foundation and earthwork engineering.

**Structural Research Laboratories.** The University has the only large wind tunnel in the country for the aerodynamic testing of bridges. Its recently completed structural materials laboratory houses a 2,000,000-pound testing machine with 120 inches between screws, a number of smaller machines ranging in capacity from 30,000 to 300,000 pounds, and complete electronic apparatus for stress and strain measurement.

**Oceanographic Laboratories.** The University has one of the leading Oceanographic Laboratories of the world. Situated on a 480-acre tract on San Juan Island, the laboratories are ideally located for the study of many of the problems of the sea—biological, physical, and chemical. In this region the marine flora and fauna are very extensive and diversified and extreme physical and chemical conditions may be found over a relatively small area.

**School of Fisheries.** The University of Washington School of Fisheries is the only one in this country and is one of only two fisheries schools in the world. Adjacent as it is to both fresh and salt water, the University is ideally located for such a school. Numerous commercial fisheries, canneries, smokehouses, cold storage plants, and fertilizer plants are to be found in Seattle and the surrounding area. The School of Fisheries also has a hatchery, fish ponds, and experimental equipment—all of which, together with the other natural advantages, present unrivaled opportunities for the study of fisheries, aquatic life, and fish culture.

**Wind Tunnel.** One of the few large wind tunnels owned and operated by educational institutions in the United States is located on the University campus. The Guggenheim Aeronautical Laboratory and the Boeing Aerodynamical Laboratory furnish means for carrying on research in the various phases of aeronautical engineering. These laboratories are equipped with wind tunnels for testing air foils and propellers, and the necessary equipment for testing engines and determining the strength of aeronautical structures.

**Bureau of Business Research.** The University of Washington maintains, in the College of Economics and Business, a Bureau of Business Research which has the responsibility of applying scientific research methods to problems of economics and business in the State and throughout the Pacific Northwest. This Bureau cooperates with other departments of the University, with the Washington State Planning Council, and with local, state, and national business and professional groups interested in research in business and economic problems. The Bureau issues a monthly journal, *Pacific Northwest Industry*, which contains basic statistical data, bibliography, and timely articles. From time to time the Bureau publishes reports on its researches.

**Hydraulics Laboratory.** The hydraulics laboratory, located on the shore of Lake Union, offers the latest facilities for investigation of a large number of problems in experimental hydraulics and water power.

**Pack Forest and Lee Field Laboratory.** The Charles Lathrop Pack Forest, a tract of approximately 2,000 acres located at LaGrande, Washington, in the Rainier National Park area, is used as an experiment station by the College of Forestry to demonstrate the various methods of scientific forestry.

The Lee Field Laboratory is a tract of 80 acres containing a second-growth stand of approximately 40-year-old timber located at Maltby. Less than one-half hour by auto from the campus, it is used in connection with laboratory instruction in silviculture and mensuration and for some experimental work.

**Education.** The public schools of Seattle and adjacent towns afford unexcelled laboratory facilities for various lines of modern research in education.

**Botany.** The Northwest is a most excellent location for botanical work. The rainfall is heavy in winter and freezing is not sufficient to kill vegetation entirely. Salt water is only four miles from the University and in 100 miles of horizontal travel, altitude ranges are from sea level to 14,000 feet.

**University Health Center.** The University Health Center is housed in a modern building with offices for the doctors, nurses, 75 beds, and diet kitchen. Its facilities consist of an infirmary and a dispensary.

**Military Training Programs.** Military training has been given at the University of Washington since 1875 with the exception of a brief period early in the present century. During peacetime the University maintains a Department of Military Science and Tactics and a Department of Naval Science and Tactics.

**Theatres.** The University's School of Drama operates two theatres on the campus which have won national recognition for their distinctive style and high standard of performance. The *Showboat Theatre*, located on the shore of Lake Union, is constructed to resemble the old-time showboats which used to travel up and down the Mississippi. The Theatre proper and stage are in the conventional style. The *Penthouse Theatre*, located on the lower campus, is also distinctive but ultramodern in design. The theatre proper is built in circus style with the center floor, on a level with the audience, serving as the stage.

Plays open to the public are produced regularly at both theatres on a non-profit basis.

**Foundations.** The Bailey and Babette Gatzert foundation for Child Welfare was established in 1910 by means of a gift from Sigmund Schwabacher and the executor of the will of Abraham Schwabacher and is under the administrative control of the Department of Child Welfare.

The Alice McDermott Memorial foundation was established in 1924 through the will of the late Mrs. Josephine McDermott, for research and study in the fields of tuberculosis and cancer.

## THE UNIVERSITY ORGANIZATION

The University of Washington is one of five institutions of higher education which compose the state's system of public education, the others being the state college and the three state colleges of education. To the University is given exclusive authority to instruct in the following major lines: aeronautical engineering, architecture, commerce, fisheries, forestry, journalism, law, librarianship, marine engineering, and medicine.

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

*The Colleges and Schools.* The University includes the following colleges and schools:

A. *The College of Arts and Sciences*, composed of the departments in liberal arts and pure science and the following semi-professional schools:

The School of Architecture	The School of Home Economics
The School of Art	The School of Journalism
The School of Drama	The School of Music
The School of Fisheries	The School of Physical Education

General Studies—for students with interdepartmental major

B. *The College of Economics and Business*      D. *The College of Engineering*

C. *The College of Education*      E. *The College of Forestry*

F. *The Graduate School*, including the Graduate School of Social Work and the School of Librarianship.

G. *The School of Law*

K. *The School of Dentistry*

H. *The College of Mines*

L. *The School of Nursing*

I. *The College of Pharmacy*

M. *The Far Eastern Institute*

J. *The School of Medicine*

*Definitions and Explanations.* The word *course* refers to a single study pursued for a definite period, for which credit may be given toward University requirements for graduation in accordance with the number of hours taken. A *curriculum* is a group of courses arranged to be followed consecutively or concurrently. A *department* is the unit of instructional organization in a particular science or art, as the department of geology. A *college* gives full curricula, beginning with the freshman year, or, in the College of Education, with the sophomore year, and covering 12 quarters. The work of a *school* is preceded by two or more years of college work.

The four-year program of the college is divided into the *lower division* (freshman and sophomore) and *upper division* (junior and senior).

The term *unit* is applied to work taken in high school; a *credit*, to work taken in college. A university credit is given for one hour of recitation a week throughout one quarter. Thus a quarter course in which there are five recitations a week is a five-credit course.

The term *major* is applied to the department or subject in which a student elects to specialize.

*Special Curricula within the Schools.* Certain semiprofessional curricula are given for which no special school or college is provided. Such is the curriculum in chemistry in the College of Arts and Sciences and the curricula in preeducation, pre-law, prelibrarianship, premedicine, pre-social work, and food technology.

*Reserve Commissions.* Under provisions of the National Defense Act, students may attain commissions as reserve officers in the United States Army or in the Naval Reserve by meeting the requirements for advanced work in military or naval science. This can be done without interference with the student's regular academic work.

*The Four-Quarter System.* The University is operated on the four-quarter system, each quarter having approximately 11 working weeks.

## SECTION I – GENERAL INFORMATION

### ADMISSION TO THE UNIVERSITY

It is impossible to know how long the admission regulations here stated will be maintained, since it is necessary to make frequent changes to meet changing conditions. *Prospective students should determine the admission requirements at the time they are ready to apply, as the University of Washington cannot guarantee that the admission regulations here stated will be continued in force.*

#### Who is Eligible

Owing to large numbers of applicants and to limited facilities, the University of Washington is forced to place restrictions upon admissions. Effective April 11, 1946, applicants for admission to the University of Washington in addition to satisfying standard requirements for entry (pages 45 to 47), shall be subject to the following emergency limitations:

- (1) With the exceptions stated below, admission requirements for all applicants shall include (a) a grade-point average of 2.0† or better, and (b) residence in Washington or Alaska for one year immediately preceding the planned date of entry.
- (2) Veterans of World War II who do not meet the residence requirement of paragraph 1 may be admitted if they present a grade-point average of 2.75† or better. If the applicant under this provision has completed a year of college work, the grade-point average shall be computed on the basis of his college work only. If the applicant has completed less than a year of college work, his admission shall be contingent upon presentation of a minimum 2.75 grade-point average in college work and the same minimum average in high school work.
- (3) Nonveterans of World War II who do not satisfy the residence requirement of paragraph (1) may be admitted by special action of the Admissions Board if they present a grade-point average of 3.5 or better, such grade-point average to be computed as prescribed in paragraph (2).
- (4) Petitions for qualification under the exceptions allowed by paragraphs (2) and (3) shall be acted upon by the Admissions Board.
- (5) The Admissions Board shall not admit an applicant who fails to meet the requirements of the school or college concerned.

The limitations upon admissions shall not apply to students heretofore admitted who were thereafter in regular attendance and who have not subsequently attended another collegiate institution except under Army or Navy programs.

#### How to Obtain Information

Correspondence regarding requirements for admission to and graduation from any college or school of the University should be addressed to the Registrar.

#### Admission Procedure

Before a student may be admitted to the University, he must place on file with the Registrar complete credentials covering all his previous secondary and college education. These records are kept on permanent file by the University and cannot be returned to the student. For admission to the autumn quarter, the required credentials should be forwarded after high school graduation and before July 15; for admission to the other sessions they should be sent at least thirty days before the opening of the session. Students seeking admission for the autumn quarter may be disappointed if applications are submitted later than July 15, as those received by that date will have precedence. *The University cannot guarantee prompt attention to credentials and reply to correspondence, especially if the student fails to heed the above warning.*

† A 2.00 grade point means a "C" average in terms of the standard grading system of the

\* State of Washington. A 2.75 would have a comparable value except that students in other states who are recommended to their own state universities on a three-point grading system would find their scholarship average adjusted to our four-point system.



## MINIMUM UNIT ADMISSION REQUIREMENTS

(Entrance requirements are stated in terms of units. A unit equals two high school semester credits.)

For other recommendations see statement of college concerned.

College	English	Mathematics	For. Lang.	Lab. Sci. <sup>1</sup>	Soc. Sci.	Other Academ. Subj. <sup>2</sup>	Free Elective
1. Arts and Sciences <sup>3</sup> .....	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	2 of one*	1*	1	0	7
2. Economics & Business.....	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	0	0	1 (U.S. Hist. & Civics)	Minimum of 3	7
3. Education†...	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	†	1	1	Minimum of 2	7
4. Engineering..	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geom.)	0	1 (Chem.) <sup>4</sup> 1 (Phys.) <sup>1a</sup>	0	1	7
5. Forestry.....	3	2½ (Elem. & Adv. Alg. & Pl. Geom.)	0	†	0	Minimum of 3½	7
6. Mines.....	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geom.)	0	1 (Chem.) <sup>4</sup> 1 (Phys.) <sup>1a</sup>	0	1	7
7. Pharmacy....	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	0	†	0	Minimum of 4	7
8. Comprehensive (Admit to any college)..	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geom.)	2 of one*	1 (Chem.) <sup>4</sup> 1 (Phys.) <sup>1a</sup>	1	0	5

<sup>1</sup> Approved laboratory sciences: biology, botany, chemistry, geology, physics, zoology.

<sup>a</sup> The preavention course will be accepted as academic credit in science, but will not be counted as a laboratory science. It may not be substituted for physics in those curricula which specify physics as a part of the entrance requirements.

<sup>2</sup> Typical academic subjects are: English, foreign language, mathematics, science, history, economics. Some nonacademic subjects are: commercial courses, manual training, home economics, band.

<sup>3</sup> Includes also Schools of Art, Architecture, Drama, Fisheries, Home Economics, Journalism, Music, and Physical Education.

<sup>4</sup> In Engineering and Mines, a student who is deficient in chemistry will be expected to earn 15 hours of chemistry credit in his freshman year instead of the usual twelve.

\* Two units of one foreign language and one unit of one laboratory science should be taken in high school. Students who do not take these subjects in high school will be asked to take them in the University during the freshman and sophomore years, with credit toward graduation.

† Pharmacy recommends one unit of a laboratory science. Forestry recommends one unit of physics.

‡ Students interested in teaching enter College of Arts and Sciences. They may request transfer to the College of Education when they have earned 45 credits in academic subjects with a grade average of 2.5 or better. An entrance deficiency in foreign language may be removed by substituting 20 credits in English literature.

## Admission Requirements (Subject to Limitations Stated Above)

1. *All entering freshmen* are required to:

- a. Submit an official application-for-admission blank from an accredited† high school (obtainable from any high school principal or from the Registrar) which includes a certification of high school graduation. A high school diploma may not be substituted for the official blank.
- b. Meet the minimum unit\* admission requirements (16 units, or 15 units exclusive of activity credit in physical education, debate, etc.) with grades certifiable for college entrance and a 2.0 grade-point average.‡ See chart, page 44. In administering this requirement the following reservations and exceptions are made:
  - (1) The 16 units cannot include any unit which received a grade lower than the minimum passing grade as defined by the high school itself.
  - (2) Less than a unit in one foreign language will not be counted.
  - (3) Students who are unable to meet the specific subject requirements of the college to which they seek entrance may petition the Board of Admissions for permission to enter, with *provisional standing*, provided that they offer at least 3 units in English and 6 additional units in academic fields. *Provisional standing* continues until the student has satisfied the entrance requirements of the college in which he is enrolled. A student in this classification will not be permitted to file an application for a degree. Deficiencies may be made up with university credit if college courses covering the high school material are available, 10 college credits being considered the equivalent of one high-school unit. University credits earned by removing a deficiency cannot be used to satisfy group requirements (see page 66). First year algebra and plane geometry are offered by the Extension Service (fee, \$12 per course) and do not carry college credit. Students deficient in both first-year algebra and plane geometry are seldom admitted to provisional standing.
  - (4) A graduate from an *accredited*‡ high school in Washington or Alaska may be admitted on *probation* if his grade-point average is below 2.0 and he meets the provisions listed above. The student who is *admitted on probation* may continue his attendance at the University at the discretion of the dean of his college but may not (1) be pledged to or initiated into a fraternity or sorority, or engage in those other student activities in which his right to participate is restricted by the regulations of the Committee on Student Welfare; (2) engage in those athletic activities in which his right to participate is restricted by the regulations of the University Athletic Committee. He shall be removed from probation if he attains a 2.0 grade-point average in the schedule normally required for a first-quarter student or a cumulative 2.0 grade-point average thereafter.
  - (5) A graduate from a *nonaccredited* high school in Washington or Alaska, if he has the recommendation of his principal, may petition the Board of Admissions for permission to enter; before granting such permission the Board may require the student to pass certain examinations.
  - (6) No student may be accepted for admission who would not be officially recommended to the university of his own state.
  - (7) Students who are *not graduated from high school* must pass College Entrance Board Examinations and meet entrance requirements without deficiency. An inquiry addressed to the College Entrance Examination Board, 425 West 117th Street, New York, N. Y., will bring complete information.

\* 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 high school year of thirty-six weeks. The maximum allowance toward University entrance, for junior high school study, is four units.

† A 2.00 grade point means a "C" average in terms of the standard grading system of the State of Washington. A 2.75 would have a comparable value except that students in other states who are recommended to their own state universities on a three-point grading system would find their scholarship average adjusted to our four-point system.

‡ Accredited high schools in Washington are those accredited by the State Department of Education; in Alaska, by the Northwest Accrediting Association; in other states, by the state university or the state or regional accrediting association.

2. *Advanced Undergraduate Standing.* Students who present complete transcripts and letters of honorable dismissal from other colleges of recognized rank will be granted whatever credit is acceptable to the University. No credit will be allowed in the senior year. See Senior Residence Rule, page 54.
  - a. For admission the student must present a scholarship record equivalent to that required of resident students at the University of Washington.
  - b. No advanced credit will be given for work done in institutions whose standing is unknown, except upon examination. For fee, see page 51.
  - c. Transfer of credit from institutions accredited for less than four years will not be accepted in excess of the accreditation of the school concerned.
  - d. No credit shall be granted to a student for courses taken in another collegiate institution while the student is in residence at the University of Washington, unless written permission to register for such courses is obtained by the student from his major department and from the dean of his college. The prescribed written permission shall be effective only if secured prior to such registration. Nothing in this rule shall make mandatory the granting of any credit by the University.
3. *College of Education and School of Law.* See pages 96 and 112.
4. *Graduate Standing.* A bachelor's degree from a college or university of recognized rank is required for admission to the Graduate School. A graduate student should submit official transcripts of all undergraduate and graduate work and should provide himself with a duplicate record for his own use. For details as to admission to the School of Librarianship and the Graduate School of Social Work, see pages 113 and 135.
5. *Foreign Students* must satisfy the same general requirements as those from American schools and must demonstrate a satisfactory command of the English language. The official record of Canadian students is the matriculation certificate or university admission certificate of their province. A student who is graduated from a school system which provides for less than 12 years of instruction may be held for additional high school work.
6. *Special Students.* Mature individuals (21 years of age or over) not eligible for admission as regular students may apply to the Board of Admissions for special standing. They must (1) be classified as residents of the state of Washington and (2) submit all available records of previous work in secondary schools and colleges.
 

A special student may take such courses as the dean of his college approves and may become a regular student by fulfilling the admission requirements of the college and department in which he is enrolled. He may *not* earn a degree or participate in student activities.
7. *Auditors.* An auditor must secure the consent of his dean and the instructor of the course and must pay a fee of \$12.\* He may not participate in class discussion or laboratory work. He may receive credit in the course only by enrolling in it as a regular student in a subsequent quarter.

#### Advanced Credit

1. *By transfer* of credits earned in residence. See above.
2. *By transfer* of credits earned in extension courses.
 

The University accepts such credit only from accredited institutions whose extension departments appear on the membership lists of the National University Extension Association, but *none* of it may be used in the senior year. It is subject to the same restrictions which apply to the Extension Service of the University of Washington.
3. *By examination.* (For advanced credit in Music, see page 83.)
  - a. The work covered by the examination must have received no credit from any institution.
  - b. An examination may not be taken in a course which the student has audited or in which he has been registered in an accredited institution.
  - c. A student may not apply for advanced-credit examination in more hours of credit than he would be permitted to take in regular courses.

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\* During the summer quarter, tuition is the same as for regular students.

- d. Only a student enrolled in the University during the current quarter may apply for such an examination.
- e. Not more than one-half the number of credits required for graduation may be earned by advanced-credit examination and/or by Extension.
- f. The student must obtain an application form at the Information Window in the Registrar's office and follow exactly the directions given. The fee is \$2 per credit hour.
- g. If the examination is not a comprehensive written one, the dean of the college shall require that a statement of the procedure by which the student was tested be submitted for filing.

#### The Extension Service

The Extension Service provides means for persons to earn college credit by attending Saturday or evening classes in Seattle and other cities in the State, or by home study. Such credit is acceptable toward a degree only when all other requirements have been met and after the student has satisfactorily completed one year in residence at the University. Not more than one-half the number of credits required for graduation may be earned by Extension and/or by advanced-credit examination; for use of such credit for an advanced degree, see page 125. See Senior Year Residence Rule, page 54.

No resident student may take an Extension course without the consent of his dean, the Registrar, and the Director of the Extension Service.

#### Registration

(See page 6 for registration dates for each quarter.)

Because of the large enrollment, every student *must* have a definite appointment each quarter for obtaining his registration book and going through Sections (108 Education Hall). See page 6 for dates and means of obtaining appointments.

Before the date of his appointment the student should arrange his schedule of studies with the advice and assistance of his faculty adviser. A regular course consists of 15 or 16 credits.

Registration is complete when fees are paid and the registration book checked through Sections (108 Education Hall) and turned in before leaving that office.

No person may attend any course in which he has not been registered as a student or an auditor.

A student must have the consent of his dean if he wishes to register for less than 12 or more than 16 credits, or the number called for in the prescribed curricula, exclusive of required military or naval science and physical education activity courses.

No student engaged in outside work for more than fifteen hours a week may register for a full schedule.

#### Aptitude Test

All undergraduate students who have not previously taken the University of Washington Aptitude Test must do so at a time to be announced each quarter.

#### Medical Examinations

All students, regardless of classification, entering the University for the first time, all former students who have been discharged from the armed forces of the United States or Canada, and those who have not attended the University within the last calendar year are required to pass a medical examination as a part of their registration requirements. A definite appointment is made at the time of registration. This appointment takes precedence over all others scheduled for that hour. Students failing to appear for the medical examination at the appointed time will be excluded from classes on notice to the Registrar. For a second appointment, to compensate the University for the additional expense thereby necessitated, a special fee of \$5 must be paid.

As an additional service to and protection of its students, the University rules provide that all students, resident or nonresident, at any time that it is deemed advisable by the Director of the University Health Service, as a condition prece-

FEES FOR RESIDENT STUDENTS<sup>1</sup>

## Examples of Autumn, Winter, and Spring Quarter Fees for Various Types of Registration

*Notice: The right is reserved to change any or all fees without notice to present or future students. Consult University Calendar for fee payment dates. See page 51 regarding late registration fines.*

Type of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. FEE			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$15	\$12.50		\$5	\$2.50	\$2.50	\$32.50	\$30.00	\$30.00
Fresh. & new soph..	15	12.50	\$25 **	5	2.50	2.50	57.50	30.00	30.00
Graduate.....	15	12.50		*	*	*	27.50	27.50	27.50
Law School.....	15	12.50	† 10	5	2.50	2.50	42.50	40.00	40.00
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service personnel of World War I..		12.50		5	2.50	2.50	17.50	15.00	15.00
† Undergrad. nurses in approved hosp.	5			*	*	*	5.00	5.00	5.00
† Grad. nurses in approved hosp. . .	10			*	*	*	10.00	10.00	10.00
Part time. (Max. 6 cr. hrs. excl. of R.O.T.C.).....	15	2.50		*	*	*	17.50	17.50	17.50
† Persons registered for thesis only....		12.50		*	*	*	12.50	12.50	12.50
†† Nursery School..	15								

<sup>1</sup> A *resident* is one who has been domiciled in this state or the territory of Alaska for a period of one year immediately prior to registration. Children of persons engaged in military, naval, lighthouse, or national park service of the United States within the state of Washington are considered as domiciled in this state. The domicile of a minor is that of his parents.

A prospective student is classified as a *nonresident* when credentials are presented from institutions not located in the state of Washington. If the student believes himself domiciled within the state, he should file a petition with the nonresident office (203 Condon Hall) for change of classification to resident status.

\* Optional.

\*\* Refund upon return of U. S. Army issued property.

† Individuals in these classifications must be certified by the School of Nursing, the Graduate School, or the Nursery School.

‡ The fee for children in the Nursery School is \$35 per child per quarter for 3-hr. per day attendance; \$50 per child per quarter for 6-hr. per day attendance. Special audit fee for both residents and nonresidents is \$15. Nursery School begins Sept. 23, 1946.

† Law library fee.

NOTE: The following courses require the payment of a fee in addition to tuition: *Nursing field work*, \$5 per course; *cadet teaching*, \$1 per credit hour; *botany field trip*, \$5.

Music, riding, golf, and locker fees (see Announcement of Courses) should be added to the above when applicable.

FEES FOR NONRESIDENT STUDENTS<sup>1</sup>

Examples of Autumn, Winter, and Spring Quarter Fees for Various  
Types of Registration

Type of Registration	Tui- tion Fee	Inci- dental Fee	Miscl. Fees	A.S.U.W. FEE			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$50	\$12.50		\$5	\$2.50	\$2.50	\$67.50	\$65.00	\$65.00
Fresh. & new soph..	50	12.50	\$25 **	5	2.50	2.50	92.50	65.00	65.00
Graduate.....	50	12.50		*	*	*	62.50	62.50	62.50
Law School.....	50	12.50	† 10	5	2.50	2.50	77.50	75.00	75.00
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service personnel of World War I..	25	12.50		5	2.50	2.50	42.50	40.00	40.00
†Undergrad. nurses in approved hosp.	5			*	*	*	5.00	5.00	5.00
†Grad. nurses in approved hosp...	10			*	*	*	10.00	10.00	10.00
Part time. (Max. 6 cr. hrs. excl. of R.O.T.C.).....	50	2.50		*	*	*	52.50	52.50	52.50
†Persons registered for thesis only....		12.50		*	*	*	12.50	12.50	12.50
†¶Nursery School..	50								

<sup>1</sup> A nonresident student is one who has *NOT* been domiciled in this state or the territory of Alaska for a period of one year immediately prior to registration.

The following rules govern the determination of the legal domicile of a student:

- The legal words *domicile* and *residence* are not equivalent terms; domicile requires more than mere residence.
- No one can acquire domicile by residence in the state of Washington when such residence is merely for the purpose of attending the University.
- The domicile of a minor is normally that of his parents or, in case of their death, that of his legally appointed guardian. The domicile of a minor ordinarily will change with that of his parents.

\* Optional. If membership in A.S.U.W. is desired, the A.S.U.W. fee should be added to the total fee as shown for this type of registration.

\*\* Refund upon return of U. S. Army issued property.

† Individuals in these classifications must be certified by the School of Nursing, the Graduate School, or the Nursery School.

‡ The fee for children in the Nursery School is \$35 per child per quarter for 3-hr. per day attendance; \$50 per child per quarter for 6-hr. per day attendance. Special audit fee for both residents and nonresidents is \$15. Nursery School begins Sept. 23, 1946.

† Law library fee.

NOTE: The following courses require the payment of a fee in addition to tuition: *Nursing field work*, \$5 per course; *cadet teaching*, \$1 per credit hour; *botany field trip*, \$5.

Music, riding, golf, and locker fees (see Announcement of Courses) should be added to the above when applicable.

dent to entrance and/or continuance in the University, must pass a medical examination with reference not only to physical but also to mental diseases or serious nervous disorders. As a part of such examination, contributing evidence from the past history of any case shall be pertinent.

### **Freshman Days**

Freshman days are the three days immediately preceding the beginning of instruction for the autumn quarter. This program is directed by the student council of the A.S.U.W. Interested students will find an opportunity to meet other students and become familiar with the campus. Attendance is optional. Attendance at the convocation on the first Friday of school is expected.

## **EXPENSES**

### **Payment of Fees**

*All fees are payable at the time of registration.*

### **Exemptions**

Graduate members of the University teaching staff are exempt from the tuition and incidental fees; A.S.U.W. fee is optional.

Persons to whom "cadet teaching" exemption certificates have been issued are exempt from the tuition fee only.

All honorably discharged service men or women who served in the military or naval service of the United States during World War I, between April 6, 1917, and November 11, 1918, classified as residents, are exempt from the tuition fee. Under this exemption a reduction of one-half of the nonresident fee is granted nonresident students. This exemption also applies to U. S. citizens who were in the military or naval services of governments associated with the United States during said war. (Not granted to summer quarter students.)

### **Refund of Fees (Autumn, Winter and Spring Quarters)**

All fees (except those indicated as not subject to refund) will be refunded in full if complete withdrawal is made during the first three calendar days; one-half of said fees will be refunded if withdrawal is made during the first thirty calendar days, except for R.O.T.C. uniform deposit, the unexpended portion of which will be refunded upon approval of the Military Science Department. Students registered for chemistry and pharmacy laboratory courses must secure a check-out clearance from the stockroom custodian. This clearance must be presented at the Registrar's office when withdrawal is made, as no withdrawal will be honored until this requirement has been met. At least ten days must elapse between payment and refund of fees. Unless specific instructions are received by the Comptroller's office regarding the fees refunded, all properly authorized refunds will be made to the student involved in the registration.

Students withdrawing under discipline forfeit all rights to the return of any portion of the fees.

Applications for refund may be refused unless requested during the quarter in which the fees apply.

### **Refund of Fees to Students Withdrawing to Enter Military Service**

Students volunteering or called to military service will be refunded registration fees in proportion to the time spent in attendance, subject to the limitation of the statute in regard to refund of the State tuition. After the fourth week, a student withdrawing to enter military service may receive from one-third to full credit for all courses in which his grades are "passing." See page 57.

### Summer Quarter Fees

(Important: Consult Summer Quarter Bulletin for fees.)

#### Miscellaneous Charges Applicable Only in Special Cases

*The unused portion of breakage tickets will be refunded in full. The other charges noted are not subject to refund, except when payment is made in error.*

**Late Registration Fine.** Unless delay in registering is occasioned by officials of the University, *undergraduate* students and *graduate students in the Law School* registering late will be charged a fine of two dollars (\$2) on the first day of instruction and a further cumulative fee of one dollar (\$1) for each day thereafter up to a total of four dollars (\$4). After the first week of instruction, no student shall be permitted to register except with the consent of his dean and payment of a late registration fee of five dollars (\$5). *Graduate students not in the Law School* may register without penalty during the first week of the quarter.

**Change of Registration Fee.** A fee of one dollar (\$1) is charged for each change of registration or number of changes which are made simultaneously, except that no charge is made when the change is made on the initiative of the University or for dropping a course.

**Breakage Ticket Deposit.** In certain laboratory courses a breakage ticket is required to pay for laboratory supplies and breakage of equipment. Tickets may be purchased at the Comptroller's office for three dollars (\$3).

**Special Examination Fee.** A fee of one dollar (\$1) is charged for each examination outside the regular schedule. This also applies to the examination for foreign language reading, required of certain students. In the case of examination for *advanced credits*, a fee of two dollars (\$2) per credit hour is charged. (See page 46.)

A fee of two dollars and fifty cents (\$2.50), payable to the Extension Service, is charged for removal of incompletes *in absentia*.

**Practice Rooms.** Piano practice room\*: one hour a day each quarter, \$3; two hours a day, \$5; three hours a day, \$6. Organ practice\*: one hour a day, \$5; two hours a day, \$10; three hours a day, \$12 each quarter.

**Locker Fee (Men).** A fee of one dollar (\$1) per quarter during the regular academic year, and fifty cents (\$.50) per term during the summer quarter, is charged faculty members and students who are registered for physical education. Locker tickets may be secured at the office of the Associated Students. Faculty members and students who are not registered for physical education may also secure lockers upon payment of the same fee.

**Grade Sheet Fee.** One grade sheet is furnished each quarter without charge; a fee of twenty-five cents (\$.25) is charged for each additional sheet.

**Graduation Fee.** Each graduate receiving a baccalaureate or higher degree is required to pay a graduation fee of five dollars (\$5). The fee for a three-year secondary certificate is two dollars and fifty cents (\$2.50). The fee for other professional certificates is one dollar (\$1). The three-year secondary certificate fee does not include the legal registration fee of one dollar (\$1) which must be paid to the county school superintendent who first registers a teacher's diploma.

**Printing and Thesis Binding Fees.** Each recipient of a higher degree pays a fee of two dollars (\$2) for the binding of one copy of his thesis. In addition, each recipient of a doctorate contributes twenty-five dollars (\$25) to the publishing fund, which contribution is applied to the cost of printing an annual volume of digests of theses.

**Transcript Fee.** One transcript of a student's record is furnished without charge. Fifty cents (\$.50) is charged for each additional transcript.

**Medical Examination and X-Ray Fees.** Students who *fail to keep* their medical or X-ray appointments must pay a fee of five dollars (\$5) for a make-up medical examination and one dollar (\$1) for an X-ray.

**X-Ray Plates.** Applicants for a secondary certificate may secure from the University Health Center an X-ray plate to accompany health certificate. Fee, five dollars (\$5).

\* Available only to students registered in the School of Music.



**Bureau of Appointments Fee.** Candidates seeking teaching positions pay an initial registration fee of five dollars (\$5). A replacement or maintenance charge of two dollars and fifty cents (\$2.50) is charged each subsequent year for persons wishing to remain on the active list.

**Certification of Credits from Unaccredited Schools.** Credits earned after high school graduation and based on credentials from unaccredited schools offering specialized instruction or from schools of unknown standing are accepted only after certification by the departmental examiner, the executive officer of the department, the dean of the college or school concerned, and the Registrar. The fee for such certification is five dollars (\$5). Students seeking such certification must secure the proper forms in the Registrar's office.

**Military Uniform.** See page 109 for details.

### Financial Obligations

The Comptroller and Registrar are instructed to attach credits and withhold delivery of a student's diploma pending final payment of financial obligations to the University. Participation in Commencement exercises is in no way affected by this rule and certification of graduation will be furnished where the need exists.

### Living Costs

Board and room expense varies according to the type of accommodation desired. (See section on Housing, page 58.)

The Commons and the Coffee Shop, both located in Clark Hall on the campus, serve excellent breakfasts and lunches at reasonable prices.

Meal tickets are available for those wishing service in the main University Dining Room located in the Home Economics Building.

## SCHOLASTIC REGULATIONS

### I. REQUIREMENTS FOR GRADUATION

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

#### Military Science (See also page 109)

1. Two years of Military Science are required of all male undergraduate students except the following:

- a. Those who are twenty-three years of age or over at the time of original entry into the University.
- b. Those entering as juniors or seniors.
- c. Special students.
- d. Those registered for six credits or less.
- e. Those who are not citizens of the United States.
- f. Those who are active members in the Army, Navy, or Marine Corps of the United States, or commissioned officers of the National Guard or Naval Militia, or reserve officers of the military or naval forces of the United States.
- g. Students who claim credit for Military Science taken elsewhere than at the University. The student must make his claim when he registers in the department and all such credit allowed must be recorded by the Military Registration Secretary and the evidence must be filed in the student's permanent record file in the Military Registration Office. Exemption from one year of the Military Science requirement will be granted to honorably discharged men who have served not less than six months, but who have served less than one year in the Army, Navy, Marine Corps, or Coast Guard. Complete exemption from the Military Science requirement will be granted (1) to honorably discharged men who have served one year or more in the Army, Navy, Marine Corps, or Coast Guard; and (2) to those who hold a Certificate of Disability Discharge. The Professor of Military Science and Tactics shall evaluate the credits of all other claimants.

- h. Those who, because of physical condition, are exempted by the University Health Officer or are classified as 4F by the Selective Service.
- i. Those whose petitions for exemptions on other grounds than those listed above have been approved by the Professor of Military Science and Tactics.
2. Students other than those listed under a, b, c, d, e, or f above must register for the proper course and must attend classes until their requests for exemption have been granted.
3. The Military Science requirement shall normally be satisfied in the first six quarters of residence.
4. Men who are not citizens of the United States and those exempted by petition are required to earn equivalent credits in other courses of the University. This must be done in accordance with the rules governing excess hours.

#### Naval Science (See also page 109)

#### Physical Education Requirements for Men

1. Six quarters of physical education activity\* courses are required of all male students except those who are twenty-three years of age or over at the time of original entrance to the University, those entering with junior or senior standing, those registered for six credits or less, special students, or those registered in Naval R.O.T.C.
  - a. This requirement must be completed during the first six quarters of University residence.
  - b. Students who pass the medical examination may elect any activity course with the provision that they participate in one group activity and two individual "carry over" activities during the six quarters of work.
2. A two-credit academic course in personal health (Physical Education 15) is required of all male students who have not satisfied this requirement in an accredited university or college.
  - a. This requirement should be completed during the first year of University residence.
  - b. A student may be exempted from the health education course by passing a health knowledge test given the first week of each quarter.

#### Physical Education Requirements for Women

1. Six quarters of physical education activity\* courses are required of all women students except those who are twenty-three years of age or over at the time of original entrance to the University, those entering with junior or senior standing, those registered for six credits or less, or special students. This requirement must normally be completed during the first six quarters of University residence.
2. A two-credit academic course in health education (Physical Education 10) is required of all entering women except transfers beyond freshman standing who shall be exempted from the requirement. For those entering with less than a normal one-year's credit, all questions as to the imposition of the requirement shall be referred to the Department of Physical Education for Women. *All* women for whom Physical Education 10 is prescribed shall be required to complete the course within the first three quarters of residence.

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\* Special programs adapted to the individual's needs will be devised by the Executive Officer of the Physical Education Department for those students who are reported by the University Health Officer as unfitted to join regular classes. A student may not be exempted from this requirement unless the Executive Officer of the Physical Education Department and the University Health Officer join in recommending such exemption to the Dean of the College in which the student is registered. The Dean of the College will then recommend to the Graduations Committee that the exemption be allowed.

### Senior Year Residence

The work of the senior year consists of 45 quarter credits to be completed at the University of Washington. Of this amount, at least 35 credits must be earned in residence in a minimum attendance of three quarters. This permits a maximum of 10 credits by Extension (University of Washington only) during the senior year.

NOTE: Senior standing is attained when 135 credits and the required credits in military science and physical education activities or naval science have been earned.

### Financial Obligations

In determining the fitness of a candidate for a degree, his attitude toward his financial obligations shall be taken into consideration.

### Thesis

If a thesis is required for the degree sought, the candidate must deposit two typewritten copies thereof in the Library at least two weeks before the end of the quarter in which he expects to take the degree. The thesis must meet the approval of the librarian as to form. Printed "Instructions for the Preparation of Theses" are available at the thesis desk in the Library.

### Grade Points and Credits

To be eligible for graduation with the bachelor's degree a student must satisfy all other specific requirements and must offer a minimum of 180 academic credits in which he has earned at least a 2.0 grade-point average. Grades earned at other institutions cannot be used to raise the grade-point average at the University of Washington.

Any college may make additional requirements for graduation.

See *Senior scholarship rule for the last quarter in residence* (8), under "General Scholarship Rules," page 57.

For rule regarding repetition of courses in which grades of "D" or "E" were obtained, see "Repeating of Course," page 55.

### Application for Degree

A student shall, during the first quarter of his senior year, file with the Registrar a written application for his degree. Each application shall be checked by the Graduation Committee at least six months before the date at which the student expects to be graduated and notice shall be sent to the student by the Registrar of the acceptance or rejection of his application. The accepted list for each quarter shall be submitted at the regular meeting of the Senate for the quarter and, if approved by the Senate, with or without modification, shall constitute the list of candidates to be recommended for graduation upon the completion of the work requisite for their respective degrees. (No change shall be made in this list unless ordered by a two-thirds vote of the members present.)

NOTE: Late application may or may not be considered at the discretion of the officials concerned.

NOTE: A student with *provisional standing* is not permitted to file an application for a degree. See page 45.

Details concerning issuance of teaching certificates may be obtained from the College of Education section, page 97.

### Degrees—Additional Regulations

1. *Degrees—Graduation Requirements.* A student shall have the option of being held to the graduation requirements of the catalogue under which he enters, or those of the catalogue under which he expects to graduate. All responsibility for fulfilling the requirements for graduation is thrown upon the student concerned.

2. *Degrees—Two at Same Time.* A baccalaureate degree and a master's degree, or two different bachelor's degrees, may be granted at the same time, but a minimum of fifteen quarters must have been occupied in the work for the two degrees, and the total number of academic credits must have reached a minimum of 225.

3. *A Second Bachelor's Degree.* A second bachelor's degree may be granted, but a minimum of three additional quarters in residence must have been occupied in the work for this second degree, and the total number of additional credits must have reached a minimum of 45, and the number of additional grade points, a minimum of 90. Not more than ten extension credits (University of Washington only) and no credits gained by advanced credit examinations shall constitute any part of the added program.

4. *Degrees with Honors.* Degrees with honors may be conferred upon recommendation of the Honors Committee.

5. *Commencement Exercises.* Formal Commencement exercises shall be held only at the close of the spring quarter, but diplomas shall be issued at the end of each quarter to such candidates as have completed requirements at that time.

## II. SCHOLARSHIP REGULATIONS

### Marking System

1. The following is the system of grades and their value in grade points:

Grade	Grade Pts.	Grade	Grade Pts.
A—Honor .....	4	D—Poor (low pass) .....	1
B—Good .....	3	E—Failed .....	0
C—Medium .....	2		

Passing grades for advanced degrees are "A," "B," and "C," with a "B" average required.

2. *Other symbols* shown in the schedule below are used by instructors when appropriate; they are not used in computing grade-point averages.

I—Incomplete. This grade is given only in case the student has been in attendance and has done satisfactory work to a time within two weeks of the end of the quarter. Except in the case of one-term summer quarter courses, the dean of the college may extend the two weeks' limit to three weeks.

A student must convert an Incomplete into a passing grade within his next four quarters of residence or lose all credit for the course. If the course is not offered in any one of the four quarters referred to, the Incomplete may be converted when the course is next offered; if it is not again offered prior to the time at which the student expects to be graduated, he shall have the right to convert it by taking a special examination.

N—Satisfactory without grade, used in *undergraduate* hyphenated courses; when the sequence of courses is completed a grade is given.

S—Satisfactory without grade, used in *graduate* hyphenated courses; it may be used as a final grade.

P—Grade for lower-division choral and instrumental ensemble classes, evaluated as "C" (2 points) for purposes of graduation and ignored for purposes of honors.

W—Withdrawal; this grade must be given if the withdrawal is official and within the first six weeks of the quarter; after the sixth week this grade will be given if the student's work is satisfactory, otherwise an "E" must be given.

UW—Unofficial withdrawal; this grade is given if the student's work has been satisfactory, otherwise an "E" must be given.

### Change of Grade

Except in cases of error, no instructor may change a grade which he has turned in to the Registrar.

### Repeating of Course

Students who have received grades of "D" or "E" may repeat the courses in which these grades were obtained, or may with the approval of the dean of their college substitute other courses in their place, and in such cases the grade received the second time, either in the repeated or the substituted course, shall be the one counted in computing the average required for graduation. The provision for substitute courses does not apply to fixed curricula. For the purpose of determining University honors, only the grade received the first time shall be counted.

**Final Examinations**

1. All students in undergraduate courses are required to take final examinations, provided, however, that in a course for which an examination is not an appropriate test of the work covered, the instructor may, with the consent of the dean of the school or college concerned, dispense with the final examination.

2. At the end of each quarter the Committee on Schedule and Registration shall schedule two-hour examinations in the several courses. Examinations in Law School courses will be scheduled by the dean of the school.

3. The scheduled examination period shall be the last meeting of the class. If an instructor holds his examination earlier than the scheduled time, he must meet his class during the scheduled examination period and hold it for the full two hours.

4. A student absent from a scheduled examination either by permission of his dean or through sickness or other unavoidable cause shall be given a grade of Incomplete (see page 55). In all other cases of absence from examination, a grade of "E" or "UW" shall be given.

5. Reports of all examinations of seniors and of all candidates for graduate degrees shall be in the Registrar's office by 12:00 noon of the Saturday preceding Commencement Day.

**Cheating**

Whenever cheating is detected, the following method of procedure shall be followed:

1. An instructor may dismiss from the course any student who is found cheating, and the student so dismissed shall be given a grade of failure in the course.

2. A student who is accused of cheating shall be reported to the registrar, who shall inform the Office of Student Affairs and the dean of the college concerned of the facts of the case. The offender shall automatically be placed on academic probation unless he appeals his case to the Student Discipline Committee within one week.

3. A student reported for an additional offense under this rule shall be reported to the Student Discipline Committee. The offender shall be notified of this action and shall be granted a hearing before that committee. In such a case the Student Discipline Committee may take whatever action it deems suitable.

**Tutoring**

1. Students seeking the services of a tutor may obtain assistance in the Student Employment Office, in the Office of Student Affairs, or in the office of the proper major department.

2. No person shall tutor for compensation in a course with which he has any connection as part of the teaching staff.

3. The tutor shall secure the approval of the head of the department for all tutoring for compensation, on a form provided for the purpose, giving the names of the student or students and the tutor. In cases where the tutor is in the rank of instructor or higher, the approval of the dean must also be secured.

4. Forms may be obtained in the Registrar's office. When proper signatures have been obtained by the tutor, forms should be filed in the office of the dean of the college concerned.

**General Scholarship Rules**

1. Three times as many grade points as credits must be earned on the program for an advanced degree.

2. A student who, at any time in a quarter, is reported to the Registrar as doing work below passing grade in any subject shall be so advised.

3. The dean may place on probation or require to withdraw from the college a student who falls below a cumulative grade-point average of 1.8 for the freshman year, and a 2.0 average thereafter.

Any student in the *Law School* whose grade-point average at the end of an academic year is between 1.5 and 1.8 shall be permitted to continue in the Law School for three additional quarters on probation. A student who, at the end of his first year, is placed on probation shall be required to repeat all courses in which he received a grade lower than "C." A student placed on probation shall be required to attain at the end of his succeeding three quarters a cumulative average of 2.0, and in the event he does not do so, he shall be dropped.

4. *Reinstatement* of a student disqualified under the provisions of paragraph 3 above shall be allowed only by the Board of Admissions. In general, a student who has been required to withdraw is not permitted to re-enter the same college until one or more quarters have elapsed, during which time he shall have successfully engaged in work or study justifying the belief that he is now prepared to make a satisfactory showing.

5. The student who is *placed on probation* by the dean of his college, shall, as to his academic and activity program, be subject to the complete authority of the dean; the dean shall decide when the student shall be removed from probation or dropped from college.

6. In the administration of these rules, required military science and physical education activity courses shall be on the same basis as the academic subjects except as provided for in (7).

7. Colleges and schools may require higher standards of scholarship than those above stated. See announcement of the college or school concerned, pages 65-137.

8. *Senior Scholarship Rule for the Last Quarter in Residence.* Any senior who has completed the required number of credits for graduation but who has been dropped for low scholarship at the end of his last quarter in residence, or who is on probation, shall not receive his degree until restored to good standing. In general, he will not receive his degree until one or more quarters have elapsed.

### III. DISMISSAL, WITHDRAWAL, AND ABSENCE REGULATIONS

#### Honorable Dismissal

To be entitled to honorable dismissal, a student must have satisfied all financial obligations to the University, and must have a satisfactory record of conduct. Application for honorable dismissal shall be made at the Registrar's office.

#### Withdrawal

*Withdrawal from the University* is voluntary severance by a student of his connection with the University. It must be approved by the Office of Student Affairs.

*Withdrawal from a course* is voluntary severance by a student of his connection with the course. The withdrawal is *official* if the Registrar's office is properly informed; otherwise it is *unofficial*. See page 55 for the grades which may be given.

NOTE: A student is not permitted to have a withdrawal from required courses in freshman English, military science, physical education activities, and Physical Education 10.

*Regulations Applicable to Students Joining the Armed Forces.* A student who withdraws from the University during the quarter to join the armed forces shall be given credit, according to the following schedule, for the course work he has completed with passing grades:

1. If the student withdraws during the first, second, third, or fourth week of the quarter, no credit allowance shall be made.

2. If the student withdraws during the fifth, sixth, or seventh week, he shall receive one-third credit for all courses in which his grades are passing. This credit shall be recorded as "unspecified" or "general" credit.

3. If the student withdraws during the eighth, ninth, or tenth week, he shall receive two-thirds credit for all courses in which his grades are passing. This credit shall be recorded as "unspecified" or "general" credit.

4. If the student withdraws during the eleventh or twelfth week, he shall receive full credit for all courses in which his grades are passing.

5. In respect to law students, credit will be granted in accordance with the foregoing provisions, when approved by the law faculty.

6. A senior who withdraws during the seventh, eighth, ninth, tenth, eleventh, or twelfth week of the quarter in which he would normally receive his degree may be given full credit for the quarter's work and permitted to graduate upon recommendation of his major professor, department head, and college graduation committee.

7. Refund of fees shall continue as per the schedule approved by the Board of Regents in autumn quarter, 1940.

#### **Leaves of Absence**

The dean may grant permission to be absent from classes to a student who foresees that such absence will be necessary, except that the Office of Student Affairs shall issue such permits to students absent because of recognized student activities.

If the student does not make arrangements beforehand, the legitimacy of his verbal explanation of reason for absence shall be determined by the instructor only.

### **IV. STUDENT ACTIVITIES**

#### **General Eligibility Rules**

In order to participate in any student activity, a student shall comply with the rules and regulations of the committee governing the activity. For students who wish to participate in athletics, this shall be the University Athletic Committee; for students who wish to participate in student affairs, this shall be the Committee on Student Welfare; student campus organizations come under the supervision of the Committee on Student Campus Organizations.

Students are responsible for acting in accordance with the specific rules of these committees, information regarding which may be secured from the Office of Student Affairs.

#### **Associated Students**

The Associated Students of the University of Washington (A.S.U.W.) is the central organization which conducts the activities of the student body. Membership is required of all regularly enrolled undergraduate students. For fees, see pages 48-49. The fee gives each student a membership in the corporation, including a free subscription to the University of Washington *Daily* and free or reduced admission to such football, basketball, and baseball games, tennis, track, and wrestling meets, crew regattas, debates, oratorical contests, and musical concerts as may be designated.

### **STUDENT WELFARE**

#### **Housing**

The University offers accommodations for young women in well-equipped and well-supervised dormitories on the campus. War housing dormitories are also available on the campus for young men. Through the Housing Bureau of the Office of Student Affairs and through the Health Service the University inspects and approves a wide variety of living accommodations for men and women students off campus. Card-catalogue listings of such places are available at the Housing Bureau, and consist of boarding and rooming houses, private homes, apartments and house-keeping rooms, the student cooperatives, independent organized houses which are sponsored by the University, religious organizations, and fraternity and sorority houses. Residence in the last mentioned awaits invitation to membership, but reservations in all other group houses are made by application to the house, either direct or through the Housing Bureau. It is suggested that residence should be arranged for on the basis of the school quarter, by written agreement with the householder or board of trustees of the house. Any circumstance necessitating change should be cleared through the Housing Bureau. Bulletins describing the nature and cost of accommodations are printed semiannually by the Housing Bureau for distribution to those who apply.

Women students under twenty-one years of age not living in their own homes, with immediate relatives, in nurses' training school homes, or in homes where they are earning their board and room, are required to live in some type of organized group house, i.e., sorority houses, or independent organized houses approved by the University. If circumstances warrant, exceptions shall be made by the Office of Student Affairs upon request of the parents.

Failure to comply with this regulation will make the student subject to discipline to the extent of cancellation of registration.

### Employment

All part-time placement for men and women in off-campus jobs, as well as board and room jobs for men, is handled through the University Employment Office located in Clark Hall. Women students desiring to earn room and board with some compensation should apply at the Office of Student Affairs, Clark Hall. For further information on employment write Norman D. Hillis, University Employment Association, Room 317 Clark Hall, University of Washington Campus.

Application for a job on the campus should be made at the Comptroller's office in Education Hall.

### Loans

There are several loan funds available to worthy students. Students desiring loans should file application at least ten days prior to the day instruction begins. For information, consult Office of Student Affairs.

*Leona M. Hickman Loan Fund.* Loans are limited to qualified young men who are actual residents of King County, Washington. Except in special cases, loans cannot exceed \$250 to any one applicant in any school year and not in excess of \$1,000 to any one student. Interest rate is 5 per cent per annum.

Address applications to Peoples' National Bank of Washington, Trustee, Seattle, Washington.

*Philip G. Johnson Loan Fund.* On February 5, 1945, a check in the amount of \$4,121.50 was received by the University to be used as a loan fund for students taking subjects with an industrial application such as Economics and Business or Engineering after such students have completed one scholastic year of work at the University. Priority shall be given to upper-division or graduate students. There shall be an annual report on or about June 1 which is to be forwarded to the Treasurer of the Boeing Aircraft Company or their successors.

### University Health Center

The University maintains a health service which functions primarily in guarding against infectious diseases and incipient ill health due to remediable causes. The work is carried on in two main divisions, viz., a dispensary and an infirmary.

The service is housed exclusively in a modern building, with offices for the doctors and nurses, seventy-five beds with essential accessories, and diet kitchen. A corps of physicians, nurses, and laboratory technicians, all on full time, constitutes the permanent staff. This is augmented temporarily whenever an increased number of patients makes added assistance necessary. Seriously ill students are not retained in the infirmary. They are sent to a general hospital of their own choice and at their own expense.

The dispensary is available to all students during the span of class hours, for emergencies and infectious ailments only. The infirmary is available for the reception of bed patients at all hours.

From the results of the entrance physical examinations the students are classified. Those found to be below standard are re-examined at a later date for evidences of incipient tuberculosis, heart disease, or other chronic disabilities. Ordinary medicines are dispensed in small quantities without cost to the student. Close cooperation is maintained with the family physician when one is retained; in no way is the idea of supplanting the family physician contemplated. Outside calls are not made by University physicians.



The infirmary cares for all cases of illness for a period of one week each quarter free of charge; this includes the attendance of a physician, nursing and medicines. For a period longer than one week a charge of \$2 per day is made. Students confined in the infirmary are permitted to ask for the services of any licensed regular medical practitioner in good standing, at their own expense.

Students are not permitted to remain where proper care cannot be taken of them, or where they may prove to be a source of danger to other students.

#### Personal and Vocational Guidance

The Office of Student Affairs is concerned with the general welfare of the students of the University and welcomes correspondence and conferences with both parents and students. Students are urged to avail themselves of the opportunity for consultation in regard to social, personal, and vocational problems. This office, which works closely with the advisory system of the colleges and schools of the University, is in a position not only to counsel students personally, but to direct them to faculty advisers and other sources of information and assistance. Obstacles to successful work in college may often be removed through the friendly advice these officials stand ready to give. The Office will be glad to discuss with students any problems concerning entering military service.

#### Information for Veterans

*Admission.* The University welcomes veterans under the G. I. Bill and the Vocational Rehabilitation Act, provided they can meet the University of Washington entrance requirements. (See pp. 45-47.) Students who are not high school graduates should make every effort to secure diplomas for entrance or later use. It must be borne in mind that many professional degrees, certificates, and the like presuppose possession of a high school diploma. Certain students who are not high-school graduates may be able to enter under the "special student" category. (See Sec. 6, page 46.)

Veterans' counselors, in the Office of Student Affairs, will be glad to discuss with any veteran his problems concerning admission.

*Receiving Government Aid.* All applications for, and questions about, the G. I. Bill should be addressed to a Veterans Administration Regional Office, preferably the Seattle office if the veteran wishes to attend the University of Washington. If he is eligible, the Veterans Administration will issue him a Certificate of Eligibility, which should be filed in the Comptroller's office during registration in lieu of payment of fees. A credit card will then be issued, entitling the veteran to books and supplies needed for his course.

Subsistence payments are made direct to the veteran at the end of each month while he is in school.

*Credit for Armed Service Training Courses.* The American Council on Education has provided colleges and universities of the United States with recommended values for armed services training courses offered on college campuses as well as at the Army and Navy camps. In accordance with these recommendations, such study, if equivalent to degree courses at standard universities, will be given proportionate credit, which will be applied, as far as possible, on requirements of the University of Washington. Basic military training provides 8 semester credits and will be applied on lower-division military science and physical education requirements. Specialized training courses for enlisted men, such as those which qualify a man to be Airplane Engine Mechanic or Airplane Instrument and Electrical Specialist, carry from 4 to 12 semester credits. Credits allowed for such training are applied, if possible, on University requirements, but they are not readily applicable to the requirements of the set curricula in the College of Engineering, in Pre-Medicine, and elsewhere.

Credit earned in extension departments of accredited universities through the U.S.A.F.I. will be applied, as far as possible, on University requirements.

Consult the Admissions Office of the University for an exact evaluation of such credits.

**Physical Education.** Veterans who have had one year's active service are excused from all physical education courses.

**R.O.T.C.** Veterans who have served six months but less than one year are excused from 1 year of the R.O.T.C. requirement. Veterans who have had one year's active service or have a medical discharge are excused from R.O.T.C.

**Registration.** The veteran's first stop on the campus is the Office of Student Affairs, where a counselor for veterans will give him information and counsel.

**Married Students.** The University accepts married students. See, however, the section on housing.

## ALUMNI ASSOCIATION

All graduates of the University of Washington and all persons who have completed satisfactorily one year of collegiate work are eligible for membership in the association. Members receive one year's subscription to the *Washington Alumnus*, library, football, swimming, and voting privileges, etc. The membership fee is three dollars (\$3) per year, being good for twelve months from date of payment. Dual memberships for man and wife, or for two persons living at the same address, are four dollars and fifty cents (\$4.50) per year; this includes one annual subscription to the *Washington Alumnus* and all other advantages of a single membership. A Board of Trustees, consisting of twenty-three members, is the governing body of the Association.

## SCHOLASTIC HONORS

### Honor Awards

1. The President's Medal is presented at Commencement to the member of the graduating class who has the highest scholastic standing for his entire course.
2. The following are presented by the President in the name of the Faculty at the annual President's Assembly in the autumn quarter:
  - a. The Junior Medal, awarded to the Senior having the highest scholastic standing for the first three years of his course.
  - b. The Sophomore Medal, awarded to the Junior having the highest scholastic standing for the first two years of his course.
  - c. Certificates of High Scholarship, awarded to Seniors, Juniors, and Sophomores for excellence in scholarship in their Junior, Sophomore, and Freshman years respectively.

### Honor Societies

Phi Beta Kappa  
Sigma Xi

Tau Beta Pi  
Order of the Coif

## FELLOWSHIPS, SCHOLARSHIPS, PRIZES, AND AWARDS

(See the following three pages.)

## Fellowships and Scholarships for Graduates

(Subject to sufficiency and availability of funds)

These are granted on application and on a competitive basis; financial need, excellence of character, and scholarly promise are the usual requirements. For information consult the dean of the Graduate School or the department concerned.

NAME	No.	PAY	DEPARTMENT
University Teaching Fellowships....	*	\$210 Qtr. <sup>1</sup>	any
University Graduate Scholarships....	*	\$45 Qtr. <sup>1</sup>	any
University Honorary Fellowships....	3	none	any
Sarah Loretta Denny Fellowships....	3	*	any
E. C. Neufelder Scholarship <sup>2</sup> .....	1	*	any
Seattle Branch of Am. Assoc. of U. Wom. Scholarship <sup>4</sup> .....	1	\$100	any
Alpha Chi Omega Alumnae Scholarship <sup>4</sup> .....	1	\$100	any
Foreign Exchange Scholarships <sup>2</sup> ....	50	fees	any
Arthur A. Denny Fellowships <sup>5</sup> .....	6	....	C.E., Ed., Eng., Hist., Mining E., Pharm.
School of Drama Scholarships.....	*	\$91.50	Drama
Engineering Fellowships.....	20	\$1,000 and Tuition	Engineering
Consolidated Vultee Aircraft Corp....	3	*	Engineering
Agnes Healy Anderson Research Fellowships.....	*	*	Forestry
Mines Research Fellowships.....	4	\$1,020 Yr. <sup>6</sup>	Mines and U.S. Bur. of Mines
Wom. Aux. of Am. Inst. of Min. and Metal. Eng.....	*	*	Mines
National Research Fellowships.....	*	\$1,800 Yr.	Physics, Chem.
Arlien Johnson Scholarship <sup>7</sup> .....	1	\$150	Social Work
Family Society of Seattle Fellowships <sup>7</sup> .....	3	\$77.50 Mo.	Social Work
Wash. Children's Home Society Fellowship <sup>7</sup> .....	1	\$60 Mo.	Social Work
Ryther Child Center Fellowships <sup>7</sup> ....	2	\$50 Mo. and Maintenance	Social Work
King County Welfare Department Fellowships.....	*	*1	Social Work
Rhodes Scholarship.....	..	....	.....

\*Variable.

<sup>1</sup> In addition to exemption from tuition and incidental fees.<sup>2</sup> May also be granted to undergraduates; open to students of friendly foreign countries on reciprocal basis.<sup>3</sup> Open to graduate of U. of W. after one quarter of graduate work.<sup>4</sup> Open only to women; consult Office of Student Affairs.<sup>5</sup> Open only to residents of the state of Washington.<sup>6</sup> Holder to be on duty for twelve months.<sup>7</sup> Holder may arrange to work for equivalent of tuition charges.

## Scholarships for Undergraduates

(Subject to sufficiency and availability of funds)

These are granted on a competitive basis, some on application and others without application; financial need, excellence of character, and scholarly promise are the usual requirements. For information consult the Office of Student Affairs or the department concerned.

## I. FOR FRESHMEN

DONOR	No.	AMOUNT	RECIPIENT
A. S. U. W. <sup>1</sup> .....	1	\$100	entering freshman
Pi Lambda Theta.....	1	tuition	entering freshman woman
Isabella Austin Memorial.....	3	fees, 1 qtr.	entering freshman woman
Julius and Louisa Bornstein.....	1	varies	freshman, preferably

## II. FOR OTHER UNDERGRADUATES

DONOR	No.	AMOUNT	RECIPIENT
Isabella Austin Memorial.....	1	\$100	sophomore woman
Sigma Epsilon Sigma.....	2 or more	\$25	sophomore woman
Bob Doble Memorial.....	1	\$150	junior in Journalism
Helen Nielson Rhodes Memorial...	1	\$50	junior or senior in Art
William Mackay Memorial.....	1	\$250	junior or senior in Mines
City Panhellenic Association.....	1	\$100	fraternity woman with 3 or 4 years at U. of W.
U. of W. Alumnae Association....	1	\$100	woman entering senior yr.
Advertising Club.....	1	\$25	major in advertising
Frederick and Nelson.....	10	\$250 <sup>2</sup>	students in retailing
Iota Sigma Pi.....	1	\$100	woman major in Chem.
School of Drama.....	varies	\$91.50	students in Drama
T. F. Murphy.....	1	tuition	student in Drama
Evergreen Theatres.....	1	\$500	student in Drama
Daughters of Am. Revolution....	1	\$100	student in History
Gamma Phi Beta.....	1	\$100	woman major in English
Chinese Ministry of Education....	5	\$1,500	Far Eastern
Kappa Alpha Theta Alumnae.....	1	\$100	woman entering senior year in Home Economics
Sears, Roebuck and Company.....	3	\$200	seniors in Home Econ.
Borden Company Foundation, Inc.	1	\$300	senior in Home Economics
Livingston Wernecke Memorial....	1	varies	student in Mines
Mu Phi Epsilon.....	1	*	woman in Music
Phi Mu Alpha.....	1	*	man in Music
Frances Dickey Memorial.....	1	*	woman in Music
Beecher Keifer Memorial.....	1	\$37.50	man violin student
Wealthy Ann Robinson Memorial..	1 or 2	\$100	graduate nurses
Consolidated Dairy Products Co...	1	\$350	Nursing major in Pediatrics
Kellogg Foundation.....	varies	varies	students in Nursing
Women's Auxiliary of Wash. State Pharm. Association.....	1	\$50	student in Pharmacy
Am. Foundation for Pharm. Ed....	2	\$200	students in Pharmacy
McKesson-Robbins Drug Co.....	1	\$50	senior in Pharmacy
Women's Physical Ed. Dept.....	1	\$50	student in modern dance
May Frances Crosno Memorial....	varies	varies	varies

<sup>1</sup> From a Washington but not a Seattle high school; apply by April 13.<sup>2</sup> This amount is disbursed over a period of one and one-half academic years. The recipients accept part-time paid work at the store and receive University credit for service-training work.

\* One lesson a week in vocal or instrumental study.

## Prizes and Awards

(Subject to sufficiency and availability of funds)

The basis on which the award is made varies. For information see the department or school concerned.

NAME	NATURE	AWARDED FOR OR TO:
Alpha Rho Chi.....	medal	graduating senior in Architecture
Am. Institute of Architects.....	medal	graduating senior in Architecture
Architecture Alumni.....	books	two graduating seniors in Architecture
	\$100	divided among 4th and 5th year students in Architecture
Ruth Nettleton Memorial.....	cash	student in Art
Phi Sigma.....	medal	student in Biology
Phi Lambda Upsilon.....	books	soph. man in Chem. or Chem. Engineering
Phi Mu Gamma.....	statuettes	one man and one woman in Drama
Zeta Phi Eta.....	plaque and medallion	one man and one woman in Drama
	silver cup	one man and one woman in Speech
A. S. U. W.....	medallion	four years' service on Varsity Discussion Squad
Alpha Kappa Psi.....	\$15	man entering senior year in College of Econ. and Bus.
Beta Gamma Sigma Alumnae.....	cup and certificate	freshman woman in College of Econ. and Bus.
Beta Gamma Sigma.....	plaque and certificate	junior woman in College of Econ. and Bus.
Phi Delta Kappa.....	plaque	sophomore man in College of Econ. and Bus.
Pi Alpha.....	book & plaque	man and woman graduating from the College of Education with highest scholastic records
Paul H. Johns, Jr., Memorial.....	\$100 each	graduating senior in Far Eastern Department
Charles Lathrop Pack Memorial..	\$25	junior and senior in Forestry
Delta Phi Alpha.....	book	essay on subject in Forestry
Robert T. Pollard Memorial.....	cash or loan	senior in German
Italian Club.....	medal	student in Far Eastern
Sigma Delta Chi.....	plaque or certificate	best student in Italian 2
		seniors in Journalism
Philo Sherman Bennett.....	\$15	essay on principles of free government
Vivian M. Carkeek.....	\$50	article for <i>Wash. Law Review</i>
Western Printing Company.....	\$25	service to <i>Wash. Law Review</i>
Frank W. Baker.....	\$250	essay on Constitution and Supreme Court <sup>1</sup>
Nathan Burkan Memorial.....	\$100	essay on Copyright Law by graduating student in law
W. G. McLaren.....	\$25	solution of problem in legal draftsmanship
Delta Phi Mu.....	\$25	first or second year student in Music
Lehn and Fink.....	medal	graduating senior in Pharmacy
Rho Chi Society.....	books	freshman in Pharmacy
Sebastian Karrer.....	\$50	graduate student in Physics
Chi Omega.....	\$25	graduating senior woman in Sociology
Howard Brown Woolston.....	\$15 each	two students for research in Sociology
Colonel Mear's Award.....	2nd Lieut. Insignia	graduating senior in Coast Artillery
	ribbons	
Scabbard and Blade.....		one to each thirty 1st year students in M. S.
Honor Basic Student Prizes.....	medal	one to each twenty 2nd year students in M. S.
Junior Military Prize.....	cash	best basic student in each unit in M. S.
Junior Military Medals.....	medal	best junior in each unit in M. S.
Quartermaster Assoc. Certificate..	membership	junior honor students in Coast Art. and Inf.
	1 year	best student in Quartermaster Corps Unit
Quartermaster Corps Award.....	cup	student in Quartermaster Corps Unit
Leadership Prizes.....	officer's saber	cadet Captain in Coast Artillery and Infantry

<sup>1</sup>Essay shall "counteract the tendency of students to succumb to the specious arguments of advocates of subversive doctrines."

## SECTION II.—ANNOUNCEMENT OF CURRICULA

### COLLEGE OF ARTS AND SCIENCES

EDWARD H. LAUER, *Dean*, 121 Education Hall

The College of Arts and Sciences is a regular four-year college offering a wide range of courses leading generally to the degree of bachelor of arts or bachelor of science.

The College offers pre-professional work to those going into professional fields such as law, medicine, librarianship, dentistry, teaching, and so forth. For those not specializing in any particular profession, it offers an opportunity for a general educational course with a major emphasis on some art or science. The College is also developing a program of General Studies aiming to provide a broad cultural college course without specialization in any single subject.

#### Student Counselling

Each department and school within the College provides faculty advisers for its students. The Office of the Dean maintains a staff of advisers to counsel with pre-majors.

#### Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-52. In addition to the all-University entrance requirements, the College of Arts and Sciences requires two units of one foreign language, one unit of laboratory science, and one unit of a social science.

#### General Requirements

English 1, 2, and 3 (9 credits) or the equivalent, after passing the preliminary freshman-English test, are required of all students. For English 3, journalism students substitute Journalism 51, News Writing.

English 1, 2, and 3 may not be counted in fulfillment of the group requirements listed below under curricula nor toward a major or minor. Students are assigned to the proper course on the basis of an entrance and placement test. They may (1) be exempted from English 1 and 2, a privilege which is usually granted only to mature persons with writing experience; (2) be assigned to English A, a noncredit course required for entrance into English 1. In the College of Forestry, the grade in English 1 is contingent upon good work in English in subsequent forestry courses.

Physical Education 10, a two-credit *academic* course, must be taken by all women during the freshman year.

Physical Education 15, a two-credit *academic* course, is required of all men.

At least 60 credits of the total 180 required for graduation must be in upper-division courses.

In all other respects the requirements for graduation in the College of Arts and Sciences conform to the all-University requirements.

## CURRICULA

The departments and schools in the College of Arts and Sciences are grouped according to subject material into the three broad fields of knowledge indicated below. Wherever the terms Group I, Group II, Group III are used, reference is made to these divisions.

GROUP I	GROUP II	GROUP III
<i>Humanities</i>	<i>Social Sciences</i>	<i>Sciences</i>
Architecture	Anthropology	Animal Biology
Art	Economics	Astronomy
Classical Languages	Geography	Bacteriology
Drama	History	Botany
English	Home Economics	Chemistry
Far Eastern	Philosophy	Fisheries
General Literature	Physical Education	Geology
Germanic Languages	Political Science	Mathematics
Journalism	Psychology	Oceanography 1
Liberal Arts	Sociology	Pharmacy 15
Librarianship		Physics
Music		
Romanic Languages		
Scandinavian Languages		
Speech		

Courses from other colleges or schools, or from other divisions of the University, may be placed under these groups in evaluating the work of transfer students. The courses of any given department may be allocated to one group only.

The curricula available in the College are classified according to the amount of electives permitted as: (1) prescribed departmental curricula, (2) elective departmental curricula, (3) nondepartmental curricula. Students will elect one of these three curricula.

### 1. Prescribed Departmental Curricula

Some departments have outlined courses of study which definitely prescribe the work the student must complete for the bachelor's degree. Students who desire a major of this type will consult a faculty adviser in the department of their choice at the earliest possible date.

### 2. Elective Departmental Curricula

Elective departmental majors are more flexible than prescribed majors. Students choosing a major of this type must earn thirty-six or more credits in the subject represented by the department concerned. They are expected to complete, during the first two years, a minimum of thirty credits in one group, twenty credits in a second group, and ten credits in the remaining group. Departments may add to these requirements if they so desire.

Students will plan their work under the direction of faculty advisers. The degree conferred will be bachelor of arts or bachelor of science, depending upon the major selected.

### 3. Nondepartmental Curricula

*A. General Studies.* The division of General Studies offers courses of study even more flexible than elective departmental majors. Here an effort is made to meet the needs of those students whose interests are not professional or are too broad for the limitations of a single department. When necessary the resources of several departments or of other colleges are drawn upon in building curricula to coincide with the interests of the student concerned. (See General Studies, page 76, for detailed requirements.)

Students majoring in General Studies are assigned to faculty advisers for guidance in planning programs. The degree will be bachelor of arts or bachelor of

science, depending upon the relative preponderance of scientific or nonscientific subjects in the curriculum.

*B. Premajor.* Those students who have not selected a major must meet general University and College requirements. They are assigned to faculty advisers by the Dean's office. Normally, students remain as premajors for only one year.

#### Major Requirements and Special Curricula in the Various Departments and Schools

Below are gathered together the major requirements and set curricula for the College of Arts and Sciences, and teaching major and minor requirements for the College of Education. Deviations from the college requirements for graduation may be authorized by the College Graduation Committee upon the recommendation of the student's major department.

For requirements for advanced degrees, see Graduate School section, page 123.

### ANIMAL BIOLOGY

ARTHUR SVIHLA, *Executive Officer*, 234 Johnson Hall

Students who plan to fulfill the requirements for admission to Medical School while majoring in animal biology should also consult the premedical curriculum. Students planning to work for master's and doctor's degrees should note the foreign language requirements for these degrees and complete the basic language work as early as possible. An overall grade-point average of 2.5, as well as a 2.5 average in animal biology courses, will be required for graduation in this department.

#### Elective Curriculum

##### DEGREE: Bachelor of Science

A minimum of 36 credits in approved courses in animal biology and satisfaction of the group requirements of the College are necessary for graduation. Zoology 1 and 2, and 105 or 127, and a year of college chemistry will be required of students working for this degree. Not more than 10 credits in one or 15 credits in both anatomy and physiology will be allowed to apply on the 36 hour minimum. A second year of chemistry, a year of physics, and a reading knowledge of one foreign language are highly recommended.

#### Prescribed Curriculum

##### DEGREE: Bachelor of Science in Anatomy

Consult the Division of Anatomy before planning a major in this field. Fifty credits in the Department of Animal Biology will be required for graduation. These must include Anatomy 111, 105, 106, 107; Zoology 1, 2, 105, 127-128; and Physiology 53, 54. Also required will be one year of physics, Chemistry 23, 111, and 133, and two years of modern foreign language or its high school equivalent.

##### DEGREE: Bachelor of Science in Physiology

Consult the Division of Physiology before planning a major in this field. Fifty credits in the Department of Animal Biology will be required for graduation. These must include Zoology 1 and 2, 105 and 125, 126 or 127-128; Anatomy 111; Physiology 151, 152, 153, and 163 or 173. Also required are Chemistry 161 and 162, which will count toward the 50 credits.

##### DEGREE: Bachelor of Science in Zoology

Fourteen additional upper-division credits in animal biology beyond the 36 credits set forth in the elective curriculum will be required for graduation with this degree. Botany 108 and Fisheries 101, 102, 103 will count toward this degree. Not more than 10 credits in anatomy or physiology, or not more than 15 credits in both, will be allowed to apply on this degree.



**Teaching Major or Minor in Animal Biology in the College of Education**

A Major requires 36 credits including Zoology 1 and 2 or Physiology 53-54.

A Minor requires 20 credits including the courses enumerated above as well as one or more additional upper-division courses, such as Zoology 108, 111, 129, or 130.

**ANTHROPOLOGY**

**ERNA GUNTHER, Executive Officer, 211 Museum**

**DEGREE: Bachelor of Arts**

A major shall offer 45 credits, including courses 51, 52, 53, 63, 65; 101 or 107; 111; 112 or 114; 120, 142, 143, 150, 160, 185, 190, 191, 192. A 2.5 grade-point average in anthropology is also required; electives must be approved by the department and must include two foreign languages chosen from French, German, or Spanish if graduate work is contemplated.

There is also a Latin-American anthropology major; consult description under General Studies.

**ARCHITECTURE**

**HARLAN THOMAS, Director Emeritus, Physiology Hall**  
**ARTHUR P. HERRMAN, Executive Officer, 301 Physiology Hall**

Member of Association of Collegiate Schools of Architecture

*Requirements for Degree.* The credit requirement for graduation (outside of military or naval science and physical education) is set by this curriculum at 225 credits. No deviation or substitution of courses will be permitted except by consent of the director of the school. In the courses of design, Arch. 54, 55, 56 are known as Grade I; Arch. 104, 105, 106, Grade II; and Arch. 154, 155, 156, Grade III. However, a student may in some cases advance more rapidly; by perfection of work the requirements of a grade may be satisfied without technical registration for all quarters of that grade.

**Curriculum in Architecture**

**DEGREE: Bachelor of Architecture**

**PREARCHITECTURE REQUIREMENTS**

<b>FIRST YEAR</b>	<b>Credits</b>	<b>SECOND YEAR</b>	<b>Credits</b>
Arch. 1-2. Appreciation.....	4	Arch. 10, 11, 12. Arch. Drawing.....	12
Arch. 3. The House.....	2	Art 32, 33. Freehand Drawing.....	4
English, 1, 2, 3. Composition.....	9	Art 34. Sculpture.....	2
Math. 54, 55, 56. Arch. Math.....	9	Physics 1 or 4.....	5
Soc. 1. Survey, for Arch.....	5	Physics 12, 13. Arch. Physics.....	10
Soc. 116. Amer. Housing.....	3	Psychology 118. Soc. Psych.....	5
P. E. 10 or 15.....	2	E.B. 4. Survey of Economics.....	4
Electives.....	11	Electives.....	3

**ARCHITECTURE REQUIREMENTS**

<b>THIRD YEAR</b>	<b>Credits</b>	<b>FIFTH YEAR</b>	<b>Credits</b>
Arch. 40, 41, 42. Water Color.....	9	Arch. 102, 103, 151. History.....	6
Arch. 54, 55, 56. Design Gr. I.....	21	Arch. 120, 121, 122. Contr. Drwngs.....	10
Arch. 61, 62, 63. Materials.....	6	Arch. 154, 155, 156. Design Gr. III.....	21
G. E. 47, 48, 49. Theory of Bldg. Constr.	9	Arch. 169. Specs. & Contracts.....	3
<b>FOURTH YEAR</b>	<b>Credits</b>	C. E. 106. Plumb. & Sanitation.....	2
Arch. 51, 52, 101. Hist. of Arch.....	6	E. E. 105. Illumination.....	2
Arch. 104, 105, 106. Design Gr. II.....	21	M. E. 110. Mech. Equip. of Bldgs.....	2
Arch. 135. City Planning.....	2		
Arch. 152, 153. Theory.....	4		
C. E. 116, 117, 118. Struct. Engr.....	12		

## Curriculum in City Planning

DEGREE: Bachelor of Architecture in City Planning

FIRST YEAR, SECOND YEAR, THIRD YEAR—Same as present curriculum in Architecture

FOURTH YEAR	Credits	FIFTH YEAR	Credits
Arch. 151. Modern History.....	2	Arch. 182, 183. Principles of Planning....	3
Arch. 152, 153. Theory.....	4	Arch. 192, 193. C. P. Design.....	10
Arch. 154. Design Gr. III.....	5	Arch. 194. Thesis.....	7
Arch. 180, 181. Principles of Planning....	4	E.B. 3. Economics.....	3
Arch. 190, 191. C. P. Design.....	10	E.B. 57. Business Law.....	3
Art 160. Life.....	3	*E.B. 109. Principles of Real Estate.....	5
G.E. 21. Surveying.....	3	Geog. 155. Infl. Geogr. Environment.....	5
C.E. 150. San. Eng. and P. H.....	3	*Soc. 165. The City.....	5
C.E. 152. Municipal Eng.....	3	Electives.....	4
Electives.....	8		

## ART

WALTER F. ISAACS, *Director*, 404 Education Hall

DEGREE: Bachelor of Arts

Advanced standing in this school is granted only on presentation of credentials from art schools or university art departments whose standards are recognized by this school. Ordinarily, the presentation of samples of work done will be required before advanced standing will be considered. In the curricula which follow, the laboratory science requirement may be satisfied with botany, zoology, chemistry, physics (except photography), or geology.

## REQUIRED FOR THE FIRST YEAR

Art 5, 6, 7. Drawing.....	9	English 1, 2, 3. Composition.....	9
Art 9, 10, 11. Design.....	9	Modern Foreign Language.....	15
P.E. 10 or 15. Health Education.....	2	Electives.....	2

## General Curriculum

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Art 12. History of Art.....	5	Arch. 1.....	2	Art 20. Modern Sculpture	2
Art 53, 54, 55. Design.....	9	Art 103, 104, or 157, 158.....	6	Art 101. Elementary	
Art 56, 57, 58. Drawing		Art 126. Hist. of Painting	2	Interior Design.....	2
and Painting.....	9	Art 160, 161, 162. Life.....	9	Art 150. Illustration.....	5
Art 72. Sculpture.....	3	Approved Design.....	3	Art 163, 164, or 165.	
Electives.....	19	Econ., Pol. Sci., or Soc.....	5	Composition.....	6
		Laboratory Science.....	10	Art 195, 196, 197. Senior	
		Electives.....	8	Seminar.....	3
				Electives.....	28

Costume design courses, Art 169, 170, 171, 179, 180, 181; Home Economics. 12, 25, 47, 101, 102, 160, 161, 198.

## Art Education

The bachelor's degree will be awarded upon the completion of the four-year course. For the Three-Year Secondary Certificate, the fifth year must be completed. The first minor is in the major field, but the candidate must have a second minor in another field. The social science credits may be earned in sociology, economics, political science, or History 164. An average standing of "B" in art subjects is required of all teaching candidates.

First Year	Credits	Second Year	Credits	Third Year	Credits
Art 5, 6, 7. Drawing.....	9	Arch. 1.....	2	Art 103, 104, or 157, 158	6
Art 9, 10, 11. Design.....	9	Art 12. History of Art.....	5	Art 105, 106.....	6
English 1, 2, 3. Comp.....	9	Art 53, 54, 55. Design.....	9	Art 160 or 161 or 162. Life	3
Educ. 1. Orientation.....	2	Art 56, 57, 58. Dr. & Ptg.	9	Sculpture (3) or Cost.	
P.E. 10 or 15. Health		Lab. Science.....	10	Des. (2) plus Electives	12
Education.....	2	Psych. 1. General.....	5	Educ. 9, 60, 70, 90.....	13
Social Science.....	5	Electives.....	7	Social Science.....	5
Electives.....	9				

\* Courses with prerequisites which must be adjusted.

<i>Fourth Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>	<i>Fifth Year</i>	<i>Credits</i>
Art 20. Modern Sculpture	2	Art 150. Illustration.....	5	Educ. 71, 72. Cadet Teach.	8
Art 100. Elem. Crafts...	2	Art 163, 164, or 165. Comp.	5	Educ. 120. Educ. Soc.....	3
Art 101. Elem. Int. Design	2	Art 195, 196, 197. Senior		History 164.....	5
Art 102. Book-Making		Seminar .....	3	Phil. 129. Esthetics.....	5
and Book-Binding.....	2	Educ. 75A. Methods.....	2	Electives .....	24
Art 126. Hist. of Painting	2	Social Science .....	5		
		Electives .....	15		

### Commercial Art

Second Year: Art 12, 20, 53, 54, 55, 56, 57, 58, 72; Econ., Pol. Sci., or Soc., five credits; electives, twelve credits.

Third Year: Art 105, 106, 126, 129; 160 or 161 or 162; 169, 170 or 171; laboratory science, ten credits; electives, fifteen credits.

Fourth Year: Art 51; 150 or 151; 163 or 164; 166; 195, 196, 197; Econ. 4; approved journalism, ten credits; Psych. 1; electives, five to ten credits.

### Industrial Design

Second Year: Arch. 4, 5, 6, 7, 8, 9; Art 12, 53, 54, 55, 58, 72, 73; electives, seven credits.

Third Year: Arch. 1; Art 80, 81, 82, 103, 104, 116, 126, 157, 158; Chemistry, ten credits; Econ., Pol. Sci., or Soc., five credits; electives, four credits.

Fourth Year: Art 20, 83, 105; 110 or 111 or 112 or 172 or 173 or 174; 129; 195, 196, 197; Econ. 57; General Engineering, 1, 2; Mechanical Engineering 53, 54, 55; Psych., five credits; electives, eleven credits.

### Interior Design

Second Year: Arch. 1, 2, 3, 4, 5, 6, 7, 8, 9; Art 80, 81, 82, 83; electives, thirteen credits.

Third Year: Art 12, 58, 62, 110, 111, 112; Econ., Pol. Sci., or Soc., five credits; laboratory science, ten credits; electives, five credits.

Fourth Year: Art 20, 126, 172, 173, 174, 195, 196, 197; H. Ec. 146; electives, fifteen credits.

### Painting

Second Year: Art 12, 56, 57, 58, 65, 66, 67, 72; electives, nineteen credits.

Third Year: Arch. 1; Art 20, 107, 108, 109, 126; Approved Design, six credits; Econ., Pol. Sci., or Soc., five credits; laboratory science, ten credits; electives, eleven credits.

Fourth Year: Art 160, 161, 162, 163, 164, 195, 196, 197; electives, twenty-three credits.

### Sculpture

Second Year: Art 12, 56, 57, 58, 72, 73, 74; electives, twenty-two credits.

Third Year: Arch. 1; Art 20, 103, 104, 122, 123, 124, 126; Econ., Pol. Sci., or Soc., five credits; laboratory science, ten credits; electives, eleven credits.

Fourth Year: Art 132, 133, 134, 136, 137, 138, 160, 161, 162, 195, 196, 197; electives, fifteen credits.

### Teaching Major and Minor in the College of Education

The curriculum in *Art Education* described above provides a teaching major with the first minor in Art. The courses credited to the minor are: Art 20, 101, 102, 103, 104 or 157, 158; 105, 106, 126—a total of twenty credits.

For those who do not take the first minor in Art the following courses constitute a major: Art 5, 6, 7, 9, 10, 11, 12, 53, 54, 55, 56, 57, 58, 100, 150; 160 or 161 or 162; 163 or 164; Costume Design or Sculpture, two or three credits—a total of fifty-eight credits.

The minor for nonmajors requires: Art 5, 6, 7, 9, 10, 11, 12, 53, 54, 101, 102, 105.

A minor open to Home Economics majors in Textiles and Clothing requires: Art 5, 6, 9, 10, 11, 53, 54, 55, 105, 169, 170.

**BACTERIOLOGY**

**B. S. HENRY, Executive Officer, 420 Johnson Hall**

Ten credits in botany or zoology, 10 credits in physics and Chemistry 23, 111, 131, and 132 are required of all bacteriology majors.

An overall grade-point average of 2.5 in courses in chemistry and biology, and sponsorship by the department shall be required for admission to Bacteriology 100.

Transfer students entering the undergraduate curricula shall be considered by a departmental committee and any examinations deemed necessary shall be required before the student is eligible for sponsorship by the department.

A grade-point average of 2.5 in all courses in bacteriology shall be required for graduation.

**Elective Curriculum**

**DEGREE: Bachelor of Science**

A minimum of thirty-six credits in approved courses in bacteriology and satisfaction of the College of Arts and Sciences group requirements are necessary for graduation.

**Prescribed Curriculum**

**DEGREE: Bachelor of Science in Bacteriology**

The curriculum below must be followed. The selection of an optional group in the third and fourth years depends on the type of specialization desired.

FIRST YEAR					SECOND YEAR				
	Autumn	Winter	Spring			Autumn	Winter	Spring	
Engl.	1	2	3	Comp.	Chem.	131	132	...	Organic
Chem.	1, 21	2, 22	23	General	Chem.	...	...	111	Quant. Anal.
Zool.	1 or 3	2 or 4	...	Intro.	Physics	1 or 4	2 or 5	...	General
Elective	2 cr.	...	7 cr.		Bact.	...	...	100	Fundamentals
P.E.	...	10 or 15	...		Elective	5 cr.	5 cr.	...	

**THIRD YEAR**

Group options: (a) Bacteriologist; (b) Medical Laboratorian; (c) Industrial Laboratorian. In the curricula below, the letters (a), (b), and (c) refer to these options respectively.

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Bact. 105. Pathogenic Microorganisms	5	Bact. 102. Sanitary and Clinical Methods	5	Elective	5
(a) Elective	5	Elective	5	(a) Bact. 104. Serology	5
(b) Bact. 105. Histology	6	(a) Elective	5	Bact. 120. Applied	5
(b) Bact. 103. Pub. Hygiene	5	(b) Anat. 110.	5	(b) Bact. 104. Serology	5
(c) Anat. 105. Histology	6	(c) Bact. 107. Control of Microorganisms	5	(c) Elective	5
(c) Elective	10			(c) Bact. 120. Applied	5
				Bot. 115. Yeasts & Molds	5

**FOURTH YEAR**

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Elective	5	Electives	10	Electives	10
(a) Chem. 161. Physiolog.	5	(a) Chem. 162. Physiological	5	(a) Electives	5
Bact. 110. Pathology	5	(b) Bact. 121. Applied	5	(b) Bact. 122. Applied	5
(b) Bact. 120. Applied	5	(c) Bact. 131. Industrial	5	(c) Bact. 132. Industrial	5
Bact. 110. Pathology	5				
(c) Bact. 130. Industrial	5				
Elective	5				

**BASIC MEDICAL SCIENCE**

(See Premedicine)

**BOTANY**

**C. L. HITCHCOCK, Executive Officer, 306 Johnson Hall**

**DEGREE: Bachelor of Science**

The elective major requires 40 credits, including courses 1, 2, 3, 75, and 108.

**Teaching Major or Minor in the College of Education**

The major requirement is the same as in the College of Arts and Sciences, except that 25 and 101 are required. A minor requires 25 credits including courses 1, 2, 3, 25, 101, and 8 or 108.

**CHEMISTRY**

**H. K. BENSON, Executive Officer, 101 Bagley Hall**

For all chemistry majors in the College of Arts and Sciences, a grade-point average of 2.5 in chemistry courses and a grade-point average of 2.5 in all academic courses shall be required for graduation. Upon completion of the first 90 credits or on transfer from another school every student will be passed upon by a departmental committee to determine whether or not the department desires to sponsor the student in further work in his curriculum.

**Elective Curriculum**

**DEGREE: Bachelor of Science**

The following courses or their equivalent shall constitute the minimum requirements for the elective major: Chemistry 1 or 21, 2 or 22, 23, 111, 131, 132, 140, 141 (in lieu of 140-141, premedical students may present 161-162); 15 credits each in college mathematics and physics; 10 credits in German or French. At least 20 credits in chemistry and 10 credits in physics should be completed among the first 90 credits. The intention of the student to major in chemistry should be declared not later than the end of the sophomore year.

**Prescribed Curriculum**

**DEGREE: Bachelor of Science in Chemistry**

The requirements of the prescribed curriculum are:

First Year: Chem. 1 or 21, 2 or 22, 23; Math. 4, 5, 6; English 1, 2, 3.

Second Year: Chem. 109, 110, 101; Math. 107, 108, 109; Physics 1, 2, 3.

Third Year: Chem. 131, 132, 133; 10 credits in German or French.

Fourth Year: Chem. 181, 182, 183, 190.

All electives must be approved by the department.

**Teaching Major or Minor in the College of Education**

For a teaching major in chemistry, the following courses are required, to make a minimum total of 36 credits: Chem. 1-2 or 21-22, 23, 111, 131, 132, 140-141. One year of college physics is required. For the teaching minor, the student should present the following courses, making a minimum total of 25 credits: Chem. 1-2 or 21-22, 23, 101 and 111, or 131-132. At least high school physics is required for the minor.

Grades of "C" or above must be obtained in all required chemistry courses. It is recommended that candidates have at least 15 credits in mathematics.

Applicants for teaching certificates in chemistry, who are transfers from other institutions, must earn a minimum of nine credits in this University in order to secure a departmental recommendation.

**CLASSICAL LANGUAGES AND LITERATURE**  
(Greek and Latin)

**H. B. DENSMORE, Executive Officer, 213 Denny Hall**

DEGREE: Bachelor of Arts

For an undergraduate major at least 36 credits in either Greek or Latin and a satisfactory showing in the Senior Examination are required; one-half of the credits must be in upper-division courses and the Latin major must include Latin 106. In addition Latin 3 or equivalent is required for a major in Greek, and Greek 3 or equivalent is required for a major in Latin. Greek 1-2, Latin 1 to 6, and courses in Classical Antiquities do not count for a major or minor in the department.

**Teaching Major or Minor in Latin in the College of Education**

The teaching major is the same as the major in the College of Arts and Sciences.

For the minor, 20 approved credits, including Latin 106, are required. The student must also pass an examination which will test his knowledge of the Latin ordinarily taught in a standard four-year high school.

**DRAMA**

**GLENN HUGHES, Director, 410 Denny Hall**

DEGREE: Bachelor of Arts

In drama, the major and minor are the same for graduation in the College of Arts and Sciences and for a secondary certificate in the College of Education.

A major requires 62 credits, made up of the following courses: 1, 2, 46, 47, 48, 51, 52, 53, 103, 104, 105, 106, 114, 121, 122 (or 123), 127, 128, 129, 151, 152, 153, 181 (or 182 or 183), and 197. A senior comprehensive examination is also required. An additional requirement is 25 credits in literature, including English 64, 65, 170, and either 171 or 172.

A minor requires 33 credits, made up of the following courses: 1, 2, 46, 47, 48, 51, 52; 6 credits from 103, 104, 105, 106, 114; 6 credits from 127, 128, 129, 151, 152, 153; and 197.

**ECONOMICS**

**H. H. PRESTON, Dean, College of Economics and Business, 210 Commerce Hall**

DEGREE: Bachelor of Arts

A major requires 50 credits including E.B. 1-2, Principles of Economics; E.B. 60, Statistical Analysis; E.B. 105, Economics of Labor; E.B. 185, Advanced Economics; E.B. 187, History of Economic Thought, and 20 additional credits from the following: E.B. 103, 104, 105, 106, 107, 108, 120, 121, 125, 131, 141, 142, 161, 163, 164, 171, 172, 175, 177, 181.

**Teaching Major or Minor in the College of Education**

Students choosing economics as either their teaching major or minor should consult with the executive officer of the department of economics or the professor in charge of advanced economics with regard to a proper selection of courses. For an academic major the requirement is the same as above. For a minor 20 credits are required, including courses 1-2 and 185.

## ENGLISH

## Composition and Creative Writing—English Language and Literature

D. D. GRIFFITH, *Executive Officer*, 107 Parrington Hall

DEGREE: Bachelor of Arts

NOTE: English 1, 2, and 3 may not be counted for a major or minor.

A major in English requires 50 credits including courses 151, 170, 167 or 144, 177 or 174, 161 or 162, and twenty-five English elective credits of which twenty are earned in upper-division literature or creative writing courses. These upper-division credits may be used to complete the survey of English and American literature or to provide concentrations in certain periods of literature or in creative writing.\*

Professional certification for a secondary teaching certificate requires, as a part of or in addition to the above major. Education 75H, I, or J, Speech 79, English 117, and three credits of advanced or creative writing. A 2.25 grade-point average in upper-division English is also required.

Two minors are offered students desiring certification for a secondary certificate. The first minor requires 36 credits including 64, 65, 66; advanced composition or 117; Speech 79; and two major courses. The second minor requires 24 credits which must include 15 credits of literature (preferably 64, 65, 66, or 57, 58, 117), 3 of advanced composition, and 3 of speech.

## FAR EASTERN

GEORGE TAYLOR, *Executive Officer*, 230 Denny Hall

DEGREE: Bachelor of Arts

Majors are offered in one general and four specialized curricula of which the student is required to select one. F.E. 10 is required of all majors. The general major requires a further 45 credits in Far Eastern studies. The major in Japanese, Chinese, and Slavic studies requires 30 credits in languages and 15 additional credits. The major in Oriental languages requires 45 credits in languages and 15 additional credits.

## FISHERIES

W. F. THOMPSON, *Director*, 2 Fisheries Building

There is required for graduation from the School a grade-point average of 2.5 in fisheries courses and a grade-point average of 2.5 in all other courses.

Admission to the third year of the School of Fisheries requires 90 credits in accord with the requirements of the School and a grade-point average of 2.5.

## Elective Curriculum

DEGREE: Bachelor of Science

The requirements, other than those here specified, will be as for elective departmental majors in the College of Arts and Sciences, page 66, subject to the approval of the School. At least thirty-nine credits must be completed in Fisheries for the major.

## Prescribed Curriculum

DEGREE: Bachelor of Science in Fisheries

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
English 1. Composition...	3	English 2. Composition...	3	English 3. Composition...	3
Zoology 1. Animal Biology...	5	Zoology 2. General Zool...	5	Zoology 105. Embryology...	5
Chem. 1 or 21. General...	5	Chem. 2 or 22. General...	5	Chem. 23. Qual. Analysis...	5
Fish. 108...	1	Fish. 109...	1	Fish. 110...	1
P.E. 10 or 15. Health Ed. 2		Elective .....	2	Elective .....	2

\* The department also accepts, as elective credit, approved courses in General Literature, Drama, Speech, and in foreign literatures in English translation offered by the ancient and modern language departments.

## SECOND YEAR

*German or French..... 5	*German or French..... 5	Elective ..... 5
Zoology or Fisheries (see options A, B, or C).... 5	Zoology or Fisheries (see options A, B, or C).... 5	Zoology or Fisheries (see options A, B, or C).... 5
Math. 4 or 31..... 5	Math. 5 or 32..... 5	Math. 6, 13, or 33..... 5

\*Any language substitution must be approved by the School of Fisheries.

NOTE: These requirements are listed in the order in which it is recommended that they be taken. They may be postponed and subjects required or permitted in the third and fourth years may be substituted, on approval by the School of Fisheries.

## THIRD AND FOURTH YEARS

One of the following options should be chosen, for each of which the following recommendations are made. The School of Fisheries should be consulted for choice of electives and modification of requirements.

All options require Fish. 101, 102, 103, 105, 106, 107, 108, 109, 110, 195, 196, and 197.

Option A. *General Fisheries Biology*. Not less than 39 credits in fisheries and not more than 96 credits in any two departments. Zoology 129 and 130 are recommended to students interested in fresh water fish and game management.

Option B. *Life History and Conservation*. Fish. 125, 126, 127, 156, 157, and 158; 16 credits of mathematics beyond those specified in the second year.

Option C. *Hatchery Biology, Propagation and Rearing of Fish*. Fish. 150, 151, 152, 153, 154; Chem. 144 or 161-162 (Biological); Bacteriology 101 (General). Fish. 125 or 157 may be substituted for 103.

Option D. *Fisheries Technology*. Consult the School for requirements.

*Recommended Electives*. In options (B), and (C), any fisheries, zoological, or oceanographical course may count as an elective. The following additional electives are recommended: Chem. 109, 110, or 111 (Quantitative Analysis); 131, 132, 133 (Organic); 161-162 (Biological); Math. 13 (Statistics); 41, 42, or 107, 108, 109 (Calculus); Bacteriology 101 (General); 102 (Sanitary); Physics 1, 2, 3, or 4, 5, 6 (General); Physiology 115 (General), 139 (Comparative); Geology 1 (Survey), or 6 (Physiography), or 7 (Historical); Botany 1, 2, or 3 (Elementary).

## FOOD TECHNOLOGY

H. C. DOUGLAS, *Chairman*, 402 Johnson Hall; B. S. HENRY, E. R. NORRIS,  
E. J. ORDAL, J. I. ROWNTREE

A major in food technology provides training for students who intend to enter the field of food production as control or research laboratory workers. Emphasis may be placed upon bacteriology, chemistry, or food utilization by selection of various optional courses in the fourth year. Women interested in home economics research or teaching food and nutrition in college should follow this curriculum. Further flexibility is permitted in that a course may be substituted for any regularly scheduled course with the consent of the committee members representing the department in which the eliminated course is given.

Group options (a) and (b) in the third and fourth years are designed to provide specialization. Group (a) is for students primarily interested in laboratory work concerned with food production while group (b) is for those expecting to teach nutrition in college or to carry on work in laboratories conducting food-preparation studies.

For all food technology majors, a grade-point average of 2.5 in bacteriology, chemistry, and home economics, and a grade-point average of 2.5 in all other subjects shall be required for graduation.



## DEGREE: Bachelor of Science in Food Technology

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 1 or 21. General....	5	Chem. 2 or 22. General....	5	Chem. 23. Qual. Analysis... 5	
English 1. Composition....	3	English 2. Composition....	3	Physics 3. General.....	5
Physics 1. General.....	5	Physics 2. General.....	5	Math. 1 or 4.....	5
P.E. 10 or 15. Health Ed..	2			English 3. Composition...	3

## SECOND YEAR

Chem. 131. Organic.....	5	Chem. 132. Organic.....	5	Chem. 111. Quant. Analysis	5
Zoology 1. Animal Biology	5	Zoology 2. General.....	5	Bact. 100. Fundamentals..	10
or		or		Bact. 100. Fundamentals..	8
Bot. 1. Elementary.....	5	Bot. 2. Elementary.....	5	Elective .....	2
<i>Group Option</i>		<i>Group Option</i>			
(a) Math. 4 or 5.....	5	(a) Math. 5 or 6.....	5		
(b) H.E. 15 .....	5	(b) H.E. 115.....	3		
		Elective .....	2		

## THIRD YEAR

Chem. 161. Biochem. ....	5	Chem. 162. Biochem. ....	5	Chem. 104. Food Anal....	4
Soc. Science Elective.....	5	Chem. 140. Elem. Physical	3	Chem. 141. Elem. Physical	3
		Bact. 107. Spoilage.....	5	Bot. 115. Yeasts & Molds	5
<i>Group Option</i>		<i>Group Option</i>		<i>Group Option</i>	
(a) Bact. 105. Infect. Dis.	5	(a) Elective .....	2	(a) †H.E. 110. Food Prep.	3
(b) H.E. 107. Nutrition..	5	(b) H.E. 108. Nutrition..	3	†H.E. 111. Nutrition..	3

## FOURTH YEAR

Bact. 130. Industrial.....	5	Bact. 131. Industrial.....	5	Bact. 132. Industrial....	5
Optional* .....	5	Optional* .....	5	<i>Group Option</i>	
<i>Group Option</i>		<i>Group Option</i>		(a) Elective .....	6
(a) Chem. 121. Industrial	5	(a) Chem. 122. Industrial	5	Chem. 123. Industrial	5
(b) Bact. 105. Infect. Dis.	5	(b) Elective .....	5	(b) Elective .....	10

\* Practical work in food plant, federal, state, or private laboratory, institution kitchen, or formal course work, to be decided upon by student in consultation with the committee.

Additional recommended courses: colloidal chemistry, microscopic technique, histology, entomology, calculus, experimental cookery.

† Offered alternate years.

## GENERAL LITERATURE

ALLEN R. BENHAM, *Executive Officer*, 132 Parrington Hall

## DEGREE: Bachelor of Arts

A major in general literature requires a reading knowledge of two foreign languages; satisfaction of requirement is determined by department offering instruction in language selected. General Literature 101 and 191, 192, 193, and sufficient other literature courses to make a total of 36-60 credits are also required.

Preparatory to his major, the student must earn 18 credits in lower-division courses in either English, Latin, Far Eastern, or Romance literature.

## GENERAL STUDIES

H. B. DENSMORE, *Chairman*, 213 Denny Hall

## DEGREE: Bachelor of Arts or Bachelor of Science

Enrollment in General Studies is open to students who fall within the following classifications: (1) those who can spend only a limited time in the University and wish guidance in making up a program of work from this or other colleges adapted to their special needs; (2) those who wish to follow through to graduation the study of a field of knowledge or a subject of special interest not provided for in the usual department curricula. To be admitted to this division the student must have maintained at least a "C" average in his preceding educational experience, and must complete his transfer not later than his third quarter preceding graduation.

The requirements for graduation in General Studies are:

1. The early selection, with the help of an adviser, of a special field or subject of interest as a major to focalize and give direction to the student's work, and the formulation of an approved schedule of courses.

2. Completion of at least 70 credits in the chosen field or subject. The bachelor of arts degree is awarded when the major is in Group I or II; the bachelor of science, when the major is in Group III.

3. A senior study embodying the reactions of the student to the work done in pursuing his major interest.

In addition to the flexible programs made out to supply the special needs of individual students, there are at present organized curricula for Advertising, Anthropology of the Americas, Art and Ceramics, the Blind in Education, Home Relations, Latin-American Studies, Literature and Society, Music for Radio, Personnel Work, Radio Production and Management, School and Society (for teachers). Curricula developed in General Studies also give admission to the School of Librarianship and the Graduate School of Social Work.

*Latin-American Studies.* The major in Latin-American Studies is directed by an interdepartmental committee (C. Garcia-Prada, chairman). It normally includes the following courses: Anthropology 52 (Social), 65 (Peoples of the World); Economics 4 (Survey), 131 (Foreign Trade); Geography 7 (Economic), 105 (South America), 109 (Middle America); History 41, 42 (Latin-America and the Caribbean); Political Science 123 (International Relations of the Western Hemisphere); Spanish 101, 102, 103 (Composition and Conversation; Commercial); 104, 105, 106 (Survey) and 12 elective credits in Latin-American literature.

## GEOGRAPHY

**HOWARD H. MARTIN, Executive Officer, 406 Social Sciences Hall**

DEGREE: Bachelor of Arts

### Major in Geography

A major requires 50 credits including Geography 1 or 101 or 7 or 70; 2, 11 or 111, 102, 103, 104; 105 or 109; 106 or 107; electives should be approved by the department.

### Major in Meteorology

A major requires 50 credits including Geography 11, 102, 112, 119, 121, 152-3-4, 156 and geography electives. Required supporting courses are Physics 1, 2, and 3; Mathematics 4, 5, 6, and 13.

### Teaching Major or Minor in Geography in the College of Education

A major is the same as in the College of Arts and Sciences, except that courses 110 and 125 replace 2.

A first minor requires 26 credits including courses 1 or 101 or 7; 102, 110, 125, 170.

A second minor requires 19 credits including courses 1 or 101 or 7; 102, 110, 125.

## GEOLOGY

**G. E. GOODSPEED, Executive Officer, 114 Johnson Hall**

Students may offer either the elective curriculum or the prescribed curriculum. A grade-point average of at least 2.5 shall be required in Geology 5 or 105, 6 or 106, 7 or 107 for admission to any courses in geology with a number above 100. A grade-point average of 2.5 in all courses in geology shall be required of majors for graduation. Majors will be required each quarter to read two books of outstanding merit from a list prepared by the department.

**Elective Curriculum****DEGREE: Bachelor of Science**

Majors offering the elective curriculum must fulfill the group requirements of the College of Arts and Sciences and should conform closely with respect to background courses as outlined under the prescribed curriculum. Unless given special permission by the department of geology, they are required to take the following courses. In general the distribution should be as follows:

<i>Second Year</i>	<i>Credits</i>	<i>Third Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>
Geol. 5. Rocks & Minerals	5	Geol. 100. History of Geol.	3	Geol. 131. Stratig.	5
Geol. 6. Elem. Physiog.	5	Geol. 123. Optical Miner.	5	Geol. 132. Invert. Paleon.	5
Geol. 7. Historical Geology	5	Geol. 124. Petrog.-Petro.	5	Geol. 112 or 113. Physiog.	5
Geol. 121. Mineralogy	5	Geol. 125. Petrog.-Petro.	5	U. S.	5
	20		18	Geol. 142. Structural	5
					20

For those who are interested in stratigraphy or oil geology, the following additional courses are recommended:

<i>Third Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>
Geol. 130. Gen. Paleont.	5	Geol. 126. Sediment Petrog.	5
Geol. 133. Mesozoic Geol.	5	Geol. 135. Ammonites	2
Geol. 134. Tertiary Geol.	5	Geol. 143. Advanced Struct.	3
	15	Geol. 144. Field Methods	5
			15

For those who are interested in ore deposits, the following additional courses are recommended:

<i>Third Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>
Mining 151. El. Mining	3	Geol. 127. Ore Dep.	5
Met. 101. Fire Assaying	3	Geol. 129. Adv. Ore Dep.	3
Geol. 144. Field Methods	5	Geol. 143. Adv. Struct.	3
	11		11

**Prescribed Curriculum****DEGREE: Bachelor of Science in Geology****FIRST YEAR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 1 or 21. General	5	Chem. 2 or 22. General	5	Chem. 23. Qual. Analysis	5
Math. 4. Trigonometry	5	Math. 5. College Algebra	5	English 1. Composition	3
G.E. 1. Engin. Drawing	3	G.E. 2. Engin. Drawing	3	G.E. 21. Plane Surveying	3
Elective	2	P. E. 15. (men)	2	G.E. 3. Drafting Problems	3

**SECOND YEAR**

Geol. 5. Rocks & Minerals	5	Geol. 6. Elem. Physiog.	5	Geol. 7. Historical Geology	5
Physics 1. General	5	Physics 2. General	5	Geol. 121. Mineralogy	5
Zoology 1. Elementary	5	Lit. 67. Sur. American Lit.	5	English 2. Composition	3

**THIRD YEAR**

Geol. 123. Optical Mineralogy	5	Geol. 124. Petrography and Petrology	5	Geol. 125. Petrography and Petrology	5
Geol. 142. Structural Geol.	5	Geol. 130. Paleontology	5	Geol. 132. Invertebrate Paleontology	5
Foreign Language	5	Foreign Language	5	Foreign Language	5

**FOURTH YEAR**

Geol. 100. History of Geol.	3	Geol. 127. Ore Deposits	5	Geol. 144. Field Methods	5
Geol. 126. Sedimentary Petrography	5	*Professional electives	5	Geol. 190. Thesis	5
Pol. Sci., Soc., Geog., or other Group 2 electives	5	Pol. Sci., Soc., Geog., or other Group 2 electives	5	*Professional electives	5
*Professional electives	3				

\* Depending on field of interest. A fifth year may be necessary for the completion of the above schedules if all of the important professional electives are to be included.

**Teaching Major or Minor in the College of Education**

A major requires 36 credits, including courses 5 or 105, 6 or 106, 7 or 107, 112, 113.

A minor requires 20 credits, including courses 1, 5 or 105, 6 or 106, approved electives.

**GERMANIC LANGUAGES AND LITERATURE**

**CURTIS C. D. VAIL**, *Executive Officer*, 111 Denny Hall

DEGREE: Bachelor of Arts

For the major 36 credits are required including courses 120, 121, 122, and 128; 31 credits must be chosen from the departmental offerings numbered 120 or above. Majors are not permitted to count scientific German, or courses in English translation.

Students preparing for library work may substitute literary courses in German (not courses offered in translation, however) in lieu of the departmental major requirements, German 120, 121, 122, 128. These latter are demanded of prospective teachers.

**Teaching Major or Minor in the College of Education**

For the major the requirements are the same as for the major in the College of Arts and Sciences. For the minor at least 15 credits must be chosen from courses numbered 120 or above, to make a minimum total of 20.

Grades of "C" or above must be obtained in all required German courses; one-third of the grades in the upper-division courses must be "B" or above.

All students who wish a major or minor recommendation in German must present Education 75L.

**HISTORY**

**WILLIAM STULL HOLT**, *Executive Officer*, 308B Social Sciences Hall

DEGREE: Bachelor of Arts

Majors in history shall offer for the bachelor of arts degree 50 credits in history, of which at least 50 per cent must be in upper-division courses. History 1 and 2, Medieval and Modern European History, and a survey in American history, either History 7 or 21-22, are the only required courses.

**Teaching Major or Minor in the College of Education**

For the teaching major, a minimum of 50 credits in history is required, including History 1 and 2, 7 or 21-22, 72-73, and 164. The remaining credits are to be taken in upper-division courses.

For the teaching minor, a minimum of 30 credits in history is required, including History 1 and 2, 7 or 21-22, and 164. The remaining credits are to be taken in upper-division courses.

A grade-point average of 2.5 in the courses in history is required for teaching majors and minors.

**HOME ECONOMICS**

**JENNIE I. ROWNTREE**, *Director*, 201 Home Economics Hall

The School of Home Economics offers professional and nonprofessional curricula for its majors and recommends separate courses and sequences for students in other departments. The professional curricula are intended for specialists in the different fields; the nonprofessional curricula are less intensive and permit a wider choice of electives.

### Courses for Students in Other Departments

Recommended electives without science prerequisites are: 2, 41, 83, 84, 104, 109, 144, 145, 146 or 147.

Home economics minor for students who do not major in the School of Home Economics: At least 24 credits in home economics, including the following: 15 or 83, 12 or 84, 104 or 107, 112, 115, 145, 146 or 147, 190. A grade-point average of 2.5 in home economics is required.

### Nonprofessional Curricula

DEGREE: Bachelor of Science

*General Major.* Those who wish a broad background in home economics without specialization will take the following: 12, 15, 25, 107-108, 141, 144, 147, 181, 190, and their prerequisites.

DEGREE: Bachelor of Arts

*Textile-Clothing Major.* The nonprofessional curriculum is similar to the professional except that 160 and 161 are not required, and 9 credits are selected from the following: 101, 102, 188, 189, 198.

### Professional Curricula

TEACHER TRAINING—UNDER SMITH-HUGHES ACT

DEGREE: Bachelor of Science in Home Economics

For Smith-Hughes certification and to meet the requirements of the College of Education for the Three-Year Secondary Certificate, 66 credits in home economics are required for the major and first minor. A second minor requiring 20 to 30 credits must be elected in another department. Twenty-four credits in education and a minimum of 20 credits of language, literature, history, or political science are required.

The required home economics courses are 7, 12, 15, 107, 108, 112, 115, 116, 141, 144, 145, 147, 148, 181, 190, and Nursery School 102 or 200. The supporting subjects required in other departments are General and Organic Chemistry, Physiology 7, Sociology 1, Economics 4, Bacteriology 101, and Physics 90 if physics was not taken in high school. Education requirements are 1, 9, 60-70, 71-72, 75 NA, 90. The minor may be elected in one of the sciences, from art, or from the humanities. Students must maintain a 2.5 grade-point average.

### TEXTILES, CLOTHING, AND ART

DEGREE: Bachelor of Arts in Home Economics

Required home economics courses include: 7, 12, 25, 112, 113, 114, 133, 144, 145, 147, 160, 161, 181, 188, 198, and their prerequisites and their supporting courses in other departments. In addition, general chemistry, history, philosophy, and 30 credits in art are required. If the major interest is merchandising instead of designing, the Director of the School should be consulted concerning substitution of courses in economics and business for equivalent art requirements.

### INSTITUTION ADMINISTRATION

DEGREE: Bachelor of Science in Home Economics

Required home economics courses include: 7, 15, 26, 107-108, 115, 116, 121, 122, 123, 124, 131, 141, 144, 145, 147, 181, 190, 191, and their prerequisites, together with supporting subjects in other departments.

For membership in the American Dietetic Association, the student must follow this curriculum by a year's internship in an approved hospital course or in one of the administrative dietitian intern courses.

## FOOD, NUTRITION, AND HOME MANAGEMENT

## DEGREE: Bachelor of Science in Home Economics

The following home economics courses with their science prerequisites and their supporting subjects in other departments are required for all of the curricula below: 7, 15, 107-108, 115, 116, 141, 144, 145, 181, and 190.

1. Those who wish to do scientific or commercial work will select 9 additional credits from the following: 126, 187, 191, Chem. 161 or 162, Speech 40 or 43, Journalism (at least 5 credits).
2. Those with a good science background and with the necessary education credits may qualify for secondary certification and teach science and home economics in schools not receiving Smith-Hughes support.
3. *Journalism and Home Economics*: Students who wish to combine journalism with home economics will take Journalism 1, 51, 147-154 inclusive.
4. *Social Work and Home Economics*: Students who wish to become nutritionists will select courses approved by the Graduate School of Social Work and plan for a fifth year in that school.

## JOURNALISM

H. P. EVEREST, *Director*, 101 Lewis Hall

DEGREE: Bachelor of Arts

*Admission.* Students, to qualify as third-year majors in journalism, must complete 90 scholastic credits, with an over-all grade-point average of 2.5, including the lower-division requirements of the college, plus the required six quarters in military science and physical education, or in naval science. Students not having upper-division standing may be admitted, on recommendation of the director, to upper-division courses in the School of Journalism if they (1) are proficient in English composition and typing, (2) have had sound training in history, economics, politics, and sociology, and (3) have had not less than a year's experience in newspaper work or other professional writing.

*Sixth Quarter Conference.* Students planning to major in journalism must have a conference with a member of the School of Journalism faculty before being enrolled in Third Year Journalism. This will normally take place when the student is in his sixth quarter.

*Transfers.* Students planning to transfer with junior standing, from normal schools, junior colleges, or from other universities, must communicate with the head of the School of Journalism before registering. Rarely will they be permitted to enroll, during their first year on the University of Washington campus, in Third Year Journalism, which they are advised to take in their graduating year.

Students transferring with less than 90 credits will be held rigidly to the requirements specified in the journalism curriculum. Those with 90 or more quarter credits may be exempted from certain requirements on application to, and at the discretion of, the director of the School of Journalism.

A student holding a bachelor's degree from a recognized college or university may, with the consent of the director of the School, take Third Year Journalism. This work can not be counted toward an advanced degree.

*Typewriting.* All written work in the School of Journalism must be done on a typewriter. An average speed of 45 words per minute is required.

## Curriculum

A major in journalism is required to meet the College of Arts and Sciences lower-division requirements and to offer nine credits of specified prejournalism; 45 credits of additional journalism; 15 credits of English (11 of which must consist of English 1, 2, and 65. English 67 and 69 are recommended); and 20 credits in one of the fields of sociology, political science, psychology, history, home economics,

geography, or economics. By special arrangement with the head of the department concerned, a student may elect his minor in a field other than these seven above specified. If a student so desires he will find it possible to elect more than one minor, although only one is required.

An average grade of "B" or better must be earned in all journalism subjects.

The required courses for the first two years are: Journ. 1, 51, 84; Engl. 1, 2, 65; Geog. 70; Psych. 1; Pol. Sci. 1; E.B. 1-2; Hist. 2; Speech 38 or 40; Soc. 1; Physics 10; one additional science course (5 cr.); Physical Education 10 or 15 and military science.

*Third-Year—nonelective.* The required courses are Journ. 147, 148, 149, 150, 151, 152, 153, 154, 181, 182, 183, and Geog. 77.

The Third Year starts at the beginning of the autumn quarter and concludes at the end of the spring quarter. No grades or credits will be awarded to students doing satisfactory work until the end of the year. At the end of each quarter students whose work is unsatisfactory will be given grades ("C," "D," or "E") and such journalistic credit as they may have earned. They must then arrange to choose another major.

Third Year Journalism is now divided into two sequences, Advertising and Editorial. Journalism majors should decide as early as possible in the sophomore year which sequence to elect.

Those specializing in advertising and business are required to take Econ. 106, Marketing, and Art 5, Drawing, in lieu of the regular prejournalism requirements of Speech 38 or 40 and Geography 70. They are also urged to take Economics 54, Business Law. There is no exception to these requirements except by special permission of the director of the School of Journalism. Econ. 135, Retailing, is required of seniors electing the advertising sequence. Econ. 134, Wholesaling, is strongly recommended.

Students who fail to make the grade standing required in the Junior Journalism year may not repeat the course a subsequent year, except by permission of the director of the School of Journalism.

*Fourth Year.* Two quarters of Journalism 199 (2 credits per quarter) are required. The major and his adviser will determine the schedule of courses.

#### Teaching Major or Minor in the College of Education

Major students in the College of Education who have had Journ. 1, 51, and 84 as prerequisites may obtain a major in journalism by completing the work in Third Year Journalism. An average class grade of "B" or better must be earned in all journalism subjects.

Students wishing to minor in Journalism, regardless of major, must include the following courses in their minor: Journ. 1, 51, 84, and 15 credits to be designated by agreement with director of the School of Journalism.

### MATHEMATICS

A. F. CARPENTER, *Executive Officer*, 237 Physics Hall

DEGREES: Bachelor of Arts or Bachelor of Science

For a major, forty-two credits are required, including courses 4, 5 or 7, 6, 107, 108, 109, and twelve credits in upper-division electives.

DEGREES: Bachelor of Science in Mathematics

Bachelor of Arts in Mathematics

For the degree of Bachelor of Science in Mathematics, fifty credits are required, including courses 4, 5 or 7, 6, 107, 108, 109 and twenty credits in upper-division electives. In addition the following credits must be earned: in physics or chemistry, 15; in astronomy, botany, geology, or zoology, 15; in Groups I and II (see page 66), 15 each. For the degree of Bachelor of Arts in Mathematics, the requirements are the same except that a minimum of 15 credits in science is allowed and the preponderance of the student's free electives shall be from Groups I and II.

### Teaching Major or Minor in the College of Education

For a teaching major forty-five credits are required, including courses 4, 5 or 7, 6, 107, 108, 109, and fifteen credits in approved electives.

For a teaching minor, courses 4, 5 or 7, 6, and ten credits in approved upper-division electives.

Mathematics 11 will not count toward a teaching major or minor. All credits offered in fulfillment of requirements for a major or minor must be gained by grades not lower than "C."

### MUSIC

CARL PAIGE WOOD, *Director*, 101 Music Building

The School of Music offers three types of service: (1) cultural courses and participation groups for students in other fields; (2) a four-year curriculum for those who wish to major in music with a broad background in liberal arts; (3) professional training for those planning to be executants, teachers, or composers.

The courses in choral and instrumental ensemble are open to any student in the University who can qualify, and may be taken either as credit courses or as activities. The University Singers and the Women's Glee Club are open without prerequisite of any kind. An ensemble course may be repeated once with credit.

The first two years of the state course of study for high school credits in piano, or the equivalent of Music 9AX, are required of all entering music majors. Freshmen deficient in piano may be accepted as music majors only by demonstrating marked proficiency on other approved instruments, but must arrange to make up the deficiency immediately as a prerequisite to courses in harmony. For this purpose, elementary piano instruction in groups is offered at a small fee.

New students whose training and proficiency in music, gained before entering the University, may warrant advanced standing, must make application during their first quarter in residence. Freshmen will not ordinarily be given advanced credits in music, but will substitute other approved courses for those omitted. In no case will more than 18 credits in vocal or instrumental music be allowed freshmen applying for advanced standing. See also p. 46 and p. 51.

### Classification of Courses

I. Music Materials and Composition: 5, 6, 15, 16, 25, 26, Fundamentals of Musicianship; 51, 53, 101, Harmony; 52, Score Reading; 109, 163, Counterpoint; 112, Form; 143, Orchestration; 157, 158, 159, 177, 178, 179, Composition.

II. Vocal and Instrumental Music: 1, 2, 3, 7, 8, 9, Group Instruction; 18, 19, 20, 48, 49, 50, 68, 69, 70, 118, 119, 120, 148, 149, 150, 168, 169, 170, Individual Instruction; 33, 34, 35, 83, 84, 85, 133, 134, 135, Piano Repertory; 60, 62, Orchestral Instrument Classes; 73, 74, 75, 173, 174, 175, Keyboard Transposition and Improvisation; 160, Song Interpretation; 199, Senior Recital.

III. Music Literature and History: 4, Freshman Major Course; 21, 22, 23, 24, 44, Courses for Non-Majors; 54, 55, Sophomore Courses; 132, Junior Course; 87, 105, 106, 145, 151, 153, 161, 162, 181, 187, 190, 191, 192, Elective Courses; 193, Senior Reading Course.

IV. Choral Ensembles: 10-11-12, 45-46-47, 80-81-82, University Singers; 65, 66, 67, Women's Glee Club; 121, 122, 123, Madrigal Singers.

V. Instrumental Ensembles: 30, 31, 32, Elementary Band; 37, 38, 39, 139, Piano Ensemble; 43, Elementary Orchestra; 90, 91, 92, Concert Band; 93, 94, 95, Symphony Orchestra; 124, 125, 126, Chamber Music; 138, Accompanying.

VI. Music Education: 40, 41, 42, Orchestral Instruments; 98, 128, Choral Music; 116, 155, 156, Educ. 75R, School Music; 165, 166, 167, Piano Teaching.

VII. Conducting: 136, 195, Choral; 180, Orchestral.

VIII. Eurhythmics: 27, 28, 29, First Year; 77, 78, 79, Second Year.

IX. Graduate Courses: 200, 210, 211, 212, 221, 222, 223, Musicology; 218, 219, 220, Vocal and Instrumental Instruction; 230, 233, Seminars; 240, 241, 242, Composition; 250, 251, 252, Research and Thesis.

Freshmen intending to major in Music will register provisionally for Music 5 and 6, Fundamentals of Musicianship, until a placement test determines the capabilities and needs of each individual.



**Elective Curriculum****DEGREE: Bachelor of Arts**

In addition to the general requirements of the College of Arts and Sciences (see pages 65-67) fifty-two credits in approved music courses are required, including eighteen in Music Literature and History (see Classification of Courses above); sixteen in Materials and Composition; six in Ensembles.

**Prescribed Curricula****DEGREE: Bachelor of Arts in Music**

Three majors are offered with prescribed curricula: I. Vocal or Instrumental Music; II. Composition; III. Music Education.

In addition to the general requirements of the College of Arts and Sciences (see pages 65-67) the following courses are required for all three majors: fifteen credits in ensemble courses, not less than four being in choral groups nor less than six in instrumental groups; Music 5, 6, 15, 16, 25, 26, Fundamentals of Musicianship (according to placement); 4, 54 or 55, 132, 193, Literature and History; 51, 53, 101 (Music Education majors may omit 101), Harmony; 52, Score Reading (or exemption); 98, Choral Music; 109, Counterpoint; 112, Form; twenty credits in Group II, including Philosophy 129, Art (except for Music Education majors); ten credits in Group III, including Physics 50, Sound.

Further requirements for the respective majors are as follows:

**I. MAJOR IN VOCAL OR INSTRUMENTAL MUSIC**

A. Piano: Music 27, 28, 29, Eurhythmics; 33, 34, 35, 83, 84, 85, 133, 134, 135, Repertory (any six); 73, 74, 75, 173, 174, 175, Keyboard Transposition and Improvisation (any four); 138, Accompanying; 139, Ensemble; thirty credits in piano beginning with 48A, and six in another instrument or in voice; 199, Senior Recital. Those planning for studio teaching rather than public performance will take 165, 166, 167, Piano Teaching, and may arrange the senior program to be given before a faculty committee, with use of scores optional.

B. Violin: Music 40 or 41, and 42, Orchestral Instruments; 124, 125, 126, Chamber Music; 143, Orchestration; 157, Composition; 199, Senior Recital; thirty credits in violin, beginning with 48B, and six in another instrument.

C. Voice: Music 160, Song Interpretation; 191, Vocal Literature; 199, Senior Recital; English 57, Poetry; ten credits in German and ten in either French or Italian; thirty credits in voice beginning with 48C, and six in instrumental instruction.

D. Violoncello: See Violin.

E. Organ: Music 40 or 41, and 42, Orchestral Instruments; 138, Accompanying; 143, Orchestration; 145, Church Music; 157, Composition; 163, Counterpoint; 199, Senior Recital; thirty credits in organ beginning with 48E and six in voice.

**II. MAJOR IN COMPOSITION**

Music 40 or 41, and 42, Orchestral Instruments; 136, 180, Conducting; 143, Orchestration; 163, Counterpoint; 157, 158, 159, 177, 178, 179, Composers' Laboratory (any five); 190, 192, Literature and History; eighteen credits in vocal and instrumental instruction.

**III. MAJOR IN MUSIC EDUCATION**

Music 40, 41, 42, 62, Orchestral Instruments; 116, Junior High School Music; 128, Choral Music; 136, 180, Conducting; 143, Orchestration; 155, Music Supervision; 156, Instrumental Music in Schools; eighteen credits in vocal and instrumental instruction; Education 1, Orientation; 9, Secondary; 70, High School Procedure; 75R, Senior High School Music; twenty credits in Group II, including Psychology 1, General; and History 164, Northwest.

Students intending to apply for secondary certificates should refer to the requirements on page 97.

### Teaching Major or Minor in the College of Education

For the teaching major the departmental requirements for the first four years are the same as III above, except that Music 112, 143, 193, and six credits in orchestral instruments, totalling 21 credits, may be either omitted or counted as one of the teaching minors. In the fifth year advanced conducting and six additional credits in vocal or instrumental music must be included, making a total of 97 credits in Music. As a prerequisite to cadet teaching proficiency in both piano and voice at least equivalent to Music 9AX and 9CX must be demonstrated not later than the junior year.

Majors in other departments are offered the choice of three music minors, each requiring Education 75R, Senior High School Music; and specifically:

A. General Music: Courses 40, 41, or 42, Orchestral Instruments; 51, 53, Harmony; 98, Choral Music; 116, Junior High School Music; 136, 180, Conducting; six credits in vocal or instrumental music, totalling 33 credits.

B. Vocal Music: Courses 51, Harmony; 98, 128, Choral Music; 136, 195, Choral Conducting; six credits in vocal music beginning with 48C, totalling 23 credits.

C. Instrumental Music: Courses 40, 41, 42, Orchestral Instruments; 51, Harmony; 98, Choral Music; 136, 180, Conducting, totalling 21 credits.

### PHILOSOPHY

EVERETT J. NELSON, *Acting Executive Officer*, 262 Philosophy Hall

DEGREE: Bachelor of Arts

A major must offer Psychology 1 plus 40 credits in philosophy including courses 2 or 3, 5, 101-102-103. Fifty per cent of the credits must be in upper-division courses.

### PHYSICAL AND HEALTH EDUCATION FOR MEN AND WOMEN

EDWARD H. LAUER, *Acting Director*

MARY GROSS HUTCHINSON, *Executive Officer for Women*

105 Women's Physical Education Building

HENRY M. FOSTER, *Executive Officer for Men*, 210 Men's Pavilion

DEGREE: Bachelor of Arts

The School of Physical and Health Education includes four main divisions: (1) physical education activity program, (2) health instruction, (3) intramural sports and recreation, (4) professional education in teacher training and recreational leadership.

#### Lower-Division Requirements for All Major Curricula

*Required:* Zoology 1, 2, 16, 17, Chemistry 1-2 (except for Men in Curr. B) or high school chemistry, Anatomy 110 (except for Men in Curr. B), Physiology 7, English 1, 2, 3, Sociology 1, Psychology 1, Speech 40.

*Additional for Women:* Physical Education 10, 11, 12, 13, 14, 51, 52, 53.

*Additional for Men:* Physical Education 7, 8, 9, 10, 11, 12.

#### Major Requirements

##### A. Physical Education Major:

*Required:* Physical Education 102, 115, 116, 145, 165.

*Additional for Women:* Physical Education 111, 112, 118, 128, 156, 162, 163, 164.

*Additional for Men:* Physical Education 107, 109, 150 and 6 credits from 170, 171, 172, 173.

##### B. Recreational Leadership Major:

*Required:* Physical Education 102, 115, 116, 124, 126, 128, 145.

*Required Related Courses:* Art 100, Librarianship 252, 5 credits from Drama

106, 107, 108, 109, Forestry 6, 65, Music 22, 23, 24 and 13 credits from sociology or Graduate School of Social Work.

*Additional for Women:* Physical Education 101, 111, 112, 118, 156, 162, 163, 164, 165.

*Additional for Men:* Physical Education 109, 150.

**C. Prephysiotherapy Major: (For Women)**

*Required:* Physical Education 101, 102, 111, 112, 115, 116, 122, 145, 162, 163, 164, 165.

*Required Related Courses:* Physics 70, Psychology 2, 131.

**Majors and Minors for the Teaching Certificate**

**D. Physical Education Major:**

*Required:* Physical Education 102, 115, 116, 122, 127, 145, 150.

*Additional for Women:* Physical Education 101, 111, 112, 118, 128, 156, 162, 163, 164, and 3 credits in physical education electives.

*Additional for Men:* Physical Education 107, 109, 135, 193 and 6 credits from Physical Education 170, 171, 172, 173.

If not accompanied by health education minor, add Physical Education 153, 165, Home Economics 104.

**E. Health Education Major:**

*Required:* Physical Education 116, 145, 153, 165.

*Required Related Courses:* Nursing 169, Home Economics 104, Psychology 2, Zoology 1-2 and 6 credits from sociology or Graduate School of Social Work. 6 credits from sociology or Graduate School of Social Work.

*Additional for Men:* Physical Education 107.

**F. Physical Education Minor:**

*Required:* Physical Education 116, 145, 150.

*Required Related Course:* Physiology 50.

*Additional for Women:* Physical Education 51, 52, 53, 109, 112, 153, 163, 165 and 3 credits from physical education electives.

*Additional for Men:* Physical Education 7, 8, 9, 10, 11, 12, 107 and 4 credits from 170, 171, 172, 173.

**G. Health Education Minor:**

*Required:* Physical Education 153, 165.

*Required Related Courses:* Zoology 17, Physiology 50, Nursing 169, Home Economics 104, Education 71R and 6 credits from sociology or Graduate School of Social Work.

If taken with a major other than physical education add Physical Education 145, 116, and Zoology 1-2.

**PHYSICS**

**CLINTON L. UTTERBACK, Executive Officer, 206 Physics Hall**

**Elective Curriculum**

**DEGREE: Bachelor of Science**

The major must offer 41 credits including courses 1, 2, 3 (or 4, 5, 6), 101, 102, 105, 106, 160, 161.

### Prescribed Curriculum

#### DEGREE: Bachelor of Science in Physics

FIRST YEAR				SECOND YEAR			
Autumn Winter Spring				Autumn Winter Spring			
Qtr.	Qtr.	Qtr.		Qtr.	Qtr.	Qtr.	
English ...	1	2	3	Chemistry ...	1, 21	2, 22	23
Mathematics	4	5	6	Mathematics	107	108	109
			{ Trig., Alg.,	Physics ....	101	102	..
			{ An. Geom.	Physics ....	..	..	150
Physics ....	1	2	3	Physics ....	105	106	..
P.E. ....		10 or 15	Health Ed.	Electives ...	..	..	x
THIRD YEAR				FOURTH YEAR			
Mathematics	114	115	116	Physics ....	191	192	..
Chemistry ..	111	131	132	Physics ....	..	195	196
Physics ....	160	161	..	Physics ....	180	..	..
Physics ....	..	..	154	Chemistry ..	181	182	183
Physics ....	..	140	..	Electives ..	x	x	x
Mech. Engin.	..	55	..				
Electives ...	x	..	x				

x Electives should include French or German.

#### Teaching Major or Minor in the College of Education

The requirements for a major are the same as those for the elective major; for a minor 33 credits, including the courses required for a major, must be offered. A teaching major or minor in physics must be supported by 15 credits of college mathematics.

For recommendation for the secondary certificate a major or a minor is required with an average grade better than "C."

### POLITICAL SCIENCE

CHARLES E. MARTIN, *Executive Officer*, 206A Social Sciences Hall

#### DEGREE: Bachelor of Arts

The major consists of 50 credits, distributed as follows:

Political Science 1.....	5
One of the following intermediate courses: 52, 54, 56, 58.....	5
Required upper-division courses:	
111 or 118.....	5
127 or 136.....	5
145 .....	5
153 .....	5
155 .....	5
Approved electives, preferably in the field of concentration.....	15
	<hr/> 50

#### Teaching Major or Minor in the College of Education

A major must earn 40 credits, including courses 1, 56, 101, 121, 151, 163.

A minor must earn 25 credits, including courses 1, 101, and 163.

### PREEDUCATION

FRANCIS F. POWERS, *Executive Officer*, 114 Education Hall

(See College of Education section, page 96, for detailed information.)

**Preeducation Students.** During the freshman year, students who expect to teach register as preeducation freshmen in the College of Arts and Sciences and pursue the regular courses of this college. They must confer in this year with the advisory officers in the College of Education. This conference is for two purposes: (1) to obtain admission to the College of Education, and (2) to select suitable combinations of teaching subjects and orientation courses for the proposed preparation for teaching.

**PRELAW****DAVID THOMSON, Adviser, 203 Denny Hall**

*General.* The minimum requirements for admission to the Law School appear on page 112. A student planning to meet those requirements in the College of Arts and Sciences will register under the supervision of the prelaw adviser.

*Combined Arts-Law Curriculum with a Major in Law.* This curriculum requires that the student earn 138 credits in the College of Arts and Sciences together with the required credits in military science and physical education activity courses, or in naval science, and that he satisfy the regular requirements of the College. See pages 65-67. Of the 138 credits 25 must be in a special field and 20 in a related secondary field; 28 must be in upper-division courses. On fulfilling these requirements with a grade-point average of at least 2.5 the student may enter the School of Law and will be granted the bachelor of arts degree when he has earned 42 credits in Law.

*Combined Curriculum in Science and Law with a Major in Law.* The requirements are the same as in the Arts-Law curriculum above, except that, instead of 25 credits in a special field and 20 in a related secondary field, a major in some department is required. The degree granted is bachelor of science.

*Transfer Prelaw Students.* Students from other institutions entering this University with advanced standing may take advantage of the curricula described above, provided that they earn at least 45 approved credits in the College of Arts and Sciences before entering the Law School. This privilege will not be extended to normal school graduates attempting to graduate in two years nor to undergraduates of other colleges who enter this University with the rank of senior.

**PRELIBRARIANSHIP****ROBERT L. GITLER, Adviser, 112 Library**

Students planning to enter the School of Librarianship should consult the Director of the School for advice and guidance in their undergraduate courses of study.

In general, it is recommended that a student establish a major in a subject of his special interest and supplement his comprehensive knowledge of that field with a broad cultural course which includes literature, the political and social sciences, some aspect of the natural or physical sciences, and psychology. A study of at least one modern language is essential.

For admission requirements of the school, see page 113.

**PREMEDICINE, PREDENTISTRY, AND BASIC MEDICAL SCIENCE**

**ARTHUR SVIHLA, Chairman (234 Johnson Hall); GEORGE H. CADY (216 Bagley Hall), H. J. DAUBEN (243 Bagley Hall), ROBERT L. FERNALD (225 Johnson Hall), DIXY LEE RAY (235 Johnson Hall), LLEWELLYN A. SANDERMAN (302 Physics Hall), D. W. SHERWOOD (210 Bagley Hall), Advisory Board.**

**PREMEDICINE**

The minimum requirement for admission to most medical schools is three years of college training and, in some cases, knowledge of one foreign language (German preferred). The curriculum outlined below is generally satisfactory, but the student must acquaint himself with the specific requirements of the school in which he is interested in order to make the proper selection of electives.

In case the school which the student wishes to attend requires a bachelor's degree for admission, a major must be chosen in consultation with the advisory board not later than the sophomore year. Chemistry, zoology, and biological science are the majors most adaptable to premedicine, although other majors are possible. A general grade-point average of 2.5 must be maintained by all premedical students.

### Curriculum for Premedicine

#### FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
†Chem. 1 or 21.....	5	Chem. 2 or 22.....	5	Chem. 23.....	5
English 1.....	3	English 2.....	3	English 3.....	3
Zoology 1.....	5	Zoology 2.....	5	*Math. 1 or 4.....	5 or 3
P.E. 10 or 15.....	2	Elective .....	2	Psychology 1.....	5
	<u>15</u>		<u>15</u>		<u>16 or 18</u>

#### SECOND YEAR

Chemistry 131.....	5	Chemistry 132.....	5	Lit. 67 or 72.....	3
†Physics 1 or 4.....	5	Physics 2 or 5.....	5	Physics 3 or 6.....	5
Elective .....	5	Elective .....	5	Elective .....	7
	<u>15</u>		<u>15</u>		<u>15</u>

#### THIRD YEAR

Chemistry 111.....	5	Foreign Lang. or		Foreign Lang. or	
Foreign Lang. or		Elective .....	5	Elective .....	5
Elective .....	5	Elective .....	5	Elective .....	5
Zoology 105.....	5	Zoology 127 .....	5	Zoology 128 .....	5
	<u>15</u>		<u>15</u>		<u>15</u>

† The alternative courses are provided for those who have not had high school chemistry or physics.

\* A student who has taken only one year of high school algebra and one year of high school geometry should take Math. 1 to be followed later by Math. 4. A student who has taken 1½ years of high school algebra and a year of geometry may take Math. 4.

### PREDENTISTRY

The minimum requirement for admission to dental school is two years of college training (60 semester or 90 quarter credits of academic work). The course should include 1 year each of biology, English, inorganic chemistry, and physics; and ½ year or 6 quarter credits of organic chemistry.

The student must acquaint himself with the specific requirements of the school in which he is interested in order to make the proper selection of electives. A grade-point average of 2.0 is required.

### Curriculum for Predentistry

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 3 or 5.....	5	Chem. 4 or 6.....	5	*Chem. 26.....	3
English 1.....	3	English 2.....	3	English 3.....	3
Zoology 1.....	5	Zoology 2.....	5	Psychology 1.....	5
P.E. 10 or 15.....	2	Elective .....	2	Math. 1 or 4.....	5
	<u>15</u>		<u>15</u>		<u>16</u>
Chem. 135.....	4	Chem. 136.....	4	Physics 3 or 6.....	5
Physics 1 or 4.....	5	Physics 2 or 5.....	5	Elective .....	10
Elective .....	6	Elective .....	6		<u>15</u>
	<u>15</u>		<u>15</u>		

\* Completion of Chem. 4 or 6 will satisfy Dental Schools requiring the equivalent of 6 semester hours. Many schools require the equivalent of 8 semester hours of inorganic chemistry.

### BASIC MEDICAL SCIENCE

#### DEGREE: Bachelor of Science in Basic Medical Science

This curriculum is intended to provide the bachelor's degree for students who enter medical school at the completion of their third year of premedical work and

wish to apply their first year's credit gained at medical school to obtain the degree of bachelor of science in basic medical science from the University of Washington.

The requirements for this degree are that the student shall complete the University of Washington "Premedical Curriculum," and the first year of a medical school or dental school curriculum. The student shall have spent at least two years (of which one year must be the third undergraduate year) of his premedical or medical work in full residence at the University of Washington, and shall present an over-all grade-point average of 2.5 or above, including the work at medical school.

Credit in subjects taught in the first year's curriculum of any Class A medical school, as rated by the A. M. A. (or dental school associated with any Class A Medical school), may be applied toward the degree. Since Anatomy 105, 106, 107; Bacteriology 102, 103, 104, 105, 110, 112; Chemistry 161, 162, 163; Physiology 151, 152, and 153 are considered to duplicate similar courses in medical and dental school, credit gained in these courses at the University of Washington will not be accepted toward the degree. Not more than 6 quarter credits in general human anatomy dissection taken as an undergraduate course will be accepted toward the degree.

### PRENURSING

ELIZABETH STERLING SOULE, *Adviser*, 1 Nursing Building

Freshman students who are planning to enter the School of Nursing are required to have six quarters of general work in the College of Arts and Sciences, with the following required courses: English 1, 2, 3 (9 credits); Chemistry 1 and 2 or 5 and 6, 135, 136 (16 credits); Psychology 1 (5 credits); Sociology 1 (5 credits); Bacteriology 101, 102 (10 credits); Home Economics 9 (5 credits).

For helping in planning their professional work they must confer with faculty advisers in the School of Nursing throughout their prenursing course.

For information regarding the curricula in the School of Nursing see page 118.

### PRE-SOCIAL WORK

GRACE B. FERGUSON, *Adviser*, 300F Commerce Hall

For detailed information, see page 135; see also *Education for Social Work* bulletin.

Undergraduate students planning to apply for admission to the Graduate School of Social Work should confer with the pre-social work adviser at the time of registration or as soon as they have decided to prepare for this field. Unless the student begins his undergraduate preparation early, he may find it necessary to take additional undergraduate work which will delay his admission or increase the time required for his professional training.

Seniors planning to enter the School of Social Work should make application early in the *spring* preceding the summer or fall in which they wish to begin their professional training, as enrollment is limited.

For admission to the University of Washington Graduate School of Social Work, students must have received their bachelor's degree with the equivalent of a "B" average.

### PSYCHOLOGY

STEVENSON SMITH, *Executive Officer*, 338 Philosophy Hall

DEGREE: Bachelor of Science

A major requires 36 credits of psychology, approved by the department, including the following courses: Psych. 1, 2, 51, 108, 111, and 124.

### RADIO

The University of Washington offers a training program for those wishing to enter radio drama, radio education, radio engineering, radio journalism, or radio speech. Those desiring information on these curricula should consult either the department concerned (Drama, Education, Electrical Engineering, Journalism,

Speech) or Professor H. B. Densmore, Chairman of the Division of General Studies, 213 Denny Hall, for information and reference. Students wishing a general pattern of training in radio involving several areas of specialization will secure this through General Studies.

## ROMANIC LANGUAGES AND LITERATURE

*(French, Italian, Portuguese, and Spanish)*

GEORGE W. UMPHREY, *Acting Executive Officer*, 202 Denny Hall

DEGREE: Bachelor of Arts

Majors are offered in French, Spanish, and Italian. Majors and minors for the Three-Year Secondary Certificate are offered in French and Spanish; these majors are the same as for the B.A. (For Latin-American Studies see General Studies.) The requirement in each case is (a) proficiency in the language, and (b) knowledge of its literature and cultural background, as outlined in a syllabus obtainable from the Department. This requirement may normally be met in a French major with 42<sup>1</sup> credits, namely courses 5, 6; 101, 102, 103; 104, 105, 106; 107 or 108<sup>2</sup>; 141; 158, 159; plus 12 elective credits<sup>3</sup> and some directed reading. A Spanish major may be met with 42<sup>1</sup> credits, namely courses 5, 6; 101, 102, 103; 104, 105, 106; 158, 159; plus 14 elective credits<sup>3</sup> and some directed reading.

A teaching minor in French or Spanish requires a minimum of 30 credits in courses above French 4 or Spanish 4.

## SCANDINAVIAN LANGUAGES AND LITERATURE

*(Swedish, Norwegian, and Danish)*

EDWIN J. VICKNER, *Executive Officer*, 210 Denny Hall

DEGREE: Bachelor of Arts

For a major the student shall offer 36 credits, 15 of which are upper-division, including the following courses: *for Swedish*, 1, 2, 3, 4, 5, 6, 23, 24, 25, 103, 104, 105; 106, 107, 108: Recent Norwegian or Danish Writers or special work in Swedish literature; *for Norwegian or Danish*, 10, 11, 12, 13, 14, 15, 20, 21, 22, 106, 107, 108; 103, 104, 105: Recent Swedish Writers or special work in Norwegian or Danish literature.

## SOCIOLOGY

GEORGE A. LUNDBERG, *Executive Officer*, 104 Social Sciences Hall

DEGREE: Bachelor of Arts

Students should read the departmental leaflet and consult staff advisers before selecting courses.

Majors must maintain a general grade-point average of 2.0, and a 2.5 average in sociology courses; they must offer 36 credits, including courses 1 or 100, 31, 55 or 155, and 60.

### Teaching Major or Minor in the College of Education

The major is the same as in the College of Arts and Sciences.

The minor requires 25 credits, including courses 1 or 100 together with 112, 155, and 160 or approved equivalents.

<sup>1</sup> Beyond course 4 or two high-school years. A third high-school year replaces courses 5, 6; a fourth high-school year usually replaces courses 101, 102, 103.

<sup>2</sup> In order to be recommended to teach, a student must either earn a grade of "B" in 107 or 108, or take the other of these courses in addition.

<sup>3</sup> Any literature courses numbered above 120 and not including more than 3 credits of 134, 135, 136.



## SPEECH

FREDERICK W. ORR, *Executive Officer*, 201 Parrington Hall

DEGREE: Bachelor of Arts

A major must offer 40-42 credits, including Speech 40, 43, and 186, 10-12 additional lower-division credits and 15 upper-division credits.

For a minor 33 credits are required, including Speech 40, 43, and 186, five additional lower-division credits and ten upper-division credits.

## Teaching Major or Minor in the College of Education

Speech 40 and 43 are prerequisite to all work for the secondary certificate with a major or a minor in speech.

Other required courses:

For a major: Speech 38, 61, 62, 79, 161, 186, 190, Education 75X; approved electives, 13 credits.

For first minor: Speech 79, 186, 190; approved electives, 9 credits.

For second minor: Speech 186; approved electives, 5 credits.

## SCHOOL OF DENTISTRY

ERNEST M. JONES, *Acting Dean*, 304 Bagley Hall

DEGREE: Doctor of Dental Surgery

The School of Dentistry to be established on the University campus is now in the process of organization. Plans call for the opening of the School in October, 1946, to a freshman class only. Entrance requirements consist of a two-year pre-dental course as approved by the American Association of Dental Schools. The dental curricula will require a four-year course, leading to the degree of Doctor of Dental Surgery (D.D.S.)

The Bulletin of the School of Dentistry will be sent to those who request it.

## COLLEGE OF ECONOMICS AND BUSINESS

HOWARD H. PRESTON, *Dean*, 210 Commerce Hall

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-52. In addition to the all-University entrance requirements, the College of Economics and Business requires one unit\* each of U. S. history and civics, elementary algebra, plane geometry or advanced algebra.

Inquiries in regard to the College of Economics and Business should be addressed to the Dean. All correspondence regarding admission should be sent to the Registrar of the University.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

## Requirements for Graduation

Graduates of the College of Economics and Business receive the degree of bachelor of arts in economics and business. The following summarizes the requirements for this degree:

1. The student must satisfy the entrance requirements of the University and the College of Economics and Business. Students entering from other colleges with junior standing must either present or make up the following courses to meet the minimum lower-division requirements of the college: E.B. 1-2, 54, 55, 60, 62, 63.

2. The student must earn 180 credits in subjects required by the University and required or approved by the faculty of the college. In addition, men must meet the general University requirement of Physical Education 15 and six quarters of military science with six quarters of physical education activities or six quarters of

\* A "unit" is applied to work taken in high school. To count as a unit a subject must be taught five times a week, in periods of not less than 40 minutes for a school year of 36 weeks.

naval science; women must have six quarters of physical education activities, plus Physical Education 10.

3. Continuation in the College of Economics and Business will depend upon the student's demonstration of general fitness for work in that college, including the maintenance of satisfactory academic performance. See Scholarship Rules, page 55. The same rules apply to a major in economics in the College of Arts and Sciences.

### Lower-Division Requirements

FIRST YEAR		SECOND YEAR	
	<i>Credits</i>		<i>Credits</i>
E.B. 1-2. Principles of Economics.....	10	*E.B. 54, 55. Business Law.....	10
Geography 7. Economic Geography.....	5	E.B. 60. Statistical Analysis.....	5
English Composition 1, 2, 3.....	9	E.B. 62, 63. Principles of Accounting....	10
An approved laboratory science (10 credits), or mathematics (10 credits), or foreign language (10 credits).....	10	†History 7. Survey of U. S. History.....	5
P.E. 10 or 15. Personal and Community Health .....	2	‡Approved Electives .....	15
Approved Electives .....	9		45
	45		

\* The student, upon consultation with his adviser, may substitute 5 credits of approved elective for E.B. 55.

† With the approval of the student's adviser, E.B. 181, Economic Development of the United States (to be taken in the junior or senior year), may be substituted for History 7.

‡ Of the approved electives, 10 credits must be selected from political science, sociology, psychology, and philosophy.

### Upper-Division Requirements

In the upper-division years the student with the approval of his major adviser shall select 6 of the following courses:

	<i>Credits</i>		<i>Credits</i>
E.B. 103. Money and Banking.....	5	E.B. 107. World Economic Policies.....	5
E.B. 104. Principles of Transportation...	5	E.B. 121. Corporation Finance.....	5
E.B. 105. Economics of Labor.....	5	E.B. 171. Public Finance and Taxation I.	5
E.B. 106. Economics of Marketing and Advertising .....	5	E.B. 175. Business Fluctuations.....	5
		E.B. 185. Advanced Economic Theory...	5

Each student in the college must also complete an approved sequence of at least 15 credits of upper-division courses in economics and business.

### Suggestions for Planning Courses

The choice of a special field of major interest will determine the student's faculty adviser. In consultation with this adviser, the student will elect the upper-division courses which best meet his needs.

At the time of registration the student's program must be approved by the registration secretary for the College of Economics and Business, who will enforce all requirements, together with the course prerequisites as stated in this bulletin.

In specifying the courses for the major fields, as set forth below, it is assumed that the student's choice of six or more courses from the list of upper-division requirements has included the appropriate courses needed as background for his field of specialization.

The required courses in the fields of specialization are as follows:

1. Accounting\*: E.B. 110, 111, 112, 154, 156, 157, 158.
2. Banking and Finance: 18 credits or more approved by adviser from the following: E.B. 122, 123, 125, 126, 127.
3. Economics: E.B. 187, plus 10 additional credits in economics approved by student's major adviser.
4. Economic Geography: Geog. 102, 103, 104, 105 or 109, and 106 or 107.
5. Foreign Trade and Consular Service: E.B. 127, 131, 132.

\* Professional accounting majors are also required to take E.B. 178. The professional accounting course, with the addition of E.B. 101, is recommended as preparation for the position of controller in business.

6. General Business: 20 credits of approved upper-division courses in E.B., not more than 10 hours of which may be in any one of the fields of specialization.
7. Insurance: E.B. 108, 128, 129.
8. Labor: E.B. 161, 163, 164.
9. Management: E.B. 101, 110, 150, 151, 154; Psych. 2 or 21.
10. Marketing: E.B. 134, 135, 136, 193A,B,C.  
Wholesaling: E.B. 131, 132.  
Retailing: Home Economics 25.  
Advertising: Journalism 130, 131.
11. Public Finance: E.B. 172, 196 (plus 10 recommended credits).
12. Public Utilities: E.B. 141, 142, 196 (plus 5 recommended credits).
13. Real Estate: E.B. 109, 169, 199B, 199C.
14. Secretarial Training: E.B. 115, 116, 117, 118, 167; Engl. 60.
15. Transportation: 20 credits or more approved by the adviser chosen from E.B. 143, 144, 145, 146, 147, 148, 149, 194.

### Commercial Teaching

#### Required:

- (a) Satisfaction of the lower-division requirements as outlined on page 93.
- (b) E.B. 12-13-14, Typewriting and Shorthand, and E.B. 16-17-18, Secretarial Training, 12 credits. This requirement may be satisfied in either lower or upper division, or by passing a satisfactory examination. In case of exemption by examination, University credit is not given.
- (c) Thirty credits of the upper-division general requirements in economics and business, including E.B. 106 and E.B. 185.
- (d) The special requirements in the upper division must include E.B. 115, 116, 117, and 118.
- (e) Thirty-three credits of education courses, including Educ. 75E and Educ. 75F. See College of Education section, page 97.

NOTE: A teaching major and two teaching minors in commercial education have been provided also in the College of Education. See page 98.

### Prelaw and Combined Law and Business Curriculum

S. D. BROWN, *Adviser*, 252 Philosophy Hall

*General.* The minimum requirements for admission to the School of Law appear on page 112. A student planning to meet these requirements in the College of Economics and Business will register under the supervision of the prelaw adviser.

*Three Year Combined Economics and Business and Law Curriculum with a Major in Law.* This curriculum requires that the student earn 138 economics and business credits, together with the required credits in military or naval science and physical education, and that he complete all the required lower- and upper-division courses of the College. On fulfilling these requirements with a grade-point average of at least 2.5, the student may enter the School of Law and will be granted the bachelor of arts degree in economics and business when he has earned 42 credits in Law.

*Two Year Prelaw Curriculum in the College of Economics and Business.* This curriculum presupposes only two years of prelaw work. When combined with the lower-division requirements of the College of Economics and Business, it is possible to satisfy the general requirements of the School of Law and also those of the College of Economics and Business. At the end of two years, a student may enter the School of Law. Should he choose to proceed in the College of Economics and Business, he may do so without loss of substantial credits provided the second curriculum has also been followed. There would remain only the one requirement of Business Law. Should the student not desire to satisfy the lower-division requirements of both curricula, additional hours of electives may be arranged, with the approval of the adviser.

A grade-point average of at least 2.5 is required for admission into the School of Law.

PRELAW REQUIREMENTS		ADDITIONAL LOWER-DIVISION REQUIREMENTS OF THE COLLEGE OF ECONOMICS AND BUSINESS	
	<i>Credits</i>		<i>Credits</i>
English 1, 2, 3.....	9	Economics & Business 62, 63.....	10
Philosophy 1, 5.....	10	Economics & Business 60.....	5
Political Science 1, 52.....	10	Geography 7.....	5
History 5, 6, 106.....	15	Mathematics, Approved Laboratory Sci- ence, or Foreign Language.....	10
Economics & Business 1, 2.....	10	Elective .....	6
	54		36

*Transfer Prelaw Students.* Students from other institutions entering this University with advanced standing may take advantage of the curricula described above, provided that they earn at least 45 credits approved by the College of Economics and Business before entering the Law School. This privilege will not be granted to normal school graduates attempting to graduate in two years nor to undergraduates of other colleges who enter this University with the rank of senior.

### Curriculum for Government Service

JAMES K. HALL, *Adviser*, 318 Philosophy Hall

The College of Economics and Business, in cooperation with the Department of Political Science, the School of Law, and the Graduate School of Social Work, has outlined a curriculum to meet the growing need for trained men and women in governmental service.

Basic courses are provided in the social sciences during the first three years of undergraduate work to equip selected students possessing a high order of scholarship with a sound philosophy of government and a scientific attitude and method of approaching social and economic problems. Not later than the end of the third year the student will select a field of interest for specialization in the fourth and graduate years.

Students must maintain a grade standard of not less than 3.0 ("B"). A student may be registered in either the College of Economics and Business or in the College of Arts and Sciences with a major in the field of government service. The senior and graduate years are under the direction of the department selected by the student, in accordance with his major interest.

At the end of the fourth year a bachelor of arts degree in economics and business will be awarded; or, if the student is registered in the College of Arts and Sciences, a bachelor of arts degree in economics, political science, or sociology will be awarded. At the successful conclusion of the fifth year a certificate of completion of the course in government service will be granted. The work done in the fifth year may be applied toward a master's degree, and those who have met all of the requirements for that degree by the end of the fifth year will receive it at that time.

The following outline indicates the courses for each year of the curriculum.

### FIRST AND SECOND YEAR

English 1, 2, 3, and a choice of Speech 40 or English 72 and 73; Sociology 1 or 100 and 60; Political Science 1, 52, 58; History 7 or five credits of other approved history; Psychology 1; Economics and Business 1-2 and 62, plus a choice of five credits from the following courses: E.B. 60, Math. 13, Soc. 31, Psych. 108.

### THIRD YEAR

E.B. 103, 105, 171 plus a choice of five credits from E.B. 170, Soc. 132, Psych. 109, Political Science 155, 163, plus a choice of five credits from Pol. Sci. 153, 167, 151, or 112; Psych. 118; Sociology 162.

## FOURTH AND FIFTH YEARS

In the fourth and fifth years an adviser plans with the individual student a program suited to his objectives. The adviser will in effect be the major professor in whose field the student will concentrate; the field may be accounting, economics, international relations, labor, law, political theory and jurisprudence, politics and administration, social work, or taxation.

Constitutional Law 119 is required in the fourth or fifth year. The remainder of the curriculum for these two years will be drawn up by the adviser in collaboration with the student. The courses selected will then become the requirements for graduation.

## Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 123.

## Announcement of Courses

For announcement of courses offered by the College of Economics and Business, see page 148.

## COLLEGE OF EDUCATION

FRANCIS F. POWERS, *Dean*, 114 Education Hall

*General Plan.* During the freshman year, students who have decided to enter the teaching profession register as pre-Education majors in the College of Arts and Sciences. They should confer with the advisory officers in the College of Education for admission to this college as sophomores.

The degrees granted by the College of Education are the bachelor of arts when the major subject is in Group I or II, and the bachelor of science when the major subject is in Group III. Upon earning a total of 225 quarter credits, including the requirements given below, and a degree from the University of Washington, students may be granted a Three-Year Secondary Certificate which entitles the holder to teach in accredited junior or senior high schools in the state of Washington. Thirty-three of the forty-five quarter credits required for the fifth year must be earned in residence, and the entire fifth year must be approved in advance by the College of Education.

Before registering for their first course in Education, students must consult an adviser in the Department of Education. *Registration in all Education courses for all purposes must be approved through the office of the Dean of the College of Education.*

The professional work in teacher-training begins with Education 1, which is required of all students certifying through the University who have attended nine quarters or more. Students receive credit for Education 1 only in the freshman and sophomore years. The professional courses in Education for the teaching certificate must be distributed throughout the junior, senior, and fifth years, as an effort to crowd these courses results in numerous conflicts.

Courses in Education are classified into three divisions. All courses except Education 1 offer upper-division credit. Courses numbered from 9 to 99 are open to juniors and seniors. Courses numbered from 100 to 199 are open only to juniors, seniors, and graduate students. Courses numbered from 200 to 300 are open only to graduate students.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

## Requirements for Graduation

During the first two years the candidate must meet certain group requirements as outlined on page 66 of the Arts and Sciences section. At any time after the freshman year a student may enter the College of Education if he has maintained a 2.5 grade average. This change of college does not alter the academic major or degree.

*Specific requirements for graduation:*

1. *Major subject.* Each student must have a major field selected from one of the areas listed in section 6 of "Requirements for the Three-Year Secondary Certificate." The office of the Dean of the College of Education will help the student choose teaching combinations which are in demand. College of Education candidates for the bachelor's degree must satisfy all the graduation requirements listed by the departments in the College of Arts and Sciences except for a high school foreign language deficiency.

2. *Foreign language.* Students graduating from the College of Education may substitute twenty credits in General Literature and English for an entrance deficiency in a foreign language. The substituted credits must be in addition to the regular graduation requirement of English 1, 2, and 3 (Composition).

3. *Education courses.* A minimum of nine credits of Education is required for graduation from the College of Education. A cumulative grade-point average of at least 2.5 must be maintained for all professional courses in Education which are required for the teaching certificate.

**Advanced Degrees**

The Department of Education in collaboration with the Graduate School offers four advanced degrees: master of education, master of arts, doctor of education, and doctor of philosophy. See Graduate School section for further details.

Students without teaching experience are accepted in the fifth year as candidates for advanced degrees only if they have been graduated with merit (grade-point average of 3.5).

**Requirements for the Three-Year Secondary Certificate**

The University Three-Year Secondary Certificate, based on a degree from the University of Washington, is valid for three calendar years from date of issue, and may be issued only to persons who are citizens of the United States or to aliens who have declared their intention of becoming citizens and have secured an alien permit to teach from the State Superintendent of Public Instruction. Applicants for this certificate must fulfill the following requirements:

1. Show evidence of such general scholarship and personal and moral qualities as give promise of success.
2. Earn 225 quarter credits in approved courses, including a degree from this institution.
3. Take a course in the history of the state of Washington (History 164) and earn additional credits in courses dealing with contemporary social problems to make a total of fifteen. These courses must be approved by the College of Education.
4. Earn a minimum of twenty-eight credits in Education (twenty-six if student takes Education 1 for no credit) including the following courses (not more than two credits for Education 75 may be counted toward this requirement):

	<i>Credits</i>
1 Orientation in Education.....	2
9 Psychology of Secondary Education.....	3
70 General Methods .....	5
90 Measurement in Secondary Education.....	2
75 Special Methods .....	2
30 Washington State Manual.....	0
71-72 Cadet Teaching .....	8
60 Principles of Secondary Education.....	3
120 Educational Sociology, or approved substitute.....	3

## 5. Earn the following grades:

- (a) An all-University grade-point average of 2.5 or better.
- (b) "C" average or better in all Education courses; with "C" or better in Education 71-72, Cadet Teaching.
- (c) "C" average or better in the major and minor teaching subjects, and in contemporary social problems.

6. Present (a) a teaching major and (b) two teaching minors. The major and minors must be in subjects regularly included in the curriculum of at least two accredited public high schools in the state of Washington. The list of acceptable teaching majors and minors follows: Art Education, Botany, Chemistry, Commercial Teaching, Drama, Economics, English, French, Geography, Geology, German, Health Education, History, Home Economics, Journalism, Latin, Mathematics, Music, Physical Education for Men, Physical Education for Women, Physics, Physiology, Political Science, Psychology, Sociology, Spanish, Speech, and Zoology. (For departmental requirements for teaching majors and minors, see the schools and departments listed alphabetically under the College of Arts and Sciences.)

Eighteen credits in library science will be accepted in lieu of a second academic minor.

The College of Education offers the following *additional* combination majors and minors, which are not described under the College of Arts and Sciences.

**Civics.** For a major a student must offer forty credits including Political Science 1, 101, 152; Economics and Business 4; Sociology 1; plus thirteen elective credits in Political Science and five credits in Economics or Sociology.

For a minor a student must offer twenty-five credits including Political Science 1, 101; Economics and Business 4, or Sociology 1; plus thirteen elective credits in Political Science.

**Commercial Teaching.** Students may prepare for teaching positions in commercial departments in secondary schools by enrolling in the College of Economics and Business and satisfying all requirements of that college, together with the minimum of twenty-eight credits in Education (see "College of Economics and Business"), or by following the program of the College of Education as given below.

Students majoring or taking their first minor in commercial education in the College of Education are required to take Economics and Business 1-2, or 4 in partial fulfillment of the requirement of fifteen credits in courses dealing with contemporary social problems. They must elect Education 75E and 75F. In addition, the following Economics and Business courses are required: for a major, 16, 17, 18, 62, 63, 106, 115, 116, 117, 118 (forty-nine credits); for a first minor, 16, 17, 18, 62, 63, 106 (twenty-four credits); for a second minor, 16, 17, 18, 62, 63 (nineteen credits).

**Industrial Arts.** Students who wish to major or minor in industrial arts should supplement such specialized training as they can receive at the University of Washington by courses which can be taken at the Colleges of Education (normal schools) or at other institutions. Eighteen credits are required for a minor and thirty-six for a major.

## 7. Sign an oath of allegiance.

8. Pass a health examination within six months prior to the time the certificate is granted.

## Requirements for Teacher-Librarians

(For curricula in the School of Librarianship, see page 113.)

A high school librarian's certificate is required of all librarians in accredited high schools. Applicants must hold secondary certificates and must have completed:

- (a) For librarianship in schools with enrollment of 100 or less: A minimum of 7½ quarter credits in approved courses in Library Science.
- (b) For librarianship in schools with enrollment of 100-200: A minimum of 15 quarter credits in approved courses in Library Science.
- (c) For librarianship in schools with enrollment of 200-500: One year of training in an approved library school recommended. The minimum requirement for schools in this group is the same as requirement (b) above.

- (d) For librarianship in schools with enrollment of 500 or more: One year of training in an approved library school.

*Second minor:*

Students who wish to offer librarianship as a second minor must have eighteen credits. The following courses are open to prospective teacher-librarians in autumn, winter, and spring quarters; Librarianship 151, 161, 163, 164, 260, 262.

**Special Certificates and Credentials**

For information on special types of certificates and credentials, see the State bulletin on "Certification of Teachers and Administrators" which may be obtained from the State Department of Public Instruction at Olympia, Washington.

**Renewal of Three-Year Secondary Certificates**

Renewal of the University Three-Year Secondary Certificate must be made through the State Department of Public Instruction at Olympia some time before the expiration date of the original certificate, since a *lapsed certificate may be reinstated only upon the completion of additional course work.*

**Admission of Transfer Students**

*Requirements for graduation:*

Upon receipt of transcripts from institutions previously attended, the University of Washington Admissions office will evaluate the student's record and designate deficiencies. From this evaluation the adviser and the student plan the program for a degree and for the secondary teaching certificate.

In addition to the regular departmental requirements in the student's major, he must complete nine credits of Education at the University.

*Certification requirements for graduate transfer students:*

Students who have been graduated from institutions within the state of Washington may certify for secondary teaching through the University after they secure a bachelor's or a master's degree from the University.

Transfer students who have been graduated from an approved four-year secondary teacher-training institution are accepted on a graduate basis, but they will be required to meet all the professional undergraduate requirements before the Three-Year Secondary Certificate is issued. Claims for exemption from specific requirements are passed upon by the Registrar and the Dean of the College of Education. Transfer students cannot take Education 1 for credit after the beginning of the junior year. However, it must be taken on a non-credit basis by all applicants for this certificate who have attended the University for nine quarters or more if they have not taken an equivalent course. After three quarters at the University of Washington, the student's grade point is based on grades received at this institution and must meet the 2.5 requirement.

It is necessary for a transfer student to earn nine credits in Education courses, ten credits in the academic major, and five credits in each academic minor at the University of Washington.

Students who are out-of-state graduates must certify through the State Department of Public Instruction at Olympia if they have been graduated from an approved secondary teacher-training institution. The required course work may be taken at the University.

**Bureau of Appointments**

A Bureau of Appointments is maintained to assist qualified students and graduates in obtaining teaching and administrative positions. Students who wish to use this service should have recommendations collected before leaving this University while their work and personal qualities are clear in the minds of their instructors. These records will then be available for use when needed. Students should register with the Bureau during their fifth year.



### Requirements for Administrators' Credentials in Accredited Districts

All persons interested in administrative positions should note carefully the basic state requirements given below. Further details concerning administrators' credentials may be secured from the State Department of Public Instruction at Olympia.

Principals of elementary schools with six or more teachers must qualify for elementary principals' credentials; junior high school principals must qualify for junior high school principals' credentials; and high school principals devoting at least two hours per day to intra-schedule administrative duties must qualify for high school principals' credentials.

Principals of union high schools and superintendents of districts with one or more elementary schools and an accredited high school must qualify for superintendents' credentials.

A teaching certificate on the proper level is a prerequisite to an administrator's credential. This certificate must be kept in force to keep the credential valid.

#### *Elementary Principal's Credential*

- a. Two or more years of successful experience as principal of an elementary school of six or more teachers prior to September 1, 1936, *or*
- b. At least two years of successful teaching experience in the elementary school or the junior high school plus twelve quarter credits of professional courses relating to elementary administration and supervision taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A below and must cover at least two of the enumerated fields. The remaining credits may be from either list. Other courses within the field of elementary education may also be offered subject to evaluation. All courses presented toward satisfying the requirements for an elementary principal's credential must have been completed within ten years prior to date of application.

LIST A: Elementary Curriculum; Elementary Administration and Supervision; Elementary School Methods; Guidance.

LIST B: Tests and Measurements; Kindergarten; Health and Physical Education; Remedial Education.

An elementary certificate is a prerequisite to an elementary principal's credential.

#### *Junior High School Principal's Credential*

- a. Two or more years of successful experience as principal of a junior high school prior to September 1, 1936, *or*
- b. Completion of not less than four years of professional preparation and at least two years of successful teaching experience in the common schools plus twelve quarter credits of professional courses relating to junior high school administration and supervision taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A indicated below and must cover at least two of the enumerated fields. The remaining courses may be from either list. Other courses within the field of junior high school education may be offered subject to evaluation. All courses presented toward satisfying the requirements for a junior high school principal's credential must have been completed within ten years prior to date of application.

LIST A: Junior High School Administration and Supervision *or* High School Administration and Supervision; Junior High School Curriculum; Junior High School Methods; Guidance.

LIST B: Adolescence; Extracurricular Activities; Tests and Measurements; Health and Physical Education.

An elementary or secondary certificate is a prerequisite to a junior high school principal's credential.

#### *Senior High School Principal's Credential*

- a. Two or more years of successful experience as a high school principal prior to September 1, 1934, *or*
- b. At least two years of successful teaching experience on the secondary level plus twelve quarter credits of professional courses relating to secondary organization,

supervision and administration taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A below and must cover at least two of the enumerated fields. The remaining credits may be from either list. Other courses within the field of secondary education may be offered subject to evaluation. All courses presented toward satisfying the requirements for the high school principal's credential must have been completed within ten years prior to date of application.

**LIST A:** High School Administration and Supervision; High School Curriculum; Guidance; School Finance.

**LIST B:** Educational Research; Extracurricular Activities; Health and Physical Education; Tests and Measurements.

A secondary certificate is a prerequisite to a high school principal's credential.

### *Superintendent's Credential*

The candidate may qualify under any *one* of the headings listed below.

- a. At least two years of successful experience as a superintendent prior to September 1, 1934.
- b. At least four years of successful administrative experience, including two years as principal of an elementary school of six or more teachers and two years as principal of a high school, head of a high school department with six or more teachers, or supervisor. While serving as high school principal, department head, or supervisor, at least two hours per day must have been devoted to administrative duties. (In order to qualify for a superintendent's credential on the basis of the above requirements, it is necessary to be in possession of both the elementary and the high school principal's credentials. It is also necessary to submit proof of having served in an elementary school of six or more teachers; and in the case of the high school experience, proof of having devoted at least two hours per day to administrative duties. Only a candidate who gained his experience prior to September 1, 1934, may qualify under Part b and not be in possession of both the elementary and senior high school principal's credentials.)
- c. At least two years of successful experience as principal of an elementary school of six or more teachers plus twelve quarter credits of professional courses relating to organization, administration, and supervision in secondary schools taken subsequent to at least one year of teaching experience. These educational requirements are in addition to the minimum required for initial secondary certification.
- d. A junior high school principal whose training has been on the secondary level may apply for a superintendent's credential on the basis of two years of successful experience as principal of a regularly organized junior high school, plus 24 quarter credits of professional courses relating to organization, administration, and supervision of elementary education taken subsequent to one year of teaching experience; a junior high school principal whose training has been on the elementary level, may apply for a superintendent's credential on the basis of two years of successful experience as principal of a regularly organized junior high school, plus 12 quarter credits relating to organization, administration, and supervision in secondary schools taken subsequent to one year of teaching experience; this provision does not rescind any regulations or requirements already in effect.
- e. At least two years of successful experience as a high school principal, head of a high school department, or supervisor, plus twenty-four quarter credits of professional courses relating to organization, administration, and supervision of elementary education taken subsequent to at least one year of teaching experience. While serving as a high school administrator, at least two hours per day must have been devoted to administrative duties. These educational requirements are in addition to the minimum required for secondary certification. Not less than six of the required number of quarter credits must be from List A and must cover at least three of the enumerated fields, one of which must be school finance. The remaining credits may be from either list. Other courses within the prescribed field may be offered subject to evaluation.

*Elementary Courses in Lieu of Experience:*

**LIST A:** Elementary Curriculum; Elementary School Administration and Supervision; Elementary School Methods; School Finance; Guidance.

**LIST B:** Tests and Measurements; Kindergarten; Health and Physical Education; Remedial Education.

*Secondary Courses in Lieu of Experience:*

**LIST A:** High School Administration and Supervision; High School Curriculum; Guidance; School Finance.

**LIST B:** Educational Research; Extracurricular Activities; Health and Physical Education; Tests and Measurements.

It should be carefully noted that training may be substituted in lieu of administrative experience on one level or the other but not on both. In other words, a candidate for a superintendent's credential must have had at least two years of successful experience as a teacher plus two years of successful experience as an elementary, junior, or senior high school principal, or as a supervisor or head of a department in a senior high school and as such have devoted at least two hours per day to administrative duties.

Courses that are not acceptable as graduate credit for the M.A. or Ph.D. degree at the University of Washington or the State College of Washington or at other institutions authorized to grant such degrees and accredited by the State Board of Education shall not be accepted for a superintendent's credential, except that when the teaching certificate has been earned in a secondary teacher-training institution one-half of the twenty-four academic credits in elementary education in lieu of elementary administrative experience required for the superintendent's credential may be secured on the undergraduate level at an elementary teacher-training institution maintaining a laboratory school. Courses completed more than ten years prior to application are not acceptable.

The superintendent's credential shall be valid for a principalship in any field of service for which the holder of the credential is properly qualified with a teacher's certificate.

A secondary certificate is a prerequisite to a superintendent's credential, and must be kept in force during the time a person is using a superintendent's credential.

## COLLEGE OF ENGINEERING

EDGAR A. LOEW, *Dean*, 206 Guggenheim Hall

With minor exceptions, all curricula in the College of Engineering have a common freshman year, which is administered by the general engineering department. The work beyond the freshman year comprises the curricula of six professional divisions, namely, aeronautical, chemical, civil, electrical, industrial, and mechanical engineering. Four-year curricula leading to degrees of bachelor of science in the respective professional branches of engineering are offered in each of these except industrial. The curricula consist largely of required technical courses, but enough work is provided in the humanistic-social area to bring the total nontechnical content up to nearly twenty per cent.

In the industrial engineering curriculum, the bachelor's degree is awarded after five years of study. The first four of these comprise the standard four-year curriculum of one of the major branches of engineering, while the fifth is made up of courses in industrial management and related subjects.

*Secondary Certificate.* Engineering students who plan to prepare for high-school teaching should consult with the College of Education as soon as possible.

*Advanced Degrees.* At least a year of graduate study, leading to the master's degree, is available in each major curriculum. Graduate courses are listed in Section III under "Engineering." Requirements for advanced degrees are discussed in the Graduate School section, page 123.

*Professional Degrees.* For requirements for professional degrees, see page 129.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

### Admission Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-52. In addition to the all-University entrance requirements, the College of Engineering requires one unit\* each of elementary algebra, plane geometry, physics†, and chemistry, and one-half unit each of advanced algebra and solid geometry.

Students planning to major in chemical engineering should include two units of German in high school. German is very desirable also for those taking the structural or hydraulic option of civil engineering.

A student is advised not to attempt to enter the University until he is able to register in his chosen college without deficiencies. Under certain circumstances and with the approval of the dean of the college concerned, however, certain deficiencies in specific college requirements may be removed after entrance to the University.

### Preparation in Algebra

It is essential that students in engineering possess a good working knowledge of algebra *at the beginning of their course*. A test in high school algebra by class work and by examination will be given shortly after the beginning of the first quarter. Students failing in the test are not permitted to continue with regular freshman engineering mathematics, but are required to take a review of preparatory algebra (Mathematics 1, College of Arts and Sciences) during the first quarter.

### Humanistic-Social Studies

Under the heading of "General Engineering" is included an integrated succession of courses designed to develop facility in comprehensive reading, in analysis of thought, and in oral and written expression. To ensure right establishment and proper maintenance of those skills, the courses are begun in the freshman year, and—in as many as possible of the engineering curricula—will continue in unbroken sequence through the three years following. Stress is laid on the principles of expository writing and on well-written engineering reports, and a year's practice in public speaking is included.

The subject matter covered, basically humanistic, is intended to acquaint the engineering student with the broad outline of human knowledge, setting before him the pageant of civilization and introducing him to a few of its great thinkers, artists, and men of action. With this foundation laid, he should be able by the time he graduates to seek out, to attain, and to develop for himself the additional knowledge and fuller understanding that distinguish the cultured citizen of today, whatever may be his specific vocation.

### Scholarship Requirements

The all-University scholarship rule requires that any freshman student whose grade-point average for any quarter is less than 1.8 and any other undergraduate student whose grade-point average for any quarter is less than 2.0 shall be placed on the low scholarship list and referred to the dean for appropriate action.

In addition to the all-University scholarship requirements the scholarship rules of the College of Engineering provide:

1. That as a prerequisite to registration for required junior and senior courses in any engineering curriculum a student must have earned a grade-point average of at least 2.2 in the required subjects of the first two years.

2. That a candidate for a bachelor's degree in engineering must have earned a grade-point average of at least 2.2 in the upper-division subjects of his major department.

\* A "unit" is applied to work taken in high school. 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 thirty-six weeks.

† The high school preaviation course may not be substituted for the physics requirement. It will, however, be accepted as academic credit in science.

## Curricula and Degrees

Four-year curricula are offered by the College of Engineering in aeronautical, chemical, civil, electrical, and mechanical engineering, and a fifth year in industrial engineering. With minor exceptions in chemical engineering, all curricula have a common freshman year. Successful completion of a four-year curriculum leads to a bachelor of science degree with a designation of the major department. Graduates of a four-year curriculum may earn a bachelor's degree in industrial engineering by completing an additional year of prescribed courses. There is also available in each department a fifth or graduate year, the satisfactory completion of which leads to the award of the master's degree. For the most part, courses in all curricula are prescribed, but some few electives are available. *These must be approved in advance of registration by the head of the department.*

## CURRICULA OF THE DEPARTMENTS OF ENGINEERING

## FRESHMAN

(The same for all curricula.)

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
*Chem. 24. General.....	3	Chem. 25. General.....	3	Chem. 26. General.....	3
Math. 31. Analysis.....	5	Math. 32. Analysis.....	5	Math. 33. Analysis.....	5
G.E. 1. Drawing.....	3	G.E. 2. Drawing.....	3	G.E. 3. Drafting Probs... 3	
G.E. 11. Engin. Probs... 3		G.E. 12. Engin. Probs... 3		†G.E. 21. Surveying..... 3	
Mil. Sci. & P.E., or N.S...+		†P.E. 15. Hygiene..... 2		Engr. 40. Engr. Report Writing..... 1	
		Mil. Sci. & P.E., or N.S...+		Mil. Sci. & P.E., or N.S...+	
	14+		16+		15+

\* Students without high school chemistry substitute Chem. 1 and 2 (5 cr. each) for Chem. 24 and 25.

† Students expecting to take chemical engineering substitute Chem. 21, 22, and 23 (5 cr. each) for Chem. 24, 25, and 26.

† Chemical engineering students omit G.E. 21 and take P.E. 15 in the spring quarter.

## Aeronautical Engineering

DEGREES: Bachelor of Science in Aeronautical Engineering

(at end of fourth year) and

Master of Science in Aeronautical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Phys. 97. Engr. Physics... 4		Phys. 98. Engr. Physics... 4		Phys. 99. Engr. Physics... 4	
Math. 41. Engr. Calculus... 3		Math. 42. Engr. Calculus... 3		Math. 43. Engr. Calculus... 3	
M.E. 81. Mechanism..... 3		A.E. 81. Intr. to Aero.... 2		C.E. 92. Mechanics..... 3	
M.E. 82. Heat Engines... 3		C.E. 91. Mechanics..... 3		E.E. 101. Direct Currents 5	
M.E. 53. Mfg. Methods... 1		M.E. 54. Mfg. Methods... 1		M.E. 55. Mfg. Methods... 1	
Engr. 81. Tech. Writing I. 1		E.B. 3. Economics..... 3		Engr. 83. Tech. Writing III 1	
Mil. Sci. & P.E., or N.S...+		Engr. 82. Tech. Writing II 1		Mil. Sci. & P.E., or N.S...+	
		Mil. Sci. & P.E., or N.S...+			
	15+		17+		17+

## JUNIOR

C.E. 93. Mechanics..... 3	A.E. 101. Aerodynamics... 3	A.E. 100. Airc. Engines... 3
C.E. 142. Hydraulics..... 5	M.E. 183. Thermodynamics 5	A.E. 102. Aerodynamics... 3
E.E. 121. Altern. Currents 5	M.E. 167. Engr. Materials 3	A.E. 104. Lab. Methods... 3
Engr. 123. Human. I..... 3	M.E. 111. Machine Design 3	M.E. 112. Machine Design 3
	Engr. 124. Human. II.... 3	M.E. 104. Mfg. Methods... 2
		Engr. 194. Reading I..... 1
	16	17
		15

## SENIOR

A.E. 103. Airpl. Perform. 3	A.E. 111. Airpl. Design.. 4	A.E. 112. Design Loads.. 2
A.E. 105. Airfoil Test L. 2	A.E. 141. Airc. Propulsion 3	A.E. 174. Airc. Mon. .... 3
A.E. 171. Airc. Struct. Anal. .... 4	A.E. 172. Airc. Struct. Anal. .... 4	A.E. 175. Struct. Test.... 2
A.E. 188. Seminar..... 0	A.E. 189. Seminar..... 0	A.E. 190. Seminar..... 1
Psych. 123. Industrial... 3	E.B. 166. Industrial Rel.. 3	E.B. 57. Business Law... 4
Electives* ..... 3	Electives* ..... 1	Electives* ..... 4
15	15	15

\* Students planning graduate work must elect A.E. 161 if they are not taking Math. 114 and 115.

## GRADUATE†

A.E. 201. Theoret. Aerodyn. .... 3	A. E. 202. Compressibility 3	A.E. 206. Adv. Airpl. Design ..... 3
A.E. 204. Airc. Vib. & Flutter ..... 3	A.E. 222. Elastic Stability 3	A.E. 223. Airc. Struct. Design ..... 3
C.E. 221. Elasticity or Aero. Elective ..... 3	A.E. 218. Graduate Seminar & Electives†..... 6	or A.E. 203. Dyn. Stability.. 3
A.E. 217. Graduate Sem. & Electives† ..... 6	Thesis ..... 3	A.E. 219. Grad. Seminar & Electives† ..... 3
15	15	15

† Requirements for advanced degrees will be found in the Graduate School section.

‡ Approved courses in engineering, mathematics, or physics. See Announcement of Courses, page 137.

## Chemical Engineering

DEGREES: Bachelor of Science in Chemical Engineering (at end of fourth year) and Master of Science in Chemical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Physics 97. Engin. Physics 4		Physics 98. Engin. Physics 4		Physics 99. Engin. Physics 4	
Math. 41. Engin. Calculus 3		Ch.E. 52. Ind. Chem. Calc. 2		Ch.E. 53. Ind. Chem. Calc. 2	
Ch.E. 51. Ind. Chem. Calc. 2		Chem. 108. Quant. Anal.. 4		Chem. 102. Adv. Qual. Anal. .... 4	
Chem. 107. Quant. Anal.. 4		M.E. 82. Heat Engines... 3		C.E. 92. Mechanics..... 3	
M.E. 54. Mfg. Methods... 1		E.B. 3. General Econ.... 3		M.E. 55. Mfg. Methods.. 1	
Engl. 81. Tech. Writing I. 1		Engl. 82. Tech. Writing II 1		Engl. 83. Tech. Writing III 1	
Mil. Sci. & P.E., or N.S...+		Mil. Sci. & P.E., or N.S...+		Mil. Sci. & P.E., or N.S...+	
15+		17+		15+	

## JUNIOR

Chem. 181. Phys. & Theor. Chem. .... 5	Chem. 182. Phys. & Theor. Chem. .... 5	Chem. 193. Phys. & Theor. Chem. .... 5
Chem. 131. Organic Chem. 5	Chem. 132. Organic Chem. 5	E.E. 121. Alt. Currents.. 5
M.E. 111. Machine Design 3	E.E. 101. Direct Currents 5	E.B. 57. Business Law... 3
Engl. 123. Human. I..... 3		Engl. 124. Human. II.... 3
16	15	16

## SENIOR

Ch.E. 121. Chem. of Engin. Materials ..... 5	Ch.E. 122. Inorganic Chem. Industries ..... 5	Ch.E. 123. Organic Chem. Industries ..... 5
Ch.E. 171. Unit Operations 5	Ch.E. 172. Unit Operations 5	Ch.E. 173. Unit Operations 3
Ch.E. 176. Thesis..... 1	Ch.E. 177. Thesis..... 1	Ch.E. 178. Thesis..... 3
Psych. 123. Industrial... 3	E.B. 166. Industrial Rel.. 3	Engl. 196. Reading III... 1
Engl. 194. Reading I..... 1	Engl. 195. Reading II.... 1	Electives* ..... 3
15	15	16

\* Electives must in all cases be approved in advance by the head of the department.

## GRADUATE†

Chem. Engin. & Allied Work .....	12
Chem. 250 Thesis.....	3
	<hr/> 15

Chem. Engin. & Allied Work .....	12
Chem. 250 Thesis.....	3
	<hr/> 15

Chem. Engin. & Allied Work .....	12
Chem. 250 Thesis.....	3
	<hr/> 15

† Requirements for advanced degrees will be found in the Graduate School section.

## Civil Engineering

DEGREES: Bachelor of Science in Civil Engineering (at end of fourth year) and  
Master of Science in Civil Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Engr. Phys.....	4	Phys. 98. Engr. Phys.....	4	Phys. 99. Engr. Phys.....	4
Math. 41. Engr. Calc.....	3	Math. 42. Engr. Calc.....	3	M.E. 81. Mechanism, or	
C.E. 91. Mechanics.....	3	C.E. 92. Mechanics.....	3	M.E. 82. Heat Engr.....	3
E.B. 3. Gen. Econ.....	3	Geol. 10/110. Eng. Geol....	5	C.E. 93. Mechanics.....	3
Engl. 81. Tech. Writing I..	1	Engl. 82. Tech. Writing II..	1	E.E. 101. Dir. Currents...	5
Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+	Engl. 83. Tech. Writing III	1
	<hr/> 14+		<hr/> 16+	Mil. Sci. & P.E., or N.S....	+
					<hr/> 16+

## JUNIOR

C.E. 142. Hydraulics.....	5	C.E. 143. Hyd. Engr.....	5	C.E. 121. Roads & Pvmts.	3
C.E. 171. Struct. Anal.....	3	C.E. 172. Struct. Anal.....	3	C.E. 173. Struct. Anal....	3
C.E. 112. Route Surv.....	3	C.E. 163. Timb.-Steel Lab.	3	C.E. 162. Cem.-Conc. Lab.	3
E.E. 121. Alt. Currents..	5	C.E. 113. Location &		C.E. 114. Intermed. Surv.	3
	<hr/> 16	Earthwork .....	3	C.E. 150. San. Science....	3
		Engl. 194. Reading I.....	1	Engl. 195. Reading II....	1
			<hr/> 15		<hr/> 16

## SENIOR

C.E. 175. Struct. Design.	3	C.E. 176. Struct. Design.	3	C.E. 177. Struct. Design.	3
Tech. Elec. ....	3	Tech. Elec. ....	6	Tech. Elec. ....	5
C.E. 166. Soil Mechanics.	3	E.B. 166. Industrial		E.B. 57. Bus. Law .....	3
Engl. 123. Human. I.....	3	Relations .....	3	Engl. 125. Human. III...	3
Psych. 123. Industrial....	3	Engl. 124. Human. II....	3		
	<hr/> 15		<hr/> 15		<hr/> 15

## GRADUATE†

C.E. & Allied Work.....	9
C.E. 298. (Thesis).....	3
Elective* .....	3
	<hr/> 15

C.E. & Allied Work.....	9
C.E. 298. (Thesis).....	3
Elective* .....	3
	<hr/> 15

C.E. & Allied Work.....	9
C.E. 298. (Thesis).....	3
Elective* .....	3
	<hr/> 15

† Requirements for advanced degrees will be found in the Graduate School section.

\* Electives must in all cases be approved in advance by the head of the department.

## SENIOR AND GRADUATE TECHNICAL ELECTIVE COURSES

All electives must be approved in advance by the department.

<i>Credits</i>	<i>Credits</i>
C.E. 115. Geod. Surv'g. & Photogrammetry	3
C.E. 123. Railway & Waterway Engineering	3
C.E. 124. Highway & Runway Design.....	3
C.E. 128. Transportation Administration...	3
C.E. 145. Hydraulic Machinery .....	3
C.E. 147. Hydraulic Power.....	3
C.E. 153. Regional Planning.....	3
C.E. 154. Sanitary Design.....	3
C.E. 155. Water Supply Problems.....	3
C.E. 158. Sewage Disposal.....	3
C.E. 167. Earthwork Engineering.....	3
C.E. 181. Advanced Structures I.....	3
C.E. 182. Advanced Structures II.....	3
C.E. 183. Advanced Structures III.....	3
C.E. 191, 193, 195, H, M, S, W, or T.*	
Special Sr. & Graduate Courses in Professional Design and/or Analysis.....	3-5
C.E. 209. Engineering Relations.....	3

\* Hydraulics (H), Materials (M), Structural (S), Sanitary (W), and Transportation (T).

**Electrical Engineering**

DEGREES: Bachelor of Science in Electrical Engineering (at end of fourth year) and  
Master of Science in Electrical Engineering (at end of fifth year)

**FRESHMAN**

(The same for all curricula. See above.)

**SOPHOMORE**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Physics 97. Engineering..	4	Physics 99. Engineering..	4	E.E. 111. D.C. Mach....	3
Math. 41. Eng. Calculus..	3	Math. 42. Eng. Calculus..	3	E.E. 112. D.C. Mach. Lab.	4
E.E. 99. D.C. Circuits....	5	E.E. 109. Basic Field		M.E. 81. Mechanism.....	3
C.E. 91. Mechanics.....	3	Theory .....	5	M.E. 82. Steam .....	3
Engl. 81. Tech. Writing I..	1	C.E. 92. Mechanics.....	3	M.E. 53. Foundry.....	1
Mil. Sci. & P.E., or N.S...†	+	Engl. 82. Tech. Writing II	1	Engl. 83. Tech. Writing III	1
		Mil. Sci. & P.E., or N.S...†	+	Mil. Sci. & P.E., or N.S...†	+
	16+		16+		15+

**JUNIOR**

E.E. 159. A.C. Circuits..	5	E.E. 161. A.C. Mach....	4	E.E. 181. Vac. Tubes & Electronics .....	6
M.E. 83. Steam Lab.....	3	E.E. 162. A.C. Mach. Lab.	4	M.E. 112. Mach. Design..	3
M.E. 167. Eng. Materials.	3	M.E. 111. Mach. Design..	3	Math. 114.* Dif. Eq....	3
M.E. 54. Welding.....	1	M.E. 55. Machine Shop..	1	Engl. 125. Human. III...	3
Engl. 123. Human. I....	3	Engl. 124. Human. II....	3		
	15		15		15

**SENIOR**

E.E. 195. Elec. Transients	4	E.E. Group .....	5	E.E. Group .....	5
E.E. Group .....	5	Phys. 155. Atomic Physics	5	E.B. 57. Business Law...	3
C.E. 142. Hydraulics....	5	E.B. 3. Economics.....	3	E.B. 166. Industrial Relations .....	3
Engl. 194. Reading I....	1	Psych. 123. Industrial...	3	Elective .....	3
		Engl. 195. Reading II....	1	Engl. 196. Reading III...	1
	15		16		15

**GRADUATE†**

E.E. and Allied Work....	12	E.E. and Allied Work....	12	E.E. and Allied Work....	12
Thesis .....	3	Thesis .....	3	Thesis .....	3
	15		15		15

\* Students not planning a fifth year may substitute some other course.

† Requirements for advanced degrees will be found in the Graduate School section.

**UNDERGRADUATE TECHNICAL ELECTIVES**

E.E. Group requirements must be satisfied by selection from the following courses:

**POWER**

	<i>Credits</i>
E.E. 141. Illumination.....	3
E.E. 151. Elec. Measurements.....	3
E.E. 152. Machine Design.....	3
E.E. 154. Adv. Machine Design.....	3
E.E. 163. Adv. A.C. Machinery.....	6
E.E. 165. Industrial Control.....	3
E.E. 170-172-174. Individual Projects....	2-5

**COMMUNICATION**

	<i>Credits</i>
E.E. 183. Vacuum-tube & Electronic Circ..	6
E.E. 185. Communication Networks.....	6
E.E. 189. Radio Design.....	2
E.E. 170-172-174. Individual Projects....	2-5

**COURSES FOR GRADUATES ONLY**

	<i>Credits</i>		<i>Credits</i>
E.E. 203. Advanced Circuit Theory.....	3	E.E. 225. Power Transmission.....	5
E.E. 205. Seminar.....	2-5	E.E. 241. Electro-acoustics.....	5
E.E. 210, 212, 214. Research .....	(ea) 2-5	E.E. 251. High-frequency Techniques....	5
E.E. 221. Advanced Transients.....	5	E.E. 261. Wave Propagation.....	6
E.E. 223. Symmetrical Components.....	3		



## Mechanical Engineering

DEGREES : Bachelor of Science in Mechanical Engineering (at end of fourth year) and  
Master of Science in Mechanical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Eng. Phys..... 4		Phys. 98. Eng. Physics... 4		Phys. 99. Eng. Physics... 4	
Math. 41. Eng. Calculus... 3		Math. 42. Eng. Calculus... 3		C.E. 92. Mechanics..... 3	
M.E. 81. Mechanism..... 3		C.E. 91. Mechanics..... 3		M.E. 83. Steam Eng. Lab. 3	
M.E. 82. Heat Engines... 3		M.E. 54. Mfg. Methods... 1		M.E. 55. Mfg. Methods... 1	
M.E. 53. Mfg. Methods... 1		E.B. 3. Genl. Econ..... 3		E.B. 57. Business Law... 3	
Engl. 81. Tech. Writing I. 1		Engl. 82. Tech. Writing II 1		Engl. 83. Tech. Writing III 1	
Mil. Sci. & P.E., or N.S... +		Mil. Sci. & P.E., or N.S... +		Mil. Sci. & P.E., or N.S... +	
	15+		15+		15+

## JUNIOR

M.E. 183. Thermodynamics 5		M.E. 111. Machine Design 3		M.E. 112. Machine Design 3	
M.E. 167. Eng. Materials 3		M.E. 123. Engines & Boilers ..... 2		M.E. 124. Engines & Boilers ..... 2	
M.E. 105. Adv. Mfg. Methods ..... 1		M.E. 151. Experm. Eng. 3		M.E. 152. Experm. Eng... 3	
C.E. 93. Mechanics..... 3		M.E. 106. Adv. Mfg. Methods ..... 1		M.E. 107. Produc. Planning ..... 1	
Engl. 123. Human. I..... 3		E.E. 101. Direct Currents 5		E.E. 121. Altern. Currents 5	
	15	Engl. 124. Human. II.... 3		Engl. 125. Human. III... 3	
			17		17

## SENIOR

M.E. 198. Int. Comb. Engines ..... 3		M.E. 153. Int. Comb. Eng. Lab. .... 3		Engl. 196. Reading III... 1	
C.E. 142. Hydraulics..... 5		M.E. 113. Machine Design 2		Electives* ..... 14	
Psych. 123. Industrial..... 3		E.B. 166. Industrial Relations ..... 3			
Engl. 194. Reading I..... 1		Engl. 195. Reading II.... 1			
Electives* ..... 3		Electives* ..... 6			
	15		15		15

## GRADUATE†

M.E. & Allied Work..... 12		M.E. & Allied Work..... 12		M.E. & Allied Work..... 12	
Thesis ..... 3		Thesis ..... 3		Thesis ..... 3	
	15		15		15

\* Not less than 15 elective credits shall be technical.

† Requirements for advanced degrees will be found in Graduate School section.

## SENIOR AND GRADUATE TECHNICAL ELECTIVE COURSES

All electives must be approved in advance by the department.

<i>Credits</i>	<i>Credits</i>
M.E. 104. Mfg. Methods, non-ferrous metals ..... 1	M.E. 187. Naval Architecture..... 3
M.E. 108. Production Management..... 3	M.E. 188. Marine Engineering..... 3
M.E. 109. Factory Cost Analysis..... 3	M.E. 189. Refrigeration..... 3
M.E. 114. Machine Design..... 2	M.E. 191, 192, 193. Research. 2-5 each quarter
M.E. 161. Quality Control..... 3	M.E. 195. Thesis..... 3
M.E. 162. Methods Analysis..... 3	M.E. 199. Internal Combustion Engine Design..... 3
M.E. 182. Heating & Ventilation..... 3	M.E. 200. Vibrations of Machinery..... 3
M.E. 184. Power Plants..... 5	M.E. 202. Advanced Engineering Materials 3
M.E. 185. Naval Architecture..... 3	M.E. 204. Diesel Engines..... 2
M.E. 186. Naval Architecture..... 3	M.E. 211, 212, 213. Research..... 3 each

**DEPARTMENT OF MILITARY SCIENCE AND TACTICS (ARMY R.O.T.C.)**

(See also page 52.)

Military training has been given at the University of Washington since 1875 with the exception of a brief period early in the present century.

The present Reserve Officers' Training Corps functions under the provisions of the National Defense Act of June 4, 1920, and directives of the War Department based on that Act.

*Military Training Certificate.* A military training certificate is issued upon request to each student completing instruction in the Basic Course, R.O.T.C. This certificate shows the course pursued and the military qualifications attained.

**Uniforms**

The regulation R.O.T.C. uniform is issued for use at the University of Washington. Each R.O.T.C. student makes a \$25.00 uniform deposit to the University. From this deposit the University collects the cost of articles lost by the student, or of damage to them due to other than fair wear and tear while in his possession. In case the student after registration is excused from military science, his deposit, less the cost of any article lost or damaged, is returned to him upon presentation of a properly authenticated slip to the University cashier.

Unless otherwise directed the uniform is worn at all military formations.

Uniforms are returned to the Department of Military Science and Tactics at the end of each academic year by those students who have not terminated residence earlier. The latter return their uniforms at withdrawal.

**DEPARTMENT OF NAVAL SCIENCE AND TACTICS**

Beginning in the autumn quarter, 1946, the first postwar class will be accepted for Naval Reserve Officers' Training. Approximately 100 men will be selected from entering freshmen. In addition, men with previous training and experience in the Navy or other branches of the armed forces who can satisfy the Department of Naval Science that they have received instruction equivalent to one or more Naval Science courses in the Naval R.O.T.C. curriculum will be accepted in limited numbers and given advanced standing. Also, additional students with previous service in the armed forces who have completed two or less semesters or three or less quarters of college work, but who have not had sufficient training for advanced standing may be accepted. Candidates of either type must complete all requirements of the Naval R.O.T.C. curriculum before commissioning without seriously interfering with the academic work required for a baccalaureate degree.

All candidates for the Naval R.O.T.C. must agree to continue Naval Science courses for the full four-year course and, if offered, to accept a commission in the U.S. Navy or Naval Reserve upon graduation, unless found to be academically or physically disqualified prior to completion of the course.

Candidates must further agree to submit to Navy discipline while under Naval R.O.T.C. training; to take required physical examinations, vaccinations, and immunizations as provided by Navy Regulations; to take compulsory summer cruises; and to wear the prescribed uniform as directed.

An applicant for the course in Naval Science must be:

1. A citizen of the United States.
2. Between the ages of 17 and 21 on entrance.
3. Unmarried, and must agree to remain unmarried while enrolled in the Naval R.O.T.C.
4. At least a high school graduate or of equivalent education, so as to be eligible for acceptance by the University.
5. Morally qualified and must possess officer qualifications and character as evidenced by appearance, scholarship, extracurricular activities, and record in his home community.

6. Physically qualified as determined by a Board of Naval Medical Examiners. General requirements are as follows:

Height: minimum 5' 5½"; maximum 6' 4".

Vision: 20/20 each eye

Color perception: normal

Weight: in proportion to height

Teeth: 20 vital serviceable teeth, including four opposed molars, two of which are in functional occlusion on each side of the dental arch and four incisors which are functional

If accepted for Naval Science, the first two years of enrollment will satisfy the two-year military science requirement of the University and the requirement in physical education activity courses.

### THE FAR EASTERN INSTITUTE

GEORGE TAYLOR, *Director*, 230 Denny Hall

The Far Eastern Institute has been established to integrate the graduate and undergraduate instruction and research in Far Eastern studies, to provide adequate library facilities, and to cooperate with other institutes in America and abroad. The undergraduate degrees will be taken in the Far Eastern or a related department. Graduate degrees will be offered by the institute in cooperation with the colleges and departments concerned. Faculty members working in Far Eastern studies, although they may belong to some other than the Far Eastern department, will be members of the institute. For full information, address an inquiry to the director of the institute.

### COLLEGE OF FORESTRY

GORDON D. MARCKWORTH, *Dean*, 206 Anderson Hall

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-52. In addition to the all-University entrance requirements, the College of Forestry requires one unit\* of plane geometry and one and one-half units of elementary and advanced algebra.

Qualifying examinations are required in elementary composition. Applicants who fail in this examination must register in English A without credit.

In satisfying entrance requirements with college courses, a minimum of ten credits is counted as the equivalent of the entrance unit.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

### Requirements for Graduation

*Undergraduate Work.* For the degree of bachelor of science in forestry the student must complete, in addition to required subjects outlined in the curriculum, enough electives to make a total of 186 credits, exclusive of the basic naval science or military science and physical education activity courses. Electives must be approved by the student's class adviser. Ordinarily not more than 25 elective credits in any department other than forestry will be accepted for graduation.

Grades in military science and physical education activity courses are not considered in determining grade-point averages in the College of Forestry.

*Advanced Degrees.* For requirements for advanced degrees, see Graduate School section, page 123.

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\*A "unit" is applied to work taken in the high school. 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 thirty-six weeks.

## Lower-Division Curriculum

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Botany 17. Foresters'....	3	Botany 18. Foresters'....	3	Botany 19. Foresters'....	3
Forestry 3. Dev. of For....	3	Forestry 4. Protection....	3	Forestry 1a. Dendrology..	3
Math. 4. Trigonometry....	5	Engl. 7. Composition....	5	Forestry 8. For. Problems	5
Physics 1 or 4. General....	5	Physics 2 or 5. General....	5	Physics 3 or 6. General....	5
Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+
	16+		16+		16+

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Forestry 1b. Dendrology..	3	Forestry 60. Mensuration.	5	Soph. Field Trip	
Forestry 15. Gen. Lbrg....	5	Forestry 21. Silvics.....	3	Forestry 40. Silviculture..	2
Chem. 1 or 21. General....	5	G.E. 7. Eng. Draw.....	5	Forestry 62. Mensuration.	6
E.B. 3. Gen. Econ.....	3	Chem. 2 or 22. General....	5	C.E. 56. Forest Surveying	8
Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+
	16+		16+		16+

The total number of required credits in Physical Education must include P.E. 15.

## Upper-Division Curricula

Beginning with the third year, the student will, with the approval of his faculty adviser, elect to follow one of the specialties in forestry. (See prerequisites under description of courses.)

## Forest Management Curriculum

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 158. Utilization....	5	For. 111. Wood Structure	3	For. 115. Protection.....	3
For. 140. For. Constr....	4	For. 109. Wood Tech....	3	Bot. 111. For. Pathology..	5
Elective .....	2	For. 122. Silvi. Mth.....	5	Elective .....	7
	15	For. 104. Timber Physics.	5		
		Elective .....	3		15
			15		

## FOURTH YEAR

For. 151. For. Econ. & Fin. ....	5	For. 119. Forest Policy... 3	For. 164. For. Mgt. Surveys .....	4	
For. 185. For. Engineering	5	For. 152. Admin. & Reg... 5	For. 165. For. Mgt. Inv't'y	4	
Elective .....	5	For. 171. For. Geography. 3	For. 166. For. Mgt. Studies	4	
		Elective .....	4	For. 167. For. Mgt. Report	4
	15		15		16

## Logging Engineering Curriculum

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 104. Timber Physics.	5	For. 111. Wood Structure	3	Bot. 111. For. Pathology.	5
For. 109. Wood Tech....	3	For. 140. For. Constr....	4	For. 115. Protection.....	3
For. 122. Silvi. Mth.....	5	For. 158. Utilization....	5	Elective .....	7
Elective .....	2	Elective .....	3		
	15		15		15

## FOURTH YEAR

For. 151. For. Econ. & Fin. ....	5	For. 119. Forest Policy... 3	For. 187. Log. Eng. Field Trip .....	16
For. 170. Log. Safety....	2	For. 152. Admin. & Reg... 5		
For. 185. For. Engineering	5	For. 171. For. Geography. 3		
Elective .....	3	For. 186. Logging Eng... 5		
	15		16	16

Logging Engineering majors are advised to elect C.E. 57 (Curves & Earthwork) in the Autumn Quarter and C.E. 59 (Advanced Surveying) in the Spring Quarter of the Third Year. Other recommended electives are E.B. 54 (Business Law) and E.B. 63 (Accounting).

## Forest Products Curriculum

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 104. Timber Physics. 5		For. 108. Timber Design. 3		For. 105. Wood Pres. .... 3	
For. 109. Wood Techn'lg'y 3		For. 111. Wood Structure 3		For. 106. Wood Pres. Lab. 2	
E.B. 62. Acctg. Principles 3		For. 157. For. Prod.		Botany 111. Pathology.... 5	
Elective .....	4	Industries .....	3	Elective .....	5
		M.E. 82. Steam Eng. .... 3			
		Elective .....	3		
	15		15		15

## FOURTH YEAR

For. 151. For. Econ. & Fin. .... 5		For. 159. Plywood, Lamination & Glues. .... 3		For. 184. Mfg. Problems. 5	
For. 183. Milling. .... 5		For. 171. For. Geography. 3		For. 189. Wood Pulp. .... 5	
E.B. 57. Business Law. 3		For. 188. Kiln Drying. .... 3		For. 190. Microtechnique. 3	
Elective .....	2	Elective .....	6	Elective .....	2
	15		15		15

## SCHOOL OF LAW

JUDSON F. FALKNOR, *Dean*, 205 Condon Hall

The School of Law was established in 1899, is a member of the Association of American Law Schools, and is approved by the Council on Legal Education and Admission to the Bar of the American Bar Association.

The school prepares students for practice in any state or jurisdiction where the Anglo-American legal system prevails. Particular attention is given to the statutes, the special doctrines, and the rules of practice that obtain in the state of Washington. Admission to the Washington Bar, however, is conditioned upon passing a state bar examination.

Law students may elect studies in other departments with written permission from the dean of the Law School.

## Admission

An application-for-admission blank should be obtained from and filed with the dean of the Law School, together with complete transcripts of college and law work. An early application is essential since admission is on a selective basis and some who apply may not be accepted.

*Regular Students.* To be regularly admitted to the School of Law a student must either (1) hold the degree of bachelor of arts or bachelor of science from a college or university of recognized standing, or (2) have completed 135 academic quarter credits with a scholarship average of 2.5, together with the required credits in military science and physical education or naval science, or (3) have completed 90 academic quarter credits with a scholarship average of 2.5, together with the required credits in military science and physical education or naval science, and have satisfactorily completed the following courses or their substantial equivalents: English 1, 2, 3 (9 credits); Philosophy 1, Introduction, and 5, Logic (10 credits); Economics 1, 2, Principles (10 credits); History 5, 6, English Political and Social, and 106, English Constitutional (15 credits); Political Science 1, Survey, and 52, Introduction to Public Law (10 credits).

*Advanced Standing.* Transfer of credit is possible only from those schools which are members of the Association of American Law Schools; credit for not less than the work of one year and not more than the work of three years will be acceptable. The dean shall determine what credit, if any, can be granted to a transfer student.

*Special Students.* This classification covers those who are not working for a degree. The applicant must be at least 23 years of age and his general education

must entitle him to admission to the freshman class in the University of Washington. Admission is granted only upon vote of the faculty, and the number of those who can be granted this privilege is definitely restricted.

Attention is called to the fact that in order to be eligible to take the Washington State Bar examination, the student must have completed two years of college work prior to beginning his professional law study. Students intending to qualify for the Washington State Bar examination are, therefore, advised not to petition for admission as special students.

#### Degrees and Requirements for Graduation

*Bachelor of Laws.* The law course is a four-year course. The degree of Bachelor of Laws will be conferred on *regular* students who complete 168 quarter credits in professional law subjects, including the required courses, with a scholarship average of 2.0. The three quarters immediately preceding the conferring of the degree must be spent in residence at the University of Washington Law School.

*Bachelor of Science in Law.* This is a nonprofessional degree which does not qualify for admission to the bar or to the bar examination; it is conferred on a *regular* student who holds no bachelor's degree, who has completed six quarters of the law school curriculum, who has at least 180 credits in legal and prelegal work with a scholarship average of 2.0, and who is eligible to continue in the Law School.

For the major in Law in the College of Arts and Sciences or in the College of Economics and Business, see pages 88 and 94.

For scholarship rules, see page 55.

### SCHOOL OF LIBRARIANSHIP

ROBERT L. GITLER, *Director*, 112 Library

#### Admission Requirements

Admission to the School of Librarianship is granted to graduate students who hold the baccalaureate degree from a college or university of good standing, and whose undergraduate work has included at least 20 (quarter) credits of one modern foreign language, and who have made an average grade of "B" in their undergraduate work. Students who plan a library career in scholarly libraries and scientific fields should have a reading knowledge of French and German before applying for admission to the school.

Admission to the course in law librarianship is granted to graduate students who have completed the law work at a school accredited by the Association of American Law Schools. Applications with full official transcripts of law courses must be sent to the Dean of the Law School.

Initial admission to the School of Librarianship is permitted only at the beginning of the autumn quarter. No one may be admitted to a course in librarianship, except those so marked, unless he is expecting to complete the full curriculum.

Early application for entrance is recommended, as the enrollment is limited. Therefore, application for admission should be made to the School of Librarianship before May 30 of the year of entrance. Opportunity to enter at a later date, before September 15, may depend upon withdrawal of previously accepted applicants. Copies of transcripts of academic records must be filed with the Registrar of the University *AND* the Director of the School of Librarianship. Graduate standing is determined by the Registrar, admission to the School by the Director. *An admission slip from the Registrar's Office indicating classification as a graduate student does not entail admission to the School of Librarianship. The student must make sure that his acceptance is clear in both offices.*

#### Advisory Suggestions

When possible, applicants are urged to arrange with the Director for a personal interview.

In general, persons beyond 35 years of age will not be considered for admission to the school unless special circumstances warrant.

As no one with serious physical defects, personality difficulties, or ill health can readily secure a position in library service, such persons should not ask admission to the school.

The student entering the school should be a typist of accuracy and fair speed.

Those desiring to prepare for children's library work should have completed at least one course in child psychology.

Those wishing to enter high school library work should consult the College of Education in regard to teaching qualifications.

An average class grade of "B" must be maintained by students of the school. Since the courses are heavy, students are advised not to plan for outside work.

### Degrees

On completion of the curriculum in librarianship, the degree of bachelor of arts in librarianship is granted; on completion of the curriculum in law librarianship, the degree of bachelor of arts in law librarianship is granted.

Upon completion of the second-year course in library work with children,\* a certificate in library work with children is granted.

### Curricula

Four curricula are offered: (1) General; (2) Library Work with Children; (3) School Library Work; (4) Law Librarianship.

All students, except those in law librarianship, follow the general course during the first quarter. This introduction to the various fields of library work assists the student in determining the curriculum he will study for the remainder of the year. In the second and third quarters, one may continue with the general course, in which emphasis is along the traditional lines: reference and bibliography, cataloging and classification, book selection, and administration. Or the student may specialize in library work with children or in school library work.

#### I. General Course

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, & Society .....	2	201. Org. & Administration: Pub. Libs. ....	2	202. Org. & Admin.: Academic & Spec. Libs. ....	2
210. Bibliography & Reference .....	3	211. Bibliography & Reference .....	3	212. Bibliography & Reference .....	3
220. Classification & Cataloging .....	4	221. Classification & Cataloging .....	3	222. Classification & Cataloging .....	3
230. Books for Libraries .....	3	231. Books for Libraries .....	3	232. Books for Libraries .....	3
250. Children's Work .....	3	270. History of the Book .....	3	209. Practice (Directed Field Work) .....	5

#### II. Courses for Library Work with Children

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, & Society .....	2	211. Bibliography & Reference .....	3	209. Practice (Directed Field Work) .....	5
210. Bibliography & Reference .....	3	221. Classification & Cataloging .....	3	232. Books for Libraries .....	3
220. Classification & Cataloging .....	4	231. Books for Libraries .....	2	252. Story Telling .....	3
230. Books for Libraries .....	3	253. Advanced Children's Work .....	2	255. Selection of Books for Children .....	3
250. Children's Work .....	3	254. Selection of Books for Children .....	2		
		270. History of the Book .....	3		

#### III. Courses for School Library Work

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, & Society .....	2	211. Bibliography & Reference .....	3	209. Practice (Directed Field Work) .....	5
210. Bibliography & Reference .....	3	221. Classification & Cataloging .....	3	212. Bibliography & Reference .....	3
220. Classification & Cataloging .....	4	231. Books for Libraries .....	3	232. Books for Libraries .....	3
230. Books for Libraries .....	3	262. Book Selection for High School Libs. ....	3	260. School Library Administration .....	4
250. Children's Work .....	3	270. History of the Book .....	3		

\* Not offered, 1946-47.

For students preparing to meet the requirements of the State Department of Education for teacher-librarians, or to meet the requirements for an eighteen-credit minor, the following courses have been opened: Lib. 151, 161, 163, 164, 260, 262.

If a student plans to take less than 18 credits of librarianship, it is recommended that 163 and 262 be considered essential, and 260, 161, 151 and 164 desirable, ranked in order of importance.

If a student wishes later to take the degree of bachelor of arts in librarianship, he will need to meet all requirements for entrance to the school and to complete the remainder of the curriculum.

#### IV. Courses in Law Librarianship

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
210. Bibliography & Reference .....	3	211. Bibliography & Reference .....	4	209. Practice (Directed Field Work) .....	5
220. Classification & Cataloging .....	4	221. Classification & Cataloging .....	3	222. Classification & Cataloging .....	5
240. Adv. Legal Bibliog. .	4	242. Legal Reference & Research .....	5	243. Law Library Administration .....	5
241. Order & Accessioning of Law Books.....	4	270. History of the Book.	3		

#### Announcement of Courses

For announcement of courses offered by the School of Librarianship, see page 177.

### THE SCHOOL OF MEDICINE

EDWARD L. TURNER, *Dean*, 200B Bagley Hall

The School of Medicine is now in the process of organization. It is being developed so as to meet the full approval of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association. The school will prepare students for the practice of medicine through the use of the best recognized educational techniques. Actual admission to the practice of medicine in the state of Washington, or any other state, is conditioned upon the candidate meeting the requirements of the respective state board of medical examiners in regard to internship, and passing the state medical examinations.

#### Admission

It is anticipated that a freshman class will be admitted to the new medical school in the autumn quarter of 1946.

The admissions committee will consider as candidates for entrance to the medical school: (1) individuals who hold a bachelor of arts or science degree from a fully accredited college or university and whose scholastic average has been 2.5 or better; (2) those who have completed three years of premedical training (135 academic quarter credits) with a scholastic average of 2.5 or better; and (3) occasionally students who have completed two years of premedical training (90 academic quarter credits) with an outstanding record and a scholastic average of 3.0 or above. All applicants must have completed the required courses in military or naval science and physical education, and the following basic premedical courses: English 1, 2, 3 (Composition, 9 credits); Chemistry 1, 2 (for students without high-school chemistry) or 21, 22 (for those having completed a year of high-school chemistry); 23, (Qualitative); 111 (Quantitative); 131, 132 (Organic)—(total of 30 chemistry credits); Physics 1, 2, 3, or 4, 5, 6 (15 credits); Zoology 3, 4 (General), 127 (Comparative Anatomy).

The student is advised to elect courses in embryology (Anatomy 106), physical chemistry (Chemistry 140-141), and cellular physiology (Physiology 115), all of which will be helpful. Courses in such fields as history, psychology, philosophy, social studies and economics should also be elected since they are valuable in a well rounded premedical course.



### Requirements for Graduation

A candidate for the degree of Doctor of Medicine must be 21 years of age and must have given evidence of good moral character. He must have attended four sessions as a regularly matriculated student. He must have completed the required work, have a satisfactory grade average (minimum 2.0) throughout the entire medical course, and have fulfilled all special requirements. He must have discharged all indebtedness to the institution.

### COLLEGE OF MINES

MILNOR ROBERTS, *Dean*, 328 Mines Laboratory

#### Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-52. In addition to the all-University entrance requirements, the College of Mines requires the following: one unit\* each of elementary algebra, plane geometry, physics, and chemistry, and one-half unit each of advanced algebra and solid geometry.

A student who does not present high school chemistry for entrance will be required to earn fifteen credits instead of thirteen credits in chemistry during the freshman year.

The high school pre-aviation course may not be substituted for the physics requirement. It will, however, be accepted as academic credit in science.

#### Preparation in Algebra

All students entering any department of engineering will be tested in high school algebra by class work and by an examination given shortly after the beginning of the first quarter. Students failing in the test are not permitted to continue with regular freshman engineering mathematics but are required to take a review of preparatory algebra (Math. 1, College of Arts and Sciences) during the first quarter.

#### Admission to Sophomore Year

Admission to the sophomore year and continuation in the College of Mines will depend upon the student's demonstration of general fitness for work in that college, including the maintenance of satisfactory academic performance. See Scholarship Rules, page 55.

#### Degrees

The College of Mines offers specialized courses in mining, metallurgical, and ceramic engineering. The four-year curricula lead to degrees as follows:

- I. Bachelor of science in mining engineering (B.S. in Min.E.).
- II. Bachelor of science in metallurgical engineering (B.S. in Met.E.).
- III. Bachelor of science in ceramic engineering (B.S. in Cer.E.).

*Degree with Honors.* A degree with honors may be conferred upon any student of the College of Mines who, upon vote of the faculty and of the honors committee, may be declared worthy of the unusual distinction.

*Advanced Degrees.* For requirements for advanced degrees, see Graduate School section, page 123.

*Professional Degrees.* For requirements for professional degrees, see page 132.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

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\* A "unit" is applied to work taken in the high school. 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 thirty-six weeks.

**Prospector's Course**

The Prospector's Course, authorized by the 1945 Session of the State Legislature, is open to all men past high-school age, without examination. The course is repeated each quarter except in summer. The fee for each term is \$10, payable upon registration. The G.I. Bill of Rights applies to this course. The course occupies full time from Monday to Friday inclusive, with occasional Saturday trips to mines and plants. A certificate is given upon completion of the course. For full information address the Dean of the College of Mines.

**Curricula of the College of Mines**

(Freshman and sophomore years the same in all curricula)

**FRESHMAN**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 21. General.....	5	Chem. 22. General.....	5	Chem. 23. General.....	5
G.E. 1. Drawing.....	3	G.E. 2. Drawing.....	3	G.E. 3. Drafting Prob.....	3
G.E. 11. Engin. Problems..	3	G.E. 12. Engin. Problems..	3	G.E. 21. Surveying.....	3
Math. 31. Freshman Engin..	5	Math. 32. Freshman Engin..	5	Math. 33. Freshman Engin..	5
		P.E. 15. Personal Health..	2		

**SOPHOMORE**

Mining 51. Elements.....	3	Mining 52. Methods.....	3	Met. 53. Elements.....	3
Geol. 5. Rocks & Minerals	5	Chem. 111. Quant. Anal..	5	Cer. 90. Indust. Minerals	3
Math. 41. Calculus.....	3	Physics 98. Engineers'...	4	Geol. 121. Mineralogy....	5
Physics 97. Engineers'....	4	English 82. Tech. Writ. II	1	Physics 99. Engineers'...	4
English 81. Tech. Writ. I	1			English 83. Tech. Writ. III	1

Practice in mining or geology or metallurgy or ceramics in summer vacation.

**Mining Engineering**

DEGREE: Bachelor of Science in Mining Engineering

**JUNIOR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Min. 101. Milling.....	3	Met. 103. Fuel Technology	4	Min. 106. Mine Excursion	1
Met. 101. Fire Assaying..	3	Geol. 124. Petrography...	3	Met. 102. Met. Lab.....	2
Met. 104. Non-ferrous....	3	C.E. 92. Mechanics.....	3	Met. 154. Wet Assaying..	3
Geol. 123. Optical Mineral	3	E.E. 101-102. Dir. Cur... 6		E.E. 121-122. Alt. Cur... 6	
C.E. 91. Mechanics.....	3			Elective*	3

Mining practice in summer vacation.

**SENIOR**

Min. 161. Mineral Dressing	4	Min. 103. Mine Rescue Tr.	1	Min. 107. Mine Excursion	1
Min. 191. Thesis.....	2	Min. 162. Economics.....	4	Min. 163. Mining Engin..	4
Met. 155. Iron and Steel..	3	Min. 192. Thesis.....	2	Min. 182. Min. Indus.	
Met. 162. Physical Met... 3		Geol. 127. Ore Deposits..	5	Management.....	3
Elective*.....	3	E.B. 3. Gen. Economics..	3	Min. 193. Thesis.....	1
				C.E. 59. Adv. Surveying..	3
				Elective*	3

\* Electives (9 credits) must be approved in advance by the head of the department and must include one of the following: English 101, 102; Speech 1 or Speech 103.

**Metallurgical Engineering**

DEGREE: Bachelor of Science in Metallurgical Engineering

**JUNIOR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Met. 101. Fire Assaying..	3	Met. 103. Fuel Technology	4	Met. 102. Met. Lab.....	2
Met. 104. Non-ferrous....	3	Met. 154. Wet Assaying..	3	Min. 106. Mine Excursion	1
Min. 101. Milling.....	3	E.E. 101-102. Dir. Cur... 6		E.E. 121-122. Alt. Currents	6
C.E. 91. Mechanics.....	3	C.E. 92. Mechanics.....	3	E.B. 3. Gen. Economics..	3
Elective*.....	3			Elective*	3

Metallurgical practice in summer vacation.

## SENIOR

Met. 155. Iron and Steel... 3	Met. 163. Metallography... 3	Met. 166. Adv. Non-ferrous 3
Met. 162. Physical Met... 3	Met. 163. Met. Calculations 3	Min. 107. Mine Excursion 1
Min. 161. Mineral Dressing 4	Min. 103. Mine Rescue Tr. 1	Min. 163. Min. Engin... 4
Min. 191. Thesis..... 2	Min. 162. Economics..... 4	Min. 193. Thesis..... 1
Elective* ..... 4	Min. 192. Thesis..... 2	Elective* ..... 4
	Chem. 140. Elem. Physical 3	

\* Electives (14 credits) must be approved in advance by the head of the department and must include one of the following: English 102, English 101, Speech 1 or Speech 103.

## Ceramic Engineering

DEGREE: Bachelor of Science in Ceramic Engineering

## JUNIOR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Cer. 100. Clays, Plasticity, and Suspensions .....	3	Cer. 101. Firing and Firing Problems .....	3	Cer. 102. Cer. Decoration. 3	
Cer. 104. Calculations for Bodies and Glazes .....	3	Cer. 103. Drying and Drying Problems .....	3	Cer. 110. Cer. Phys. Chem. Measurements .	2
Min. 101. Milling..... 3		Met. 103. Fuel Technology 4		Min. 106. Mine Excursion 1	
C.E. 91. Mechanics..... 3		C.E. 92. Mechanics .....	3	Met. 102. Met. Lab..... 2	
Geol. 123. Optical Mineralogy .....	3	Chem. 140. Elem. Physical 3		E.B. 3. Gen. Economics.. 3	
				Chem. 141. Elem. Physical 3	

Ceramics practice in summer vacation.

## SENIOR

Cer. 121. Cer. Prod. Lab.. 5	Cer. 122. Cer. Prod. Lab.. 5	Cer. 123. Cer. Prod. Lab. 5
Min. 191. Thesis..... 3	Min. 103. Mine Rescue Tr. 1	Min. 107. Mine Excursion 1
Met. 162. Physical Met... 3	Min. 192. Thesis..... 3	Min. 193. Thesis..... 2
Electives* ..... 4	Electives* ..... 6	Electives* ..... 7

\* Electives (17 credits) must be approved in advance by the head of the department and must include one of the following: English 102, English 101, Speech 1 or Speech 103.

## Announcement of Courses

For announcement of courses offered by the College of Mines, see page 180.

## SCHOOL OF NURSING

ELIZABETH STERLING SOULE, *Dean*, Nursing Building

Nursing has been a part of the general university program at the University of Washington since 1917. The School of Nursing today is a professional school, an active member of the Association of Collegiate Schools of Nursing, and is accredited for registration by the states of Washington and New York, as well as all other states by reciprocity.

## Admission Requirements

*Group I.* To be regularly admitted to the School of Nursing in the basic curriculum, the student should have completed 90 quarter credits in an accredited university or college with a scholarship average of 2.5, together with the necessary physical education requirements. These credits must include the following courses: English 1, 2, 3 (9 credits); Chemistry 3-4 or 5-6, General, 135-136, Organic (16 credits); Psychology 1 (5 credits); Sociology 1 (5 credits); Bacteriology 101, General, 102, Sanitary and Clinical Methods (10 credits); Home Economics 9, Elementary Nutrition (5 credits).

*Group II.* Students in postgraduate nursing curricula must be graduates of approved schools of nursing with 100 daily patient average and with services in the four major fields: obstetrics, medicine, surgery, and pediatrics. Deficiencies in any of these services must be made up.

*Advanced Degrees.* See Graduate School section, page 123.

## Health

All students are required to have a special health examination, chest X-ray and inoculations for smallpox, typhoid, and diphtheria before hospital entrance or field

practice. Defects to be corrected must be cared for by the student at her own expense. Serious physical defects will bar the student from entrance or may terminate her course at any time on recommendation of the health service.

A second physical examination is made by the cooperating teaching hospital before accepting the student. Medical care and health service, including infirmary care not to exceed two weeks at any one time, are provided by the hospital. Hospitalization is given subject to institutional rule. No responsibility is assumed in case of illness arising from defects which existed on entrance. Students must request and receive all types of medical care through the nursing office, or must sign a release of the hospital from any responsibility.

### Expenses

The student in the School of Nursing must plan to finance her complete course. She must maintain herself and pay tuition and personal expense during all periods of campus residence. While in the hospital division, she receives maintenance in the nurses' residence, but must provide her own uniforms, textbooks, and special supplies.

Scholarship and loan funds are available for basic and postgraduate nursing students.

Basic students receive no salary for nursing service but their university tuition is paid through the hospital division nursing education fund. With the exception of the cadet-teaching period, postgraduate students in hospitals receive a cash salary in addition to maintenance.

### Curricula

Students entering the School of Nursing may take up curricula in one of two main groups:

- I. Basic courses leading to the degree of bachelor of science in nursing.
- II. Courses for graduate nurses:
  - a. Leading to the degree of bachelor of science in nursing.
  - b. Leading to the certificate in public health nursing.
  - c. Leading to the certificate in institutional nursing supervision.

#### Group I. Basic Course

##### DEGREE: Bachelor of Science in Nursing

The student will enter upon this curriculum after earning 90 college credits, as outlined above.

1st Quarter	Credits	2nd Quarter	Credits	3rd Quarter	Credits	4th Quarter	Credits
Anat. 117 .....	3	Physiol. 118 ...	3	Nurs. 124 .....	5	Nurs. 125 .....	5
Physiol. 117 ...	3	Anatomy 118 ...	3	Pharm. 61 .....	3	Nurs. 130 .....	4
Physics 70 .....	5	Nurs. 1 .....	3	Nurs. 123 .....	3	Nurs. 128 .....	6
Home Econ. 105.5	5	Nurs. 120 .....	5	Nurs. 122 .....	3		
	16	Pharm. 51 .....	2		14		15
			16				

5th Quarter	Credits	6th Quarter	Credits	7th Quarter	Credits	8th Quarter	Credits
Soc. 192 .....	3	Nurs. 167 .....	3	Nurs. 141 .....	5	Nurs. 139 .....	5
Nurs. 129 .....	2	Nurs. 169 .....	3	Nurs. 134 .....	6	Nurs. 140 .....	6
Nurs. 132 .....	6	Nurs. 133 .....	6		11		11
	11		12				

9th Quarter	Credits	10th Quarter	Credits	11th Quarter	Credits	12th Quarter	Credits
Nurs. 138 .....	2	Nurs. 147 .....	5	Nurs. 168 .....	5	Nurs. 149 .....	3
Nurs. 142 .....	6	Nurs. 148 .....	6	Nurs. 145-146 ...	6	Nurs. 144 .....	6
	8		11		11		9

## Group II. Courses for Graduate Nurses

DEGREE: Bachelor of Science in Nursing

All graduate nurses must take the following courses:

Courses	Credits	Courses	Credits	Courses	Credits	Courses	Credits
Engl. 1, 2, 3.....	9	Physiology 53, 54 10		Bacteriology		Sociology 1 .....	5
Chem. 3-4 or 5-6..10		Home Ec. 105		101, 102, 103..15		Psychology 1 ....	5
Economics 4 .....	5	or 106 .....	5	Nursing 150, 195 9			

Majors in public health nursing must take in addition: Nursing 162, 163, 164, 167, 168, 169; Social Work 192, 196.

Majors in teaching and administration in clinical specialties or in teaching nursing arts will take in addition: Educ. 101, 147, Nursing 151, 152, 154; 155 or 156 or 157 or 158; 159 or 185; 161; Phil. 1. The students may select clinical services in medicine, surgery, accident and emergency, operating room, obstetrics, pediatrics, out-patient department, tuberculosis nursing, or psychiatry.

Majors in orthopedic nursing will take the following in addition: Nursing 129, 143, 152 or 168, 154, 161, 183; Anatomy 110; Physics 70; Speech 40; Physical Education 115, 122.

Majors in industrial nursing will take in addition: Nursing 161, 166, 177; Social Work 192; Home Ec. 109. Courses in toxicology, mental hygiene, economics of labor, and rehabilitation will be added to the curriculum later.

In all the above curricula electives should be taken to support the major field and according to the individual needs and interests. Electives in the fields of literature, the social sciences, education, and psychology are recommended.

In all of the curricula for the bachelor of science in nursing degree, a total of 180 quarter credits is required. This includes required courses, electives, and the credit allowed for the hospital school of nursing credentials. From 24 to 48 credits are allowed for graduation from an accredited school of nursing, according to the major services included.

## Certificate Courses

*Certificate in public health nursing.* This certificate requires that 90 credits be earned in five quarters of academic work at the University and one quarter of field work, or in four quarters of academic work and two quarters of field work, depending upon the experience the individual student has had in the public health nursing field. The following courses are required: Nursing 150, 162, 163, 164, 167, 168, 169; Sociology 1; Social Work 192, 196; Bacteriology 102; Psychology 1.

*Certificate in institutional nursing supervision.* The course in teaching supervision is designed to prepare the graduate nurse for a position as head nurse, supervisor, or instructor, depending upon the individual's previous preparation, experience, and ability.

One quarter of college credit is required before admission to the hospital division, which is six to nine months in length, depending upon the basic training of the student and the service selected. University credit is given in all theory and practice courses and applies toward the degree of bachelor of science in nursing.

The student may select clinical services in medicine, surgery, accident and emergency, operating room, obstetrics, pediatrics, or out-patient department in the 500-bed, well-equipped Harborview-King County Hospital; tuberculosis nursing in the 200-bed, city-owned Firland Sanatorium; or psychiatry in either of the large state mental hospitals.

Required courses include: Nursing 150, 151, 152, 154, 155 or 156 or 157 or 158; Psychology 1; Sociology 1; Home Economics 105.

## COLLEGE OF PHARMACY

FOREST J. GOODRICH, *Dean*, 102 Bagley Hall

## Entrance Requirements

For detailed information concerning University admission requirements, fees, and expenses, see pages 43-52. In addition to the all-University entrance requirements, the College of Pharmacy requires one unit\* of elementary algebra, and one unit of plane geometry or second-year algebra.

*Advanced Degrees.* For requirements for advanced degrees, see Graduate School section, page 123.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

## Curricula

Three four-year curricula are outlined below, each leading to the degree of Bachelor of Science in Pharmacy. The student must complete a total of 180 academic credits and meet the all-University requirements for graduation.

The first two years of all curricula are the same:

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Pharm. 1. General.....	3	Pharm. 2. General.....	3	Pharm. 3. General.....	3
Engl. 1. Composition.....	3	Engl. 2. Composition.....	3	Engl. 3. Composition.....	3
Chem. 8. General.....	5	Chem. 9. General.....	5	Chem. 10. Qualitative.....	5
Bot. 13. Pharmacy.....	2	Bot. 14. Pharmacy.....	4	Ph'cog. 12. Pharmacognosy	4
P.E. 10 or 15. Health Ed.	2	Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+
Mil. Sci. & P.E., or N.S....	+				
	15+		15+		15+

## SECOND YEAR

Ph. Chem. 5. Quantitative		Ph. Chem. 6. Quantitative		Pharm. 11. Prescriptions.	3
Gravimetric.....	5	Volumetric.....	5	Physiol. 7. Human.....	5
Pharm. 9. Prescriptions..	3	Pharm. 10. Prescriptions.	3	Chem. 39. Organic.....	5
Ph'cog. 13. Pharmacognosy	3	Ph'cog. 14. Pharmacognosy	2	Pharm. 4. Professional...	2
Chem. 37. Organic.....	5	Chem. 38. Organic.....	5	Mil. Sci. & P.E., or N.S....	+
Mil. Sci. & P.E., or N.S....	+	Mil. Sci. & P.E., or N.S....	+		
	16+		15+		15+

*Optional Curricula.* The student, after completing the first two years, the outline of which is common to all courses, must elect one of the following curricula:

1. PHARMACY COMBINED WITH BUSINESS COURSE. (To prepare graduates for the operation and management of retail pharmacies.)

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology		Ph'col. 102. Pharmacology		Ph'col. 103. Pharmacology	
and Toxicology.....	3	and Toxicology.....	3	and Toxicology.....	3
Ph. Chem. 195. Pharmaceu-		Ph. Chem. 196. Pharmaceu-		Ph. Chem. 197. Toxicology	5
tical Chemistry.....	5	tical Chemistry.....	5	Ph'cog. 105. Microscopy..	2
Bact. 101. General.....	5	Ph'cog. 104. Microscopy..	3	Pharm. 118. Pharm.	
Approved Elective.....	3	Approved Elective.....	5	Accounting.....	5
	16		16		15

## FOURTH YEAR

Ph'cog. 112. Biologicals..	3	Pharm. 114. Adv.		Pharm. 115. Adv. Prescrip.	5
Pharm. 113. Adv.		Prescrip.....	5	Pharm. 184. New	
Prescrip.....	5	Pharm. 183. New		Remedies and Laws...	3
Pharm. 182. New		Remedies.....	3	Ph. Chem. 107. Urinalysis	2
Remedies.....	3	Approved Electives.....	8	Ph. Chem. 108. Pharma-	
Pharm. 173. Cosmetics...	3			copoeial Assay.....	2
	14		16	Approved Elective.....	4
					16

\*A "unit" is applied to work taken in the high school. 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 thirty-six weeks.

2. THE SCIENTIFIC COURSE. (Prepares students for prescription and hospital pharmacy, manufacturing pharmacy and pharmaceutical chemistry.)

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology and Toxicology .....	3	Ph'col. 102. Pharmacology and Toxicology .....	3	Ph'col. 103. Pharmacology and Toxicology .....	3
Ph. Chem. 195. Pharmaceutical Chemistry .....	5	Ph. Chem. 196. Pharmaceutical Chemistry .....	5	Ph. Chem. 197. Pharmaceutical Chemistry .....	5
Bact. 101. General .....	5	Ph'cog. 104. Microscopy .....	3	Ph'cog. 105. Microscopy .....	2
Approved Elective .....	3	Approved Elective .....	5	Approved Electives .....	6
	<hr/> 16		<hr/> 16		<hr/> 16

## FOURTH YEAR

Ph'cog. 112. Biologicals ..	3	Pharm. 183. New Remedies	3	Ph. Chem. 107. Urinalysis	2
Pharm. 113. Adv. Prescrip.	5	Pharm. 114. Adv. Prescrip.	5	Ph. Chem. 108. Pharmacopoeial Assay .....	2
Physics 1 or 4. General ..	5	Physics 2 or 5. General ..	5	Pharm. 184. New Remedies and Laws ..	3
Pharm. 182. New Remedies	3	Approved Elective .....	3	Pharm. 115. Adv. Prescrip.	5
	<hr/> 16		<hr/> 16	Approved Elective .....	4
					<hr/> 16

3. PREMEDICAL CURRICULUM. (This curriculum, with proper selection of elective courses, will give qualified entrance to colleges of medicine. The student graduating from this course and obtaining a degree in medicine has the benefit of training in two separate but mutually beneficial professions.)

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology and Toxicology .....	3	Ph'col. 102. Pharmacology and Toxicology .....	3	Ph'col. 103. Pharmacology and Toxicology .....	3
Mod. Foreign Language ..	5	Mod. Foreign Language ..	5	Mod. Foreign Language ..	5
Zoology 1 or 3. General ..	5	Zoology 2 or 4. General ..	5	Pharm. 184. New Remedies and Laws ..	3
Ph'cog. 112. Biologicals ..	3	Pharm. 183. New Remedies	3	Pharm. 115. Adv. Prescrip.	5
	<hr/> 16		<hr/> 16		<hr/> 16

## FOURTH YEAR

Physics 1 or 4. General ..	5	Physics 2 or 5. General ..	5	Physics 3 or 6. General ..	5
Bact. 101. General .....	5	Approved Electives .....	10	Ph. Chem. 107. Urinalysis	2
Approved Elective .....	5			Ph. Chem. 108. Pharmacopoeial Assay .....	2
	<hr/> 15		<hr/> 15	Approved Electives .....	6
					<hr/> 15

## Announcement of Courses

For announcement of courses offered by the College of Pharmacy, see page 187.

## THE GRADUATE SCHOOL

### Including the Graduate School of Social Work

#### ADMINISTRATIVE OFFICERS

Lee Paul Sieg, Ph.D., LL.D. .... *President of the University*  
 Edwin Ray Guthrie, Ph.D. .... *Dean of the Graduate School*

Graduate Council: Dean Guthrie, *chairman*; Professors F. Eastman, Eby, Harrison, Hitchcock, Lundberg, Mander, Marekworth, A. W. Martin, Powers, Ray, Robinson, Vail, Van Horn; Mrs. Wentworth, *secretary*.

Graduate School Publications Committee: Dean Guthrie, *chairman*; Professors Carpenter, K. Cole, Goodspeed, Griffith, Mund, Gunther, Rigg, Savage, C. W. Smith, Ordal; W. M. Read, *University editor* (ex officio); Mrs. Wentworth, *secretary*.

Wentworth, Lois J., B.A. .... *Assistant to the Dean of the Graduate School*

*The Aims of Graduate Study.* The principal aims of graduate study are the development of intellectual independence through cultivation of the scientific, critical, and appreciative attitude of mind, and promotion of the spirit of research. The graduate student is therefore thrown more largely upon his own resources than the undergraduate and must measure up to a more severe standard. The University is consistently increasing the emphasis on graduate work.

*Organization.* The Graduate School was formally organized in May, 1911. The graduate faculty consists of those who offer courses primarily designed for graduate students.

#### General Information

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.

*Admission.* A graduate of the University or any other institution of good standing who has a "B" average for his last year of college work (45 qtr. cr. or 30 sem. cr.) will be admitted to the Graduate School. Before being recognized as a candidate for a degree, however, a student must take the Graduate Record Examination and be approved by a committee appointed by the Dean of the Graduate School, which shall also constitute the advisory committee to oversee the student's subsequent work. Unless the committee is already sufficiently acquainted with the candidate's capacity and attainments, there shall be a conference of the committee and the candidate, the purpose of which is twofold:

(a) To determine whether the student has the quality of mind and the attitude toward advanced work which would justify his going on for an advanced degree.

(b) To satisfy the major and minor departments and the Graduate Council that the student has the necessary foundation in his proposed major and minor subjects. If he lacks this foundation, he will be required to establish it through undergraduate courses or supervised reading.

An undergraduate major is normally prerequisite to candidacy for a graduate major in any department, and an undergraduate minor to a graduate minor.

If the student is from a college or university which falls below a satisfactory standard in curriculum, efficiency of instruction, equipment, or requirements for graduation, he may be required to take other undergraduate courses in addition to those required as a foundation in the major and minor subjects.

As soon after matriculation as feasible a candidate for an advanced degree must file with the dean of the Graduate School an outline of his proposed work. This outline is submitted to the advisory committee for acceptance or modification. After the student has taken the Graduation Record Examination, the outline is approved by the Graduate School, and the student is notified. He will then be regarded as a candidate for a degree. Information concerning the Graduate Record examination may be obtained at the office of the Graduate School.

*Scholarship.* A student shall be dropped from the Graduate School when, in the opinion of the dean and the departments concerned, his work does not justify his continuance.



*Students on the Staff.* Assistants, associates, or others in the employ of the University are normally permitted to carry a maximum of six credits of graduate work if full-time employees, and a maximum of eleven credits of graduate work if half-time employees. The same regulation applies to teachers in the public schools.

*Graduate Study in the Summer.* Many departments offer graduate courses during the summer quarter, but these are addressed primarily to the candidates for the master's degree. Candidates for the doctorate are in general encouraged to devote the summer to work upon the thesis.

*Disqualification of Credits.* After a lapse of ten years any course taken for an advanced degree becomes outlawed.

### Commencement

All candidates for advanced degrees must attend the Commencement exercises to receive their degrees in person, unless excused by the Dean of the Graduate School.

### Degrees

**DOCTOR OF PHILOSOPHY.** Graduate students will be received as candidates for the degree of doctor of philosophy in such departments as are adequately equipped to furnish the requisite training. This degree is conferred only on those who have attained proficiency in a chosen field and who have demonstrated their mastery by preparing a thesis which is a positive contribution to knowledge.

The requirements for the degree of doctor of philosophy are as follows:

1. At least three years of graduate work, of which not less than one undivided academic year must be spent in residence at the University of Washington. In cases of transfer from other institutions, a minimum of 45 quarter credits, exclusive of the thesis, must be taken at the University of Washington.

2. Completion of courses of study in a major and one or two minor subjects. This requirement as to the number of minors, however, may be modified or waived at the recommendation of the major department and with the approval of the Dean of the Graduate School. Three times as many grade points as credits must be earned, work receiving the grade of "S" not to be counted toward a major or minor until the final examination.

3. Evidence of a reading knowledge of scientific French and German and of such other languages as individual departments may require. Certificates of proficiency in these languages, based upon examinations given at the University of Washington, must be filed with the Dean not less than three months before the qualifying examination. Substitutions for French or German are subject to the approval of the Dean of the Graduate School; substitutions requested for both French and German must be approved by the Graduate Council.

4. Examinations:

*The Qualifying Examination.* given not earlier than the end of the second year and at least a year before the time when the student expects to take the degree, consists of an oral, or written, or oral and written examination covering the general fields and the specific courses in the major and minor fields. In so far as the examination is oral, it shall be before a committee (appointed by the Dean) of not less than three representatives of the major department, not less than one representative of each minor department, and a representative of the Graduate Council. The qualifying examination will normally be taken not less than two quarters before the final examination.

*The Final Examination.* An oral, or oral and written examination, before the same committee as above, on the field of the thesis and such courses as were taken subsequent to the qualifying examination. However, if the qualifying examination did not meet with the clear approval of the committee, the candidate's entire program, or such parts thereof as may have been designated by the committee, shall be subject to review.

If there is a division of opinion in the committee in charge of either examination, the case shall be decided by the Graduate Council, with right of appeal to the Graduate Faculty.

5. The preparation of a thesis, as stated above, embodying the results of independent research. If the thesis is of such a character, or falls in such a department, that it requires library or laboratory facilities beyond the resources of the University, the student will be required to carry on his investigation at some other university, at some large library, or in some special laboratory. This thesis must be approved by a committee, appointed by the major department, of which the instructor in charge of the thesis shall be a member.

Two copies of the thesis in typewritten form (or library hand) shall be deposited with the librarian for permanent preservation in the University archives at least two weeks before the date on which the candidate expects to take the degree. Printed instructions for the preparation of thesis manuscripts are available at the library. One copy shall be bound at the expense of the candidate. At the same time a digest of the thesis, not to exceed 3,000 words, must be filed in the office of the Graduate School.

The thesis, or such parts thereof, or such a digest as may be designated by the Council, shall be printed. The candidate shall contribute \$25 to the publishing fund for theses, for which he shall receive 50 copies of his thesis if it is printed entire, or 50 copies of a digest of his thesis. From this fund the library is provided with 400 copies.

6. A statement certifying that all courses and examinations have been passed and that the thesis has been accepted and properly filed in the library shall be presented to the dean at least one week before graduation. This statement must bear the signature of all major and minor instructors in charge of the student's work, and of the committee appointed by the major department to pass on the thesis.

The **MASTER OF ARTS** degree is granted to those whose work lies in the field of the liberal arts. The thesis, if not an actual contribution to knowledge, is concerned with the organization and interpretation of the materials of learning. The **MASTER OF SCIENCE** degree is granted to those whose work lies in some province of the physical or biological sciences, either pure or applied. The thesis for this degree, however, must be an actual contribution to knowledge.

#### *Requirements for these degrees:*

1. At least three full quarters or their equivalent spent in undivided pursuit of advanced study. Graduate work done elsewhere must pass review in the examination, and shall not reduce the residence requirement at this University.

2. Completion of a course of study (subject to departmental requirements) in a major and one or two minor subjects and of a thesis which lies in the major field. The work in the major and minor subjects shall total not less than 36 credits of which 24 are usually in the major. The thesis normally counts for 9 credits in addition to the course work. Three times as many grade points as credits must be earned, work receiving the grade of "S" not to be counted toward a major or a minor until the final examination.

The requirement of a minor or minors may be waived but only on recommendation of the major department and with the consent of the Dean of the Graduate School.

A total of nine quarter credits may be allowed on the program for the master's degree either in transfer from another institution or in extension class courses or in credit by examination, or the nine credits may be distributed among the three, subject to the approval of the department concerned.

Elementary or lower division courses and teachers' courses may not count toward either the major or minor requirements.

3. A reading knowledge of an acceptable foreign language other than the major if the major is a foreign language. Students are responsible for acquainting themselves at the Graduate School office with the exact dates when the language examinations are given.

4. An oral, or written, or oral and written examination in both the major and minor subjects, given by a committee consisting, so far as feasible, of all the instructors with whom the student has worked. If division of opinion exists among the examiners, the case shall be decided by the Graduate Council, with right of appeal to the Graduate Faculty.

5. The candidate's thesis must be approved by a committee of the major department; the instructor in charge of the thesis shall be a member of this committee. If the committee is divided in opinion, the case shall be decided by the Graduate Council, with right of appeal to the Graduate Faculty. At least two weeks before the date on which the candidate expects to take the degree, two copies of the thesis shall be deposited with the librarian for permanent preservation in the University archives. Printed instructions for the preparation of thesis manuscripts are available at the library. The cost of binding for one copy must be deposited with the thesis.

6. A statement certifying that all courses and examinations have been passed, and that the thesis has been accepted and properly filed in the library, shall be presented to the Dean at least one week before graduation. This statement must bear the signature of all instructors in charge of the student's work, and of the instructor in charge of the thesis.

The degrees of **MASTER OF ARTS** and **MASTER OF SCIENCE** in a particular field are given in the following technical subjects: chemical engineering, civil engineering, electrical engineering, mechanical engineering, ceramic engineering, ceramics, coal mining engineering, geology and mining, metallurgy, metallurgical engineering, mining engineering, forestry, music, nursing, pharmacy, physical education, home economics, and in regional planning. These degrees are designed for students who have taken the corresponding bachelor's degrees in technical subjects. The requirements are essentially the same as those for the degrees of master of arts and master of science, except that in most of these subjects no foreign language is required. Special departmental requirements appear below.

The degree of **MASTER** in a particular field is given in the following technical subjects: business administration, education, fine arts, forestry, nursing, and social work. The requirements for these degrees are essentially the same as those for the degrees of master of arts and master of science, except that all the work is in the major or closely correlated with it and no foreign language is required. (See departmental write-ups.)

For professional degrees offered in the College of Engineering and the College of Mines, see pages 129 and 132.

### Departmental Requirements

Requirements for the degrees of *Master of Arts* or *Master of Science* in the following fields conform to the general requirements for these degrees:

Anatomy, anthropology, bacteriology, botany, chemistry, drama, far eastern, fisheries, geography, geology, Germanic languages and literature, mathematics, philosophy, physics, physiology, political science, psychology, Romanic languages and literature, Scandinavian languages and literature, sociology, speech, and zoology. For departments which have special requirements, see below.

The degree of *Doctor of Philosophy* is given in the following fields:

Anatomy, bacteriology, botany, chemistry, economics and business, education, English, fisheries, forestry, geography, geology, Germanic languages and literature, history, mathematics, pharmacy, philosophy, physics, political science, psychology, Romanic languages and literature, sociology, and zoology. Some of these departments have special requirements for the degree. (See below.)

### Special Requirements in Certain Departments

**ART.** A student who has received a bachelor's degree with a major in art and who has maintained a grade average of "B" or better in his major while doing creditable work in other subjects, may become a candidate for the degree of *Master of Fine Arts*. All of the courses for this degree are taken in the School of Art. In lieu of the usual thesis, the candidate may undertake a problem of a professional character in painting, sculpture, or design.

**CLASSICAL LANGUAGES AND LITERATURE.** A major in Greek or Latin for the degree of *Master of Arts* requires a reading knowledge of French or German and selection of courses from those numbered above 105.

The requirements for a graduate minor in Latin or Greek are the same as the requirements for an undergraduate major.

**ECONOMICS AND BUSINESS.** The department of economics and business awards two master's degrees, the *Master of Arts* and the *Master of Business Administration*.

1. For the *Master of Arts* in economics, the special requirements are as follows:
  - a. A broad preparation in the allied social sciences.
  - b. Completion of a course of study in three fields arranged in consultation with the student's advisory committee. One of the fields shall be economic theory. If a field is selected outside of economics and business, a minimum of 12 credits of approved graduate work in that field is necessary in addition to satisfying the background requirements prescribed by the minor department. With such a minor, at least 10 credits of the required work in economics and business must be in courses listed for graduates only.
  - c. If all 45 credits are taken in economics and business, 15 of the credits (exclusive of the thesis) shall be in the courses listed for graduates only.
2. For the *Master of Business Administration*, the special requirements are:
  - a. Background subjects must include training in accounting, statistics, and business law. Other background work may be approved or required.
  - b. All of the graduate work must be taken in economics and business, except that the student's committee may permit some course work outside of the department.
  - c. The candidate's examination must cover three fields approved by his advisory committee.
  - d. At least 15 credits must be in advanced work (exclusive of thesis) listed for graduates only or in research courses numbered 190-199, provided that not more than 10 credits of the 15 may be in research courses. When credit in research courses is given to fulfill these graduate requirements, the amount and quality of the work must be significantly above that of the undergraduate level established in the same courses. Graduate credit for a research course will not be given (1) if the course has been taken by the student as an undergraduate, or (2) if there is a graduate seminar in the same field.
3. Candidates for the master's degree with economics and business as a minor shall present a background of at least eighteen approved credits in economics and business. In addition, the candidate must present not less than twelve credits in approved advanced courses in economics and business.
4. For the degree of *Doctor of Philosophy* the candidate is expected to concentrate his graduate work in at least four specific fields, to be determined in conference. Economic theory, considered historically and critically, shall always be included. Candidates whose major and minor are both in economics and business must select five fields. The following fields are recognized for this purpose: (1) economic theory and history of economic thought, (2) money, banking, and prices, (3) international economic policies, (4) marketing, (5) public finance and taxation, (6) public utilities and transportation, (7) labor and consumption, (8) accounting and management. In order to develop a program of work which best meets the needs of the individual student it may be necessary to require the election of courses in other departments, which may be counted in one of the candidate's fields but which are not alone of sufficient number to constitute a separate field.
5. A candidate for the doctor of philosophy degree who presents one minor which is in economics and business shall have a background of at least 35 approved credits in the field which he has selected. In addition to this, he must present for graduate credit not less than six approved courses in economics and business. The background subjects and graduate courses together must be adequate to give a satisfactory knowledge of the field.

A candidate for the doctor of philosophy degree who presents two minors, one of which is in economics and business, must have a background of at least 18 approved credits in the field which he has selected. In addition to this, he must present for graduate credit not less than three approved courses in economics and business.

**EDUCATION.** The department of education offers four advanced degrees, the *Master of Arts*, the *Master of Education*, the *Doctor of Philosophy*, and the *Doctor of Education*. Graduate work in education presupposes preparatory training of a minimum of twenty credits in the department.

1. The requirements for the major in education for the degree of *Master of Arts* include Educ. 291, 287, or 290, and ten credits in each of two educational fields. The thesis counts for six credits.

The minor requires a minimum of twelve additional credits of graduate work.

2. For admission to candidacy for the degree of *Master of Education*, a student must have completed at least two years of successful teaching or administrative experience. The requirements for the degree are:

a. The completion of at least one course in six of the following fields in education:

- |   |  |
|---|--|
| A. Educational psychology                     | G. History and philosophy of education and comparative education |
| B. Educational sociology                      | H. College problems  |
| C. Educational administration and supervision | I. Curriculum  |
| D. Elementary education                       | J. Guidance and extracurricular activities                       |
| E. Secondary education                        | K. Remedial and special education                                |
| F. Classroom techniques                       |  |

b. Specialization in two or more fields (selected from the six fields required above), so that the total credits in education, including the thesis and required courses (Educ. 291, and 287 or 290), shall be not less than thirty-six credits.

c. The completion of a minimum of eighteen credits of advanced courses outside the department of education. Of these eighteen credits at least five must be in strictly graduate courses.

3. The special requirements for the degree of *Doctor of Philosophy* with a major in education are:

a. Completion of seventy credits in graduate courses in education, including Educ. 287, 288, 289 (five to nine credits), 290, 291.

b. Specialization in three educational fields (see list of fields under *Master of Education*, 2a), with approximately fifteen credits in each field.

c. A thesis of thirty to forty-five credits.

d. One minor in a department other than education with thirty-five credits in graduate courses, or two minors in allied departments with twenty credits of graduate work in each.

If a candidate wishes to minor in education for the degree of *Doctor of Philosophy*, he must present a minimum of thirty-five approved credits of graduate work in education.

4. The degree of *Doctor of Education* is a professional degree intended primarily for administrators and teachers. It provides for study in all fields of education, as well as training in the major academic disciplines necessary to administration and teaching, with modern emphasis on correlation and integration. A candidate must show adequate background, training, and promise of success in the profession of education.

a. The candidate shall offer a minimum of 135 credits as follows:

A. Education (see fields listed under *Master of Education*, 2a).

- (1) One major field (twelve to fifteen credits)
- (2) Three minor fields (six to nine credits in each)
- (3) Education 191 or 290, 291, and 287
- (4) Electives in education to total sixty credits

B. Completion of related work outside the department of education:

- (1) Nine to twelve credits in arts and/or letters
- (2) Nine to twelve credits in science and/or mathematics
- (3) Nine to twelve credits in foreign language
- (4) Twelve to fifteen credits in social science and/or history

- C. A thesis representing the equivalent of two full quarters' work (thirty credits).
- b. At least nine quarters of full-time graduate work are required, and at least three quarters must be spent in continuous residence at the University.
- c. Qualifying examinations, both oral and written, are to be taken at least six months before the granting of the degree; the final examination, written and/or oral, at least two weeks before the degree is granted.

Advanced degree candidates in education who are working on theses must be registered for "thesis" unless specially exempted by the Dean of the College of Education. This registration should be for the period during which the thesis is being prepared under the direction of a major professor.

**ENGINEERING.** A graduate of the College of Engineering of the University of Washington, or of any other engineering college of equal standing, will be permitted to enroll for the degree of *Master of Science* in the respective engineering departments provided the grade average of his last year of undergraduate work (not less than 45 quarter credits) be not less than "B" (3.0). At the discretion of an examining committee, any candidate from another university may be required to take a preliminary qualifying examination. Subjects to be counted for an advanced degree must be completed with grades of "A" or "B."

The several departments of the College of Engineering are empowered to award the degree of *Master of Science in Engineering* to properly qualified candidates. There is no foreign language requirement for these degrees.

The degrees of *Master of Science in Regional Planning* or *Master of Arts in Regional Planning* are offered by various departments of the University in cooperation. Applications should be made directly to the chairman of the curriculum in Regional and Resource Planning, Professor Richard G. Tyler. A reading knowledge of a foreign language is required for each of these degrees.

Civil Engineering graduates will be held for the following preparatory courses: Math. 13; Political Science 1; Sociology 150. Graduates with social science majors should have had Econ. 1, 2; Geog. 7, 102, 160; Math. 13; Political Science 1; Psych. 1; Sociology 1; and Speech 40.

The program for the advanced degree includes Architecture 138, Civil Engineering 125 and 153, Economics and Business 109, 171, and 181, Geography 170 and 220, Political Science 164, Social Work 176, and Sociology 155. The thesis will normally be worked out during a summer period of approved research or practice, preferably with an established planning commission.

The foreign language requirement should be satisfied before the graduate year.

**NOTE:** A limited number of credits selected from the following approved list of courses may be substituted for required courses with the approval of the professor in charge of the curriculum: Sociology 131, 165, 190; Social Work 254; Political Science 61; Law 104; Forestry 65, 126, 158; Economics and Business 143, 144, 145, 172; Civil Engineering 150, 152.

**PROFESSIONAL DEGREES.** The College of Engineering offers the professional degrees, *Aeronautical Engineer*, *Chemical Engineer*, *Civil Engineer*, *Electrical Engineer*, and *Mechanical Engineer* to graduates of this college who hold the degree of bachelor of science or master of science in their respective departments, who give evidence of having been engaged continuously in responsible engineering work for not less than four years, of which at least three years shall have been in the supervision of engineering projects, who are at least thirty years of age, and who present satisfactory theses.

In general, responsible engineering work shall be interpreted to mean work equivalent to that required for membership in the national founder engineering societies. Teaching experience shall count in lieu of professional experience in the same ratio as now recognized by the professional societies, provided that a minimum of two years of acceptable engineering work other than teaching be included.

Application for a professional degree may be made at any time and shall be accompanied by an exact statement of the applicant's record since graduation. The department concerned shall pass upon the application and select the thesis committee. Final recommendations for or against granting the degree will be based on

the finished thesis. If the applicant has rendered special services to his profession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized standing. The candidate must submit two copies of his thesis in final form at least one month before the date on which theses for advanced degrees are deposited in the library. Action will be taken by the faculty of the College upon recommendation of the proper department.

**ENGLISH.** Candidates for the master's degree with a major in English are required to offer the equivalent of an undergraduate major in English at the University of Washington, including the English senior examination. Candidates for the master's degree with a minor in English must present sufficient undergraduate work in English so that this work plus the graduate minor in English shall be the equivalent of an undergraduate major. Recommendation by the department of English requires at least ten credits earned in English at the University of Washington.

Candidates for the master's degree with a major in English language and literature are required to present a thesis, a minor, and thirty credits which shall include English 201, 202, 203 and fifteen credits in one graduate-year course. The graduate minor in English shall include twelve credits in advanced work of which at least five must be in English courses for graduates only.

Candidates for the master's degree with a major in composition may offer fifteen credits in English 156, 157, 158; or 184, 185, 186; or Journalism 173, 174-175 as the required graduate-year course but may not present creative writing as a thesis. The minor in composition may offer either English 156, 157, 158; or 184, 185, 186; or Journalism 173, 174-175.

The major and minor should be not only in related subjects but in related fields of the subjects chosen. Majors and minors may be taken in each of the divisions of English. All the work presented for the master's degree may be from one division of English if the student's previous training includes a broad selection of courses from other disciplines than English.

For the degree of *Doctor of Philosophy* the candidate must present (1) a reading knowledge of Latin to be satisfied by previous courses in Latin or by examination during the first year of graduate study; (2) Old English to be taken in class; (3) Middle English to be taken in class.

1. For the major in English the student must take at least 60 credits, not more than nine of which may be offered from courses that number below 200 and of which at least fifteen credits must be in English 201, 202, 203. The limitation of nine credits below 200 does not apply to courses in English language or public speaking or to technical courses in drama.

2. For one minor, he must take 30 credits, or for two or more minors, he must take 15 credits in each.

3. In addition he is to take such other courses as are necessary to support the thesis.

The qualifying examination for this degree is to be passed one year before the candidate takes his degree, and is divided into definite parts.

1. Written examination on the period of the thesis and two related or adjacent periods.

2. Oral examination shall be of three parts: lecture or discussion, the minor, and general questioning.

a. On the day of the oral examination one and one-half hours before the hour set, the candidate is given questions or topics on the periods of English and American literature not treated in the written examination. From these questions or topics he shall choose three, and using one-half hour each without bibliographical aid, prepare a lecture or discussion for each of the three chosen. These discussions are then presented to the graduate faculty of the department at the beginning of the oral examination.

b. Then follows the minor examination in the form desired by the minor department.

c. General questioning on the written examinations, the lectures, or any other period of literature will close the examination.

3. The Old English language requirement may be satisfied by special examination immediately after the courses in the field have been finished or at the time of the preliminary examination either by oral or by written test.

**FORESTRY AND LUMBERING.** The candidate for the degree of *Master of Forestry* must earn a minimum of 45 credits in forestry taken beyond the bachelor's degree. For the degree of *Master of Science in Forestry* the candidate must present a minor in a science. Only grades of "A" and "B" can be accepted.

**HISTORY.** For the degree of *Master of Arts* a minimum of 45 credits, including Hist. 201 and 202, is to be taken, no minor being required. The thesis shall count from four to nine credits. A graduate seminar must be taken in the field of the thesis subject—i.e., in American history, if the thesis subject is in American history, or in European history (ancient, medieval, modern, or English) if the thesis subject is in European history. Selection of the other courses to be taken will be dictated by the three fields chosen for the final examination. This examination shall include one of the four fields from each of the three divisions of history which follow:

*Division I:* (1) Greek history; (2) Roman history; (3) Medieval history to 1000 A.D.; (4) Medieval history, 1000 to 1450 A.D.

*Division II:* (1) European history, 1450-1815; (2) European history, 1815 to the present; (3) English history, 1450 to the present; (4) British Empire since 1783.

*Division III:* (1) American history to 1783; (2) American history, 1783 to 1861; (3) American history, 1861 to the present; (4) Pacific and the Northwest.

A minor in history for the degree of *Master of Arts* requires a minimum of fifteen credits, of which ten must be in one historical field. The other five are to be in Hist. 201.

No work shall be counted toward a major in history for the degree of *Doctor of Philosophy* until the candidate shall have fulfilled the department's requirements for an undergraduate major in history. Facile use of both Latin and Greek is required of those who take the degree in ancient history.

The student shall present five fields from the four groups enumerated below. At least one field shall be from each of Groups A, B, and C. From one of these a second field shall be selected for particular concentration. The remaining two fields may be chosen from any of the four groups, one or both usually being chosen from Group D. The qualifying examination, oral and/or written, shall cover historiography and the six fields selected.

*Group A:* (1) Ancient history—Greece and Rome; (2) the Middle Ages to 1300; (3) England from the Anglo-Saxon Invasions to 1485; (4) the Renaissance and Reformation: 1300-1600.

*Group B:* (1) Modern Europe; (2) England since 1485; (3) British Empire since 1783.

*Group C:* (1) American history to 1789; (2) American history since 1789; (3) History of the West.

*Group D:* anthropology, economics, education, English, geography, far eastern, philosophy, political science, and sociology.

The minor in history for the degree of *Doctor of Philosophy* shall require at least 30 credits, including Hist. 201. At least one course shall be a graduate seminar.

**HOME ECONOMICS.** The department offers the following degrees: *Master of Arts* attained by work in textiles and clothing which may be combined with household economics or home economics education, and a minor in an allied field; *Master of Science* attained by work in food and nutrition which may be combined with household economics or home economics education, and a minor in an allied field; *Master of Arts in Home Economics* and *Master of Science in Home Economics* for which all of the work is in home economics with undergraduate work in basic fields. There is no foreign language requirement for the *Master of Arts in Home Economics* and the *Master of Science in Home Economics*.

Postgraduate training in public health nutrition requires two quarters of academic study and five months of supervised field work in out-patient departments of hospitals with social service agencies.

Two fields of postgraduate training are offered for graduates in institution administration. One is the dietitian internship which is given in hospitals throughout



the country. A limited number of commercial apprenticeships are also available. Both are one year in duration and are endorsed by the American Dietetic Association.

A limited number of internships for administrative dietitians is provided at the University of Washington for graduates of institution administration. Students of this and other colleges may apply for appointment after completion of 195 credits. This course has been inspected and approved by the American Dietetic Association and is under the supervision of the Business Director of Dining and Residence Halls. Field work includes six months in the University Commons and Residence Halls; three months in a commercial restaurant in the downtown business district; and three months in an industrial lunch room.

**JOURNALISM.** Although graduate work in journalism may be undertaken by students holding a bachelor of arts degree, or its equivalent, no degree other than that of bachelor of arts in journalism is granted. Qualified students may elect journalism as their minor field, when the major in which they plan to take their advanced degree is in an acceptably related field.

**LIBERAL ARTS.** Advanced work in the department of liberal arts may be taken for a minor for an advanced degree or as part of a graduate major in English, but it is not possible to make liberal arts a major for an advanced degree.

**MATHEMATICS.** The candidate's undergraduate preparation in mathematics shall consist of courses at least through the calculus, and in no case shall his total credits fall short of an undergraduate major in mathematics or equivalent. Courses beginning with Mathematics 111 may be applied on the program for an advanced degree.

**Master of Arts.** Certain courses intimately related to the elementary field and designed primarily for high school teachers are open in the summer and may be offered toward this degree.

**Master of Science.** The candidate must present a minimum of 33 approved credits in mathematics including the thesis. The course work must include at least six credits in each of the fields of algebra, analysis, and geometry.

The minor in mathematics for the master's degree requires at least twelve credits satisfactory to the department, at least nine of which shall be taken in residence.

**Doctor of Philosophy.** In addition to the requirements of the Graduate School, the department stipulates that the qualifying examination of the candidate shall cover the fundamental aspects of analysis, geometry, and algebra, together with a searching review of the field of the student's special interest.

A minor in mathematics for the degree of *Doctor of Philosophy* requires a minimum total of 33 approved credits, which may include acceptable courses beyond calculus taken as an undergraduate, but which shall include at least six credits in each of the fields of algebra, analysis, and geometry. For a partial minor, fifteen approved credits constitute a minimum.

**MINING, METALLURGICAL, AND CERAMIC ENGINEERING.** The degrees of *Master of Science in Mining, Metallurgical, and Ceramic Engineering*, respectively, will be conferred upon graduates of the College of Mines or of other engineering colleges of recognized standing, who comply with the regulations of the Graduate School and pass a formal examination open to all members of the faculty.

The degree of *Master of Science in Ceramics* may be conferred upon a graduate from a college of recognized standing provided his undergraduate preparation includes suitable courses in science and ceramics but does not meet the requirements of the engineering degrees granted in this college.

The College of Mines may award the degree of *Master of Science* to properly qualified candidates, subject to the requirements of the Graduate School for that degree.

Mining and metallurgical research is under joint direction of the United States Bureau of Mines and the College of Mines. Credit is allowed for research carried on during the summer months.

**PROFESSIONAL DEGREES.** The College of Mines offers the professional degrees, *Engineer of Mines, Metallurgical Engineer, and Ceramic Engineer* to candidates who present evidence of five years of professional experience in the proper field after receiving a bachelor's or master's degree from this college, who have spent four years in a directive or supervisory capacity in that field, and who present satisfactory theses.

In general, responsible engineering work shall be interpreted to mean work equivalent to that required for membership in the national founder engineering societies. Teaching experience shall count in lieu of professional experience in the same ratio as now recognized by the professional societies, provided that a minimum of two years of acceptable engineering work other than teaching be included.

Application for a professional degree may be made at any time and shall be accompanied by an exact statement of the applicant's record since graduation. The department concerned shall pass upon the application and select the thesis committee. Final recommendation for or against granting the degree will be based on the finished thesis. If the applicant has rendered special services to his profession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized standing. The candidate must submit two copies of his thesis in final form at least one month before the date on which theses for advanced degrees are deposited in the library. Action will be taken by the faculty of the college upon recommendation of the proper department.

**MUSIC.** Candidates for the degree of *Master of Arts in Music* must demonstrate proficiency in piano, sight reading, and melodic and harmonic dictation. The requirements for the three programs offered follow:

**Major in Composition:** (1) the equivalent of all music courses now required for the bachelor of arts in music with a major in composition; (2) twenty-five credits in graduate composition, which shall include one composition for a chamber music combination, one for orchestra or symphonic band, one for chorus, and the thesis; (3) twenty credits in approved electives.

**Major in Musicology:** (1) a bachelor's degree with the equivalent of 36 credits in upper-division music courses, including twelve credits in music history and literature; (2) ten credits in upper-division composition; (3) fifteen credits in approved electives in music or related fields; (4) twenty credits in approved seminars and research including the thesis; (5) a reading knowledge of either French or German.

**Major in Music Education:** (1) a bachelor's degree with the equivalent of all music courses now required for the bachelor of arts in music with a major in music education; (2) two years of approved teaching experience, of which one must precede the graduate courses in music education; (3) eighteen credits in seminars and research in music education, including the thesis; (4) fifteen credits in approved music courses; (5) twelve credits chosen from approved upper-division music courses.

Requirements for a minor in music when the master's degree is in another department: twelve credits chosen from approved upper-division music courses.

**NURSING.** Graduate work in nursing is offered with a major in the fields of (1) administration in schools of nursing, (2) teaching and supervision, and (3) public health nursing.

For the degree of *Master of Nursing* the minor must be chosen from allied fields, such as the social sciences, education, or home economics. If the degree of *Master of Science in Nursing* is desired, the minor is to be in the fields of biological or physical science, such as physiology, anatomy, bacteriology, or chemistry.

A reading knowledge of a foreign language is required for the degree of *Master of Science in Nursing* but not for the degree of *Master of Nursing*.

**PHARMACY, PHARMACEUTICAL CHEMISTRY, PHARMACOLOGY, TOXICOLOGY, MATERIA MEDICA AND FOOD CHEMISTRY.** The department of pharmacy offers the degrees of *Doctor of Philosophy* and *Master of Science in Pharmacy*. For the master's degree not less than twenty credits shall be taken in pharmacy. At least twelve of these must be earned in a research problem and the preparation of a thesis. Not more than 25 credits are accepted in courses from other departments.

**PHYSICAL EDUCATION AND HYGIENE.** The degree of *Master of Science in Physical Education* conforms to the general requirements.

For a minor in physical education for the master's degree, the student must present a minimum of twenty-six preparatory credits in physical education and a course in physiology, and must offer at least twelve credits in advanced courses.

**ROMANIC LANGUAGES AND LITERATURE.** For the degree of *Master of Arts* with a major in one of the Romanic languages, the thesis must be submitted to the department *four weeks before the end of the quarter in which the degree program is to be completed*. All students will find a knowledge of Latin particularly helpful.

For the degree of *Doctor of Philosophy* entirely within the department, the requirements are: (1) the history of two Romanic languages; (2) the history of three Romanic literatures, as outlined in the syllabi provided by the department; and (3) a knowledge of Latin. Acquaintance with some principal masterpieces of other literature is strongly recommended, as essential for historical and aesthetic perspective. In cases where a minor is added from another department, representative masterpieces of three Romanic literatures must be included in the requirements. In cases where a Romanic language is used as a minor for the doctor's degree, the requirements are at least the same as for the undergraduate major in that language.

**GRADUATE SCHOOL OF SOCIAL WORK.** For information concerning the Graduate School of Social Work, see pages 135-136.

**SOCIOLOGY.** Majors for the degree of *Master of Arts* are required to take 24 credits of advanced work in sociology. At least ten credits of the advanced work must be taken in strictly graduate courses (200 series). Every graduate major shall become a member of the Departmental Seminar for at least one quarter but may receive no more than a total of six credits for work in this course.

Minors are required to offer at least 18 credits in preparation and to take a minimum of 18 credits of which at least half must be in advanced work, including six credits of strictly graduate courses.

The application for the degree, showing the program of study for fulfilling the above requirements, is to be presented to the chairman of the department before the beginning of the second quarter of residence for graduate work.

The thesis is to be presented to the chairman of the thesis committee six weeks prior to the conferring of the degree. Acceptance is by formal approval of the department. In addition to library copies, one copy of the thesis is to be provided for the department files.

Proficiency in French or German must be certified at least three months before the degree is conferred.

Admission to final examination is made upon written request by the candidate and formal approval of the department. This examination for the major will cover two of the fields of the department, these being selected by the candidate. In addition, there will be an examination in the minor field. Minors in sociology will take a general examination covering the course work.

The fields of specialization include the following: I, Social Theory; II, Collective Behavior; III, Groups and Institutions; IV, Social Statistics and Research; V, Ecology and Demography; VI, Social Maladjustment; VII, a field in a related department (minor).

Before proceeding for the degree of *Doctor of Philosophy*, the degree of *Master of Arts* should normally have been taken. This requirement may be waived by formal action of the department.

Majors are required to take 36 credits of undergraduate and 60 credits of more advanced work in sociology. At least one-third of the graduate work must be in strictly graduate courses. Every graduate major is expected to attend the Department Seminar for which not more than a total of six credits can be allowed toward the degree.

Minors are required to take a minimum of 18 credits of undergraduate work and 30 credits or more of advanced work, including 12 credits of strictly graduate courses.

A program of study for fulfilling the above requirements is to be presented to the chairman of the department before the beginning of the second quarter of residence for graduate work.

Admission to both preliminary and final examination is made upon written request and formal approval of the department. The written preliminary examination will cover four fields of the department for majors; two fields of the department for minors; these being selected and indicated by the candidate. An oral examination following the written examination may be given at the discretion of the major or minor department.

## THE GRADUATE SCHOOL OF SOCIAL WORK

GRACE B. FERGUSON, *Director*, 300-F Commerce Hall

The Graduate School of Social Work, organized in 1934, maintains a two-year curriculum which conforms to the standards of the American Association of Schools of Social Work, of which the School is a member. Among the types of positions to which this training may lead are: family case work, child welfare work, social work in the schools, medical school work, psychiatric social work, group and neighborhood work, community organization, the social insurances, and social research and public welfare administration.

**Admission.** Application forms must be secured from the office of the School, 300-F Commerce Hall, and confirmation of admission must be received from the School.

Since the facilities for field work limit the number of students to be admitted, applications for admission should be submitted by July 15, on regular forms, with official transcripts of all previous college work completed.

Persons who have had courses in other schools which are members of the American Association of Schools of Social Work may be admitted at the beginning of any quarter if their work has been satisfactory, provided application for admission has been made *at least one month* in advance of the opening date of the quarter. Persons without previous professional training are admitted in the autumn and summer quarters.

Requirements for admission are: (1) graduation from an accredited college or university with the equivalent of a "B" average; (2) well-rounded undergraduate preparation that has included at least 36 quarter credits in the social sciences, such as economics, political science, sociology, anthropology, psychology; (3) a year of biology. Personal qualifications including health, scholarship, and indications of probable success in social work are also considered by the admissions committee.

Persons under 21 or over 35 are not encouraged to begin preparation for the profession. References are consulted and a personal interview is required whenever possible.

**Curriculum.** The curriculum is planned to lead to the degree of *Master of Social Work*, and no other certificate or diploma is granted. For the student who enters with the minimum requirements in social and biological sciences, a program is offered for the master's degree covering a minimum of six quarters of work.

A broad first-year curriculum is required of all students. This includes Field of Social Work, Growth and Development of the Individual (including medicine and psychiatry), Social Case Work, Family Case Work, The Child and the State, Child Welfare Case Work, Public Welfare, Social Aspects of the Law, Social Work Research and Statistics, Field Work, and Community Organization.

During the second year, emphasis is placed on preparation in the area of the student's field of interest (child welfare, family, medical, etc.), with additional courses required in Administration of the Social Insurances, Historical Backgrounds of Social Work, Professional Ethics, and Social Research.

Students unable to remain longer than one year can complete in that time the basic curriculum, prescribed by the American Association of Schools of Social Work, which is outlined above. Upon securing employment, they are then eligible to apply for admission to the American Association of Social Workers.

**Medical Social Work Curriculum.** The course plan (see courses of study) is based on the educational requirements of the American Association of Medical Social Workers. The medical social work sequence begins in the autumn and spring quarters of each year and requires three additional quarters to complete beyond the time required for the basic curriculum.

**The Master of Social Work Degree.** A graduate student who has satisfactorily completed three quarters of professional work in residence, and who has an acceptable thesis subject and plan of research, may, upon approval of the faculty of the Graduate School of Social Work, file an application for admission to candidacy.\*

\* Detailed instructions regarding procedures in fulfilling degree requirements may be obtained from the secretary.

*Requirements.* They differ from the general requirements of the Graduate School only in that:

1. The master's degree is awarded, not on the basis of credits for courses completed, but in recognition of the student's competency in both theory and practice in the field of social work. The comprehensive examination is the test of his competency.

2. Field work, including from 600 to 800 clock hours, depending upon the field of specialization, is taken in conjunction with the appropriate class work.

3. A minimum of three full quarters of work in residence is required. The course requirements ordinarily cover a minimum of eighty-five quarter credits, nine of which are in thesis research. A reading knowledge of a foreign language is not required.

*Fellowships, Scholarships, Prizes.* See pages 61-64.

*Loan Funds.* *The Mildred E. Buck Loan Fund* is available for small loans to students. Applications should be made to the Graduate School of Social Work. *The American Association of Social Workers, Puget Sound Group, Washington Chapter, Education Loan Fund* is available to members.

### **SECTION III—ANNOUNCEMENT OF COURSES**

### EXPLANATION OF SECTION III

This section contains a list of all courses of study offered in the University. The departments are arranged in alphabetical order.

The University reserves the right to withdraw temporarily any course which has not an adequate enrollment at the end of the sixth day of any quarter. No fee will be charged for changes in registration made necessary by the withdrawal of a course.

The four-quarter plan has been adopted to enable the University to render larger service. It is more flexible than the semester plan and adds 11 weeks' instruction to the regular year. It is impossible, however, to provide that every course be given every quarter.

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.

Two or three course numbers connected by hyphens indicate a series of courses in which credit is given only upon completion of the final course in the series, unless the special permission of the instructor is obtained. Such permission is never granted in beginning foreign languages for less than two quarters' work.

Descriptions of courses in each department include: (1) the number of the course as used in University records; (2) title of the course; (3) number of credits, given in parentheses; a dagger is used in place of a numeral when the number of credits varies; (4) brief description of its subject matter and method; (5) name of instructor.

In the lists of department faculties, the first name in each instance is that of the department's executive officer. An asterisk follows the name of a faculty member who is on leave.

## SECTION III—ANNOUNCEMENT OF COURSES

### ANIMAL BIOLOGY

*Professors Svibla, Hatch, Kincaid, Worcester; Associate Professor Martin; Instructors Carlson, Fernald, Hsu, Ray, Wright*

#### Anatomy

100. **Anatomy Lectures.** (3) Worcester  
 101, 102, 103. **General Human Anatomy.** (3 or 6 each quarter.) Pr., Zool. 1 and 2, or equivalent. Worcester  
 104. **Topographic Anatomy.** (4) Cross and sagittal sections for correlation. Pr., 101, 102, 103. Worcester  
 105. **Histology.** (3 or 6) Normal and abnormal microscopic anatomy; 3 credits for Harborview students. Pr., Zool. 1 and 2, or equivalent. Worcester  
 106. **Embryology.** (6) Human developmental anatomy. Pr., Zool. 1 and 2, or equivalent. Worcester  
 107. **Neurology.** (6) Dissection of the human brain, cord, special organs of sense; comparative developmental history of the central nervous system; microscopic study of the nuclei and fibre tracts. Pr., Zool. 1 and 2, or equivalent. Worcester  
 108. **Special Dissections.** (†) Pr., 104 or equivalent. Worcester  
 110. **Anatomy.** (3) General study of whole human body. Dissection on human cadavers. No prerequisite. Worcester  
 111. **Anatomy.** (5) General study of whole human body. Dissection on human cadavers. Pr., Zool. 1 and 2, or equivalent. Worcester

#### Course for Graduates Only

200. **Research.** (†) Graduate course. Worcester

#### Physiology

7. **Elementary Human Physiology.** (5) Three lect., one quiz, five hrs. lab. Pr., high school or freshman chemistry. Wright  
 11. **Survey of Physiology.** (5) Five lect., no lab. Carlson  
 53, 54. **Intermediate Physiology.** (5, 5) Three lect., one quiz, five hrs. lab. Martin  
 114. **Comparative Physiology.** (5) Comparison of the analogous systems in various organisms. Three lect., one quiz., five hrs. lab. Pr., Zool. 2, Chem. 2 or 22. Carlson  
 115. **Cellular Physiology.** (5) Study of fundamental physiological processes. Three lect., one quiz, five hrs. lab. Pr., Zool. 2, Physics 3, Chem. 23. Carlson  
 116. **Biophysics.** (5) Study of physiological phenomena in physical terms. Three lect., one quiz, five hrs. lab. Pr., Zool. 2, Physics 3, Chem. 23. Carlson  
 151, 152, 153. **Advanced Human Physiology.** (5, 5, 5) Three lect., one quiz, five hrs. lab. Pr., Zool. 2, Chem. 23, permission. Martin  
 173. **Advanced Endocrinology.** (5) Three lect., one quiz, five hrs. lab. Pr., 10 credits in human physiology, permission. Wright

#### Courses for Graduates Only

- 201, 202, 203. **Research.** (†) Pr., 20 credits in physiology. Staff  
 210, 211, 212. **Seminar.** (1, 1, 1)

Not offered in 1946-1947: Physiology 155, 156, 157. Elementary Problems.

#### Zoology

- 1, 2. **General Zoology.** (5, 5) Survey of the animal kingdom, stressing structure, classification and economic relations. Three lect., one quiz, four hrs. lab. Hatch, Ray  
 8. **Survey of Zoology.** (5) Students who expect to continue with zoology should begin with 1, 2. Four lect., two hrs. lab. Kincaid  
 16. **Evolution.** (2) Two lect. Kincaid  
 17. **Eugenics.** (2) Evolution and heredity as related to human welfare. Two lect. Kincaid  
 101. **Cytology.** (5) The animal cell, its structure, activities, and development; sex-determination; heredity. Three lect., three hrs. lab. Pr., 1, 2. Hsu  
 105. **General Vertebrate Embryology.** (5) Three lect., six hrs. lab. Pr., 1, 2.



106. Marine Plankton. (5) Three lect., six hrs. lab. Pr., 1, 2. Kincaid
107. Parasitology. (5) Animal parasites. Three lect., six hrs. lab. Pr., 1, 2.
108. Limnology. (5) Fresh-water biology. Three lect., six hrs. lab. Pr., 1, 2. Kincaid
111. Entomology. (5) Three lect., six hrs. lab. Pr., 1, 2. Hatch
121. Microscopic Technique. (3) Making microscopic preparations. One lect., six hrs. lab. Pr., 1, 2.
- 125, 126. Invertebrate Zoology. (5, 5) Exclusive of insects. Three lect., six hrs. lab. Pr., 1, 2. Ray
- 127-128. Comparative Anatomy of Chordates. (5-5) Three lect., six hrs. lab. Pr., 1, 2.
129. Natural History of Amphibia, Reptiles and Birds. (5) Three lect., six hrs. lab. Pr., 1, 2. Svibla
130. Natural History of Mammals. (5) Three lect., six hrs. lab. Pr., 1, 2. Svibla
131. History of Zoology. (2) Two lect. Pr., 20 credits in zoology. Hatch
135. Museum Technique. (3) Preparation of museum specimens. Six hrs. lab. Pr., permission. Flahaut
- 155, 156, 157. Elementary Problems. (3, 3, 3) Pr., 30 credits in zoology and permission. Staff
- Teachers' Course in Zoology. (See Educ. 75Z.)

#### *Courses for Graduates Only*

- 201, 202, 203. Research. (†) Staff
- 210, 211, 212. Seminar. (1, 1, 1) Staff

### ANTHROPOLOGY

*Professor Gunther; Associate Professors Jacobs, Ray; Assistant Professor Garfield; Instructor King*

#### *Elementary Courses Primarily for Freshmen*

- §51. Principles of Anthropology. (5) Evolution and heredity as applied to man; racial classification and its significance; the anthropological approach to language.
- §52. Principles of Anthropology. (5) Man's social customs, political institutions, religion, art, and literature.
- §53. Principles of Anthropology. (5) Prehistoric cultures, prehistory of modern peoples, material cultures of primitive peoples.

#### *Intermediate Courses Primarily for Sophomores*

60. American Indians. (5) Ethnographic study with some consideration of their present condition. Upper-division credit for upper-division students.
63. Africa. (5) Prehistory, physical anthropology and ethnography with its American cultural and physical continuities. No pr. Upper-division credit for upper-division students.
65. South America. (5) The sources and character of South American culture, with special emphasis upon Indian components. Upper-division credit for upper-division students. No pr.

#### *Upper-Division Courses*

101. Basis of Civilization. (3) Primitive mentality and culture patterns. Pr., 51, 52, or 53, or junior standing. Jacobs
107. Methods and Problems of Archaeology. (5) Includes field experience in this locality. Pr., 53. King
111. Indian Cultures of the Pacific Northwest. (3) Ethnographic study with special emphasis on the tribes of Washington. Pr., 52 or 60. Garfield
112. Peoples of the Pacific. (3) Ethnographic study; effects of European contacts. Gunther
142. Primitive Religions: Descriptive Survey. (3) Pr., 52. Ray
143. Primitive Art. (3) Aesthetic theories, artistic achievements of preliterate peoples, with museum material for illustration. Gunther
150. General Linguistics. (3) Anthropological approach to language; psychological, comparative, and historical problems; phonetic and morphologic analysis. Jacobs
151. American Indian Languages. (3) Methods of field research. Pr., 150. Jacobs
152. Introduction to Anthropology. (5) Its importance as a basis for other social sciences. Pr., junior standing. Not open to those who have had 51, 52, or 53. Gunther
160. History of Anthropological Theory. (2) Pr., 15 credits in anthropology. Jacobs

§ Courses 51, 52, 53 may be taken in any order.

170. **Primitive Arts and Crafts.** (5) Study of techniques of primitive material culture. Pr., 52 or 60. Gunter, Ray
185. **Primitive Social and Political Institutions.** (5) Pr., 52. Ray
- 186, 187, 188. **Physical Anthropology.** (3) Anthropometry and somatology of man. For advanced undergraduates. Pr., 51; Zool. 1, 2; Anat. 100. King
- 190, 191, 192. **Undergraduate Conference and Research.** (3) Pr., 20 credits in anthropology. Staff

*Courses for Graduates Only*

- 204, 205. **Seminar in Methods and Theories.** (3, 3) Gunter
206. **Seminar in Indian Administration.** (3) Gunter
250. **Field Methods in Ethnography.** (3) Ray
251. **Field Methods in Archaeology.** (3) King
252. **Field Methods in Linguistics.** (3) Jacobs
- 290, 291, 292. **Graduate Research.** Staff

Not offered in 1946-1947: 105, *Invention and Discovery in the Primitive World*; 114, *Peoples of Central and Northern Asia*; 141, *Primitive Literature*; 153, *Anthropology and Contemporary Problems*.

## ARCHITECTURE

*Professors Herrman, Thomas, Gowen; Associate Professor Pries; Instructor MacLaurin*

- 1-2. **Architectural Appreciation.** (2-2) General survey of architectural design from a historical viewpoint. Herrman
3. **The House.** (2) An analysis of domestic architecture. Herrman
- 4, 5, 6. **Elements of Architectural Design.** (4, 4, 4) For interior design majors. To be taken with 7, 8, 9. MacLaurin
- 7, 8, 9. **Graphical Representation.** (1, 1, 1) Orthographic projection, shades and shadows, perspective. To be taken with 4, 5, 6.
- 10, 11, 12. **Architectural Drawing.** (4, 4, 4) Orthographic projection, shades and shadows, perspective, drafting and rendering techniques. MacLaurin
- 40, 41, 42. **Water Color.** (3, 3, 3) Still life and outdoor sketching. Pr., major in architecture. Art 32, 33, 34. Hill
- 51, 52. **History of Architecture.** (2, 2) Byzantine, Romanesque, and Gothic Periods. Pr., 2. Thomas
- 54, 55, 56. **Architectural Design, Grade I.** (7, 7, 7) Pr., 12, Art 32, 33, 34. Gowen, Pries
- 61, 62, 63. **Materials and Their Uses.** (2, 2, 2) Pr., Physics 13.
- 101, 102, 103. **History of Architecture.** (2, 2, 2) Comparative study of the Renaissance in Europe. Pr., 52. Herrman
- 104, 105, 106. **Architectural Design, Grade II.** (7, 7, 7) Pr., Arch. Design, Gr. I. Herrman
- 120, 121, 122. **Contract Drawings.** (2, 4, 4) Lectures and drafting-room practice. Pr., Arch. Design, Gr. II, C.E. 118.
135. **Introduction to City Planning.** (2) Circulation, recreation, open areas, public buildings, private development, new towns and garden cities. Pr., major in Regional Planning or junior in architecture. MacLaurin
151. **History of Architecture.** (2) From the middle of the eighteenth century to the present. Pr., 103. Gowen
- 152, 153. **Theory of Architecture.** (2, 2) Design theory, composition, scale, planning. Pr., Arch. Design, Gr. I. Gowen
- 154, 155, 156. **Architectural Design, Grade III.** (7, 7, 7) Pr., Arch. Design, Gr. II. Gowen, Pries
- 160, 161, 162. **Architectural Problems.** (3 to 7 each quarter) Pr., 156. Pries
169. **Specifications and Contracts.** (3) Contract forms, office organization and methods, ethics. Pr., senior in architecture. Gowen
- 180, 181, 182, 183. **Principles of City Planning.** (1 to 2 each quarter) History, theory, objects and scope; planning technique, development of comprehensive plan, zoning, subdivision control, site planning, administration, legislation. Pr., major in City Planning. MacLaurin
- 190, 191, 192, 193, 194. **City Planning Design.** (5, 5, 5, 5, 7) Towns, cities, community pattern, housing groups, shopping centers, recreation areas. Last quarter includes thesis. Pr., major in City Planning. MacLaurin

## ART

*Professors Isaacs, Hill, Patterson; Associate Professors Benson, Foote, Johnson, Penington, Pratt\*;  
Instructors Curtis, Hensley, DuPen*

The School of Art reserves the right to retain student work for temporary or permanent exhibition.

1. Elementary Painting and Design. (5)
- 5, 6, 7. Drawing. (3, 3, 3)
- 9, 10, 11. Design (3, 3, 3)
12. History of Art Through the Renaissance. (5)
- 15, 16. Laboratory Drawing. (3, 3) Curtis
20. Modern Sculpture. (2)
- 32, 33. Drawing for Architects. (2, 2) Hill
34. Sculpture for Architects. (2)
51. Figure Sketching. (†) Sketching from the posed model in different mediums.
- 53, 54, 55. Design. (3, 3, 3) Pr., 5, 6, 7, 9, 10, 11. Penington
- 56, 57, 58. Drawing and Painting. (3, 3, 3) Oil and water color. Pr., 5, 6, 7. Hill, Patterson
62. Essentials of Interior Design. (2) Illustrated lectures. Foote
- 65, 66, 67. Drawing and Painting. (3, 3, 3) Pr., 56, 57, 58. Hill, Patterson
- 72, 73, 74. Sculpture. (3, 3, 3) DuPen
- 80, 81, 82. Furniture Design. (3, 3, 3) Pr., 5, 6, 7, 9, 10, 11. Art 83 to be taken with 82. Foote
83. History of Furniture and Interior Styles. (2) Illustrated lectures. Foote
100. Elementary Crafts for Schools. (2) Johnson
101. Elementary Interior Design. (2) Practical projects, no perspective. Foote
102. Bookmaking and Book-binding. (2) Pr., junior standing in art. Johnson
- 103, 104. Ceramic Art. (3, 3) Pr., junior standing in art or permission.
105. Lettering. (3) Pr., for art majors, 11; for nonmajors, permission.
106. Commercial Design. (3) Posters. Pr., 105. Benson
- 107, 108, 109. Portrait Painting. (3, 3, 3) Patterson
- 110, 111, 112. Interior Design. (5, 5, 5) For majors. General students by permission. Pr., 7, 11. Foote  
Art 62 to be taken with 110.
116. Design for Industry. (3) Pr., 53, 54, 55. Penington
- 122, 123, 124. Sculpture. (3, 3, 3) Pr., 72, 73, 74. DuPen
126. History of Painting Since the Renaissance. (2) Not open to freshmen. Isaacs
129. Appreciation of Design. (2) Historic and modern. Benson
130. Advanced Ceramic Art. (3) Pr., 104.
- 132, 133, 134. Advanced Sculpture. (3, 3, 3) Pr., 122, 123, 124.
- 136, 137, 138. Sculpture Composition. (3, 3, 3) Pr., 74.
140. Textile Design. (3) Pr., 53, 54, 55. Penington
- 150, 151. Illustration. (5, 5) Book illustration; print making. Pr., senior in art or permission. Penington
- 157, 158, 159. Design in Metal. (3, 3, 3) Pr., junior standing in art or permission. Penington
- 160, 161, 162. Life. (3, 3, 3) Drawing and painting from the model. Anatomy. Pr., 56, 57, 58. Isaacs
- 163, 164, 165. Composition. (3, 3, 3) Pr., Life, 3 credits. Isaacs
166. Design. (3) Commercial application and techniques. Pr., 55. Benson
- 169, 170, 171. Costume Design and Illustration. (2, 2, 2) Pr., 6, 11. Benson
- 172, 173, 174. Advanced Interior Design. (5, 5, 5) For majors. Pr., 112; Arch. 3, 6, 9, or equivalent. Foote
- 175, 176, 177. Advanced Painting. (3, 3, 3) Pr., 56, 57, 58. Isaacs, Patterson
- 179, 180, 181. Advanced Costume Design and Illustration. (2, 2, 2) Pr., 169, 170, 171. Benson
- 182, 183, 184. Asiatic Art. (2, 2, 2) 182: India; 183: China; 184: Japan. Savery
- 195, 196, 197. Senior Seminar. (1, 1, 1) Required of all seniors. Staff

*Courses for Graduates Only*

- 207, 208, 209. Portrait Painting. (3, 3, 3) Isaacs, Patterson  
 250, 251. Advanced Design. (3 or 5 each quarter)  
 260, 261, 262. Advanced Life Painting. (3 or 5 each quarter) Isaacs, Patterson  
 263, 264, 265. Composition. (3 or 5 each quarter) Isaacs

**ASTRONOMY**

*Associate Professor Jacobsen*

1. Astronomy. (5) Star finding, solar system, sidereal universe. Pr., plane trig. Jacobsen  
 101. Astrophysics and Stellar Astronomy. (3) Interpretation of stellar spectra; motions, types of stars. Pr., physics, calculus; pr. or concurrent, 1. Jacobsen  
 102. The Solar System. (3) Motions of the sun, moon, planets. Pr., calculus; pr. or concurrent, 1. Jacobsen  
 104. Spherical Astronomy. (4) Solutions of spherical triangles, applications to astronomy. Pr. or concurrent, 1. Jacobsen  
 105. Practical Astronomy. (4) Determination of latitude, longitude, time, azimuth. Individual sextant work. Pr. or concurrent, 1. Jacobsen  
 191, 192, 193. Astronomical Research. Research on current or special astronomical problems. Jacobsen

**BACTERIOLOGY AND PATHOLOGY**

*Professors Henry, Hoffstad; Associate Professors Weiser, Ordal; Assistant Professor Douglas; Associate Duchow*

100. Fundamentals of Bacteriology. (10) Pr., 10 credits in botany or zoology, Chem. 132, and permission. Henry, Ordal  
 101. General Bacteriology. (5) Pr., Chem. 2 or 22 Weiser, Ordal, Douglas  
 102. Sanitary and Clinical Methods. (5) Pr., 100 or 101. Weiser  
 103. Public Hygiene. (5) No laboratory. Pr., junior standing. Hoffstad  
 104. Fundamentals of Immunology. (5) Pr., 100 or 101, Chem. 132. Weiser  
 105. Pathogenic Microorganisms. (5) Students are required to submit to diagnostic and prophylactic treatments for the purpose of avoiding accidental infection. The department reserves the right to exclude any student who, through negligence, jeopardizes the health of himself or his fellow students. Any student so excluded shall be required to repeat an elementary course in bacteriology before again being admitted to Bact. 105. Pr., 100 or 101. Henry  
 107. Control of Microorganisms. (5) Pr., 100 or 101, and permission. Ordal  
 120, 121, 122. Applied Bacteriology. (5, 5, 5) Practical experience in media room, public health, private hospital, or industrial laboratories. Fifteen hours per week. Pr., permission and letter to laboratory. Duchow, Henry  
 130, 131, 132. Industrial Microbiology. (5, 5, 5) Pr., 100 or 101, Chem. 111, 132. Douglas, Ordal

*Courses for Graduates Only*

Ten undergraduate credits and permission are prerequisites to all graduate courses.

200. Seminar. (1) Pr., graduate standing.  
 201. Physiology of Bacteria. (5) Ordal, Douglas  
 202. Viruses. (5) Hoffstad  
 207. Marine Bacteriology. (6) Ecology and biochemistry. Ordal  
 250. Research. (†)

**BOTANY**

*Professors Hitchcock, Frye, Hotson, Rigg; Assistant Professors Naylor, Roman, Stuntz*

For those who expect to take no more than five credits of botany, courses 1, 2, 3, 5, 8, or 16 are recommended. For those who expect to take ten credits of botany, courses 1 and 2; 1 and 3; 3 and 5; 1, 8, and 25; or 1, 25, and 101 are recommended.

Courses 1, 5, 13, 16, and 17 are beginning courses, and except for the combination of 5 and 16, only one of these courses may be taken for full credit. Botany 2 and 14 should be preceded by 1 and 13 respectively, not by 5.

1. Elementary Botany. (5) The seed plant, its structure, physiology, and reproduction. Naylor  
 2. Elementary Botany. (5) Structure and relationships of the major plant groups. Pr., 1 or one year high school botany.

† To be arranged.

3. Elementary Botany. (5) Local flora. Hitchcock
5. Survey of Botany. (5) Outstanding generalizations concerning plants. Three lect., one quiz, one two-hour lab. Students who expect to continue with botany should begin with 1, 2, or 3.
8. Heredity. (3) For students with little or no training in biology. Roman
- 13, 14. Pharmacy Botany. (2, 4) Vegetative and reproductive parts of seed and spore plants. Rigg
16. Economic Botany. (5) Use of plants by man for foods, clothing, and shelter. Stuntz
- 17, 18, 19. Forestry Botany. (3, 3, 3) 17: Structure and physiology of seed plants; 18: Morphology of fungi and reproduction of seed plants; 19: Forest flora, grasses, browse, and poisonous plants. Stuntz, Hitchcock
25. Plant Propagation. (3) Grafting, budding, cuttings, and general greenhouse practice. Three two-hour labs. in greenhouse. Pr., 1 or equivalent and permission. Muhlick
68. General Fungi. (5) Structure and classification of all groups of fungi. Upper-division credit for upper-division students. Pr., 1 or 2, or equivalent. Stuntz
75. Plant Physiology. (5) Upper-division credit for upper-division students. Pr., 1 or equivalent; Chem. 2, 22, or equivalent. Naylor
101. Ornamental Plants. (3) Pr., 5 credits in botany.
- 106, 107. Morphology and Evolution. (5, 5) Pr., 2 or equivalent.
108. Genetics. (5) Application to plants and animals. Pr., 10 credits in biological science. Not open for full credit to those who have had 8. Roman
111. Forest Pathology. (5) Common wood-destroying fungi. Pr., 18 or 107. Stuntz
115. Yeasts and Molds. (5) Their classification, recognition, cultivation, and relation to the industries and to man. Pr., 15 credits in botany, bacteriology, or zoology. Stuntz
119. Microtechnique. (5) Pr., 10 credits in biological sciences. Roman
122. Cyto-Genetics. (3, lectures only, or 5) Chromosome structure and mechanics; bearing on genetics, taxonomy, and evolution. Pr., 108 or equivalent. Roman
129. Plant Anatomy. (5) Tissues; origin and development of the stele. Pr., 1.
131. Bryology. (5) Pr., 2. Frye
132. Algology. (5) Pr., 2.
- 134, 135. Taxonomy. (5, 5) The flowering plants. Pr., 10 credits of botany, including 3 or equivalent. Hitchcock
- 141, 142. Advanced Mycology. (5, 5) Detailed study of selected groups of fungi of special economic or botanical interest. Pr., 75 or 111, or junior standing as major in biological science. Hotson, Stuntz
- 144, 145. Advanced Plant Physiology. (5, 5) Pr., 75 and Chem. 132 or equivalent.
151. Range Plants. (3) Their recognition and economic importance. Pr., 3 or 19. Hitchcock
- 180, 181, 182. Plant Pathology. (5, 5, 5) Pr., 68. Hotson, Stuntz
199. Proseminar. (1 to 15 each quarter) Pr., permission.  
Teachers' Course in Botany. (See Educ. 75B.)

#### Courses for Graduates Only

200. Seminar. (½)
- 210, 211. Phyto-plankton. (3, 3) Not offered in 1946-1947.
220. Problems in Fungi. (2 to 5 each quarter) Hotson, Stuntz
233. Research. (2 to 5 each quarter)
250. Advanced Algology. (2 to 5) Pr., 30 credits of botany.
251. Advanced Bryology. (†)
275. Problems in Plant Physiology. (2 to 5 each quarter)

#### CHEMISTRY

(For Chemical Engineering, see p. 155)

*Professors Benson, Debn, Norris, Powell, Robinson, Tartar, Thompson; Associate Professor Cady; Assistant Professors Dauben, Lingafelter, Sivertz; Instructor Sherwood; Associate Radford*

- 1-2. General Chemistry. (5-5) Open only to students without high school chemistry.
- 5-6. General Chemistry. (5-5) Pr., high school chemistry. For nonmajors requiring only 10 credits.

†To be arranged.

- 8-9-10. General Chemistry and Qualitative Analysis. (5-5-5) Offered by College of Pharmacy for pharmacy students only.
- 21-22. General Chemistry. (5-5) Pr., high school chemistry. For students who will continue with Chemistry 23.
23. Elementary Qualitative Analysis. (5) Pr., 2 or 22.
- 24-25-26. General Chemistry. (3-3-3) Engineers only. Pr., high school chemistry.
- 37-38-39. Organic Pharmaceutical Chemistry. (5-5-5) Offered by College of Pharmacy for pharmacy students only.
101. Advanced Qualitative Analysis. (5) Pr., 23. Robinson
102. Advanced Qualitative Analysis. (4) For chemical engineers. Pr., 23. Robinson
104. Food Chemistry. (4) Pr., 111 and 132. Norris
107. Quantitative Analysis. (4) Gravimetric, for chemical engineers. Pr., 23. Robinson
108. Quantitative Analysis. (4) Volumetric, for chemical engineers. Pr., 107. Robinson
109. Quantitative Analysis. (5) Gravimetric. Pr., 23. Robinson
110. Quantitative Analysis. (5) Volumetric. Pr., 109. Robinson
111. Quantitative Analysis. (5) For nonmajors. Pr., 23. Robinson
- 131, 132. Organic Chemistry. (5, 5) Pr., 22. Dauben, Powell
133. Organic Chemistry. (5) For chemistry majors. Pr., 132. Dauben, Powell
134. Qualitative Organic Analysis. (5) Pr., 132. Powell
- 135-136. Organic Chemistry. (3-3) For home economics and nursing students. Pr., 6. Powell
- 140-141. Elementary Physical Chemistry. (3-3) For nonmajors. Pr., 111. Sivertz
144. Biological Chemistry. (5) For home economics students. Pr., 136. Norris
150. Undergraduate Thesis. (2 to 5) Pr., senior standing in chemistry.
155. Oceanographical Chemistry. (3) Methods of analysis and the general physical and chemical properties of sea water and sea products. Pr., 111, 132, or equivalent. Thompson
156. Oceanographical Chemistry. (3) Laboratory methods. Taken simultaneously with Chem. 155. Thompson, Robinson
- 161-162, 163. Biological Chemistry. (5-5, 3) Pr., 111, 132. Norris
166. Biochemical Preparations. (2 to 3) Pr., 162. Norris
- 181, 182, 183. Physical and Theoretical Chemistry. (5, 5, 5) Pr., 111, 15 credits college physics and differential and integral calculus. Tartar
190. History of Chemistry. (3) Pr., 132, 140.
- Teachers' Course in Chemistry. (See Education 75C.)

*Courses for Graduates Only*

200. Departmental Seminar. (No credit)
- 201, 202. Chemical Thermodynamics. (3, 3) Pr., 182. Tartar
203. Theoretical Electrochemistry. (3) Pr., 182. Tartar, Lingafelter
204. Chemistry of Colloids and Surface Phenomena. (3) Pr., 182. Not offered in 1946-1947. Tartar, Lingafelter
- 205, 206, 207. Advanced Inorganic Preparations. (2, 2, 2) Cady
- 208, 209, 210. Advanced Quantitative Analysis: Theory. (2, 2, 2) Pr., 111, 182. Robinson
- 211, 212. Advanced Organic Preparations. (2, 2) Dauben
213. Chemical Thermodynamics. (3) Pr., 182. Not offered in 1946-1947. Not open to those having 201. Lingafelter
214. The Phase Rule. (3) Pr., 182. Sivertz
215. Chemical Kinetics. (3) Not offered in 1946-1947. Study of the rates and mechanisms of chemical reactions in gaseous and liquid systems. Pr., 182. Tartar, Lingafelter
216. Atomic and Molecular Structure. (3) Not offered in 1946-1947. The application of modern concepts of atomic and molecular structure to chemical problems. Pr., 182. Tartar, Lingafelter
- 221, 222, 223. Advanced Inorganic Chemistry. (3, 3, 3) Cady
224. Chemistry of Nutrition. (3) Pr., 162. Norris
225. Advanced Analytical Laboratory. (2 to 6) Pr., 182. Robinson
226. Microquantitative Analysis. (3) Pr., 111, 182. Robinson

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| 227. General Chemical Microscopy. (3) Pr., 141 or 182.                                       | Robinson |
| 228. Microqualitative Analysis. (3) Pr., 101, 227.   | Robinson |
| 231, 232, 233. Advanced Organic Chemistry. (3, 3, 3)   | Dauben   |
| 236. Advanced Physical Chemical Laboratory. (2 to 3) Pr., 182.                               | Sivertz  |
| 249. Graduate Seminars. (†) Offered as desired by various members of the staff.              |          |
| 250. Research. Maximum total credit: for master's degree, 9 cr.; for doctor's degree, 45 cr. |          |

### CLASSICAL LANGUAGES AND LITERATURE

*Professors Densmore, Read, Thomson*

#### I. Greek

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|--|----------|
| 1-2, 3. Elementary Greek. (5-5, 5)   | Densmore |
| 4, 5. Socrates. (3, 3) Based on Plato, Xenophon, Aristophanes. Should be accompanied if possible by 8 and 9. Pr., 3.   | Read     |
| 6. The World of Homer. (3) Readings from the story of Achilles. Pr., 5.  | Read     |
| 7. New Testament Greek. (3)  | Read     |
| 8, 9. Grammar and Composition. (2, 2) Pr., 3.  | Densmore |
| 51. Greek Authors. (No credit) Sight-reading. Pr., 5 or permission.  | Densmore |
| 104, 105. Drama. (3, 3)  | Densmore |
| 106. Lyric Poetry. (3)   | Densmore |
| 191, 192, 193. Literary Criticism and Aeschylus. (3-5 each) Textual criticism. Aristotle and other ancient critics. Independent critical study of one play. Pr., Greek 106. A reading knowledge of Latin required. | Densmore |

#### *Courses for Graduates Only*

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| 201, 202, 203. Greek Philosophers. (3 to 5 ea. qtr.)                 | Densmore |
| 231. Research in Special Authors. (3 to 5) For 1946-1947, Sophocles. | Densmore |

#### II. Latin

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|--|---------|
| 1-2, 3. Elementary Latin and Caesar. (5-5, 5)  |         |
| 4, 5, 6. Cicero and Ovid. (5, 5, 5) Pr., two years high school Latin or Latin 1-2, 3 in university. Review of grammar and syntax.  | Thomson |
| 21. Cicero: De Senectute. (5) With grammar and composition. Pr., 6 or three and one-half years high school Latin.  |         |
| 22. Catullus. (5) Pr., as for 21.  |         |
| 25. Ovid: Metamorphoses. (5) Pr., as for 21.   | Thomson |
| 100. Livy. (5) Pr., 21, 23, 25, or permission.   | Thomson |
| 101. Horace. (5) Pr., as for 100.  | Thomson |
| 104. Martial: Epigrams. (5) Pr., as for 100.   |         |
| 106. Syntax and Prose Composition. (3) Pr., 100 or equivalent.   |         |
| 153. Augustine: Confessions. (3) Pr., 100, 101.  | Read    |
| 154. Lucretius. (3) Pr., as for 153.   | Read    |
| 160, 161, 162. Major Conference. (1, 1, 1) Discussion with members of the staff of various features of Greek and Roman life and literature not specifically dealt with in other courses. Required of all majors. |         |
| Teachers' Course in Latin. (See Educ. 75P.)  |         |

#### *Courses for Graduates Only*

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|---|---------|
| 200. Research. (†)                        |         |
| 207. Seneca: Moral Essays. (3)            | Thomson |
| 211. Latin Novel. (3)                     | Read    |
| 287. Medieval Latin. (3) Pr., permission. | Benham  |

† To be arranged.

## III. Courses in Classical Antiquities, Given in English

## Greek

- 12, 13, 14. Greek Literature. (2, 2, 2) 12: Homer; 13: Lyric Poetry and Drama; 14: History and Philosophy.  
 17. Greek and Roman Art. (5)  
 18. Greek and Roman Mythology. (3)  
 111. Greek Civilization. (5) Research for advanced students. Pr., permission. Densmore  
 113. Greek Drama. (5)

Not offered in 1946-1947: *Greek* 101, 102, 103, History; 122, Grammar and Composition; 151, 152, 153, Plato; 211, 212, Hellenistic Literature. *Latin* 23, Virgil: *Georgics* and *Bucolics*; 24, Sallust; 102, Tacitus: *Germania* and *Agricola*; 103, Plautus and Terence; 107, Cicero: *Letters*; 109, Pliny: *Letters*; 156, Horace: *Satires* and *Epistles*; 165, Cicero: *De Finibus*; 166, Satire; 204, Tacitus: *Histories*; 214, Suetonius: *Augustus*; 218, Cicero: *De Natura Deorum*; 220, Elegy; 285, 286, Vulgar Latin; 288, Medieval Latin. *Antiquities in English*: Greek 11, Greek Civilization; Latin 11, Roman Civilization; Latin 13, Roman Literature; Latin 113, Masterpieces of Latin Literature.

## DRAMA

*Professor Hughes; Associate Professor Conway; Assistant Professor Harrington; Associates Carr, Gray, White, Foley; Theatre Assistants Bell, Johnson, Valentini, Arnold*

- 1, 2, 3. Introduction to the Theatre. (2, 2, 2) Significant aspects of the modern theatre. Hughes  
 46, 47, 48. Theatre Speech. (3, 3, 3) Carr  
 51, 52, 53. Acting. (3, 3, 3) Theory and practice. Includes pantomime, improvisation, and characterization. Pr., 46, 47, 48. Harrington in charge  
 103. Scene Construction. (3) Principles and actual construction of stage scenery and properties. Johnson  
 104. Scene Design. (3) Pr., 103 Conway  
 105. Theatrical Costume Design and Construction. (3) Arnold  
 106. Make-up. (3) Conway  
 107, 108, 109. Puppetry. (2, 2, 2) Design, construction, costuming, stringing, and manipulation of puppets. With permission of department, this course may be repeated for credit.  
 111, 112, 113. Playwriting. (3, 3, 3) Professional course. Pr., one quarter of English 74, 75, 76, or permission. Hughes  
 114. Stage Lighting. (3) Survey course, non-technical in character. Conway, Johnson  
 115. Advanced Stage Lighting. (3)  
 117, 118, 119. Advanced Theatre Workshop. (2, 2, 2) Pr., one of: 103, 104, 105, or 115 or permission.  
 121, 122, 123. Advanced Acting. (3, 3, 3) Group acting. Styles in acting: tragedy, comedy; period, modern. Pr., 51, 52, 53. Harrington  
 127, 128, 129. History of the Theatre. (2, 2, 2) The Orient, Europe, and America. The physical playhouse, methods of production, great actors, stage machinery, scenery, lighting, costumes, and masks. Conway  
 131. Projects in Drama. (1-4) Staff  
 134, 135, 136. Children's Theatre. (3, 3, 3) Theory and methods. Participation in productions. Emphasis on directing. Pr., 53. Foley  
 141, 142, 143. Radio Acting and Production. (2, 2, 2) Pr., two quarters of acting. Bell  
 144, 145, 146. Radio Writing. (3, 3, 3) Pr., two quarters of advanced English composition or one quarter of playwriting. Bell  
 151, 152, 153. Representative Plays. (3, 3, 3) Great playwrights of all important periods. Theories of the drama. Hughes  
 181, 182, 183. Directing. (3, 3, 3) Pr., 51, 52, 53, 121, 122. Harrington  
 197. Theatre Organization and Management. (2) Theatre personnel, box-office methods, advertising, production costs, royalties, executive policies. Pr., senior or graduate standing. Hughes

## Courses for Graduates Only

- 210, 211, 212. Research in Drama. (5, 5, 5) Pr., permission. Hughes  
 240, 241, 242. Thesis Research. (†) Hughes  
 For other courses in Drama, see English 154, 170, 171, 172, 217, 218, 219.

†To be arranged.



## ECONOMICS AND BUSINESS

*Professors Preston, Burd, Cox, Dakan, Demmery, Engle, Farwell,\* Gregory, Hall, McConabey, Mackenzie, Miller, Mund, Skinner, Smith; Professor Emeritus McMahon; Associate Professors Brown, Butterbaugh, Huber, Lorig; Assistant Professors Forrest, Lockling,\* Mikesell,\* Roller, Simpson, Thayer; Acting Assistant Professor Gifford; Lecturers Burrus, Draper, Hamack, Habb, Truax; Instructors Fordon, Matby, Sheldon, Sutermeister; Acting Instructor Winners; Associates Condon, Dowd, Goebing, Newcomb, Smith, Walderhaug*

E.B. 1-2 are required for majors in economics and business and should also be taken by students who plan to devote two courses to economics. Students who take but one course in economics must choose E.B. 4, *Survey of Economics and Business*. All advanced courses have at least one specified intermediate course or equivalent as a prerequisite. The following courses are open only to professional majors in the College of Economics and Business, except by permission of the dean of the college and the instructor concerned: 123, 126, 127, 132, 143, 144, 145, 146, 147, 148, 149, 152, 153, 154, 155, 156, 157, 158, 170, 193.

## Lower-Division Courses

- 1-2. *Principles of Economics.* (5-5) The first half of the course is primarily descriptive. It surveys the organization of the economic system and its institutions. Such topics as forms of business organization, banks, money, securities, and government and business are discussed. The second half is analytical. It deals with production costs and prices, and the distribution of the national income in the form of wages, interest, rents, and profits under conditions of competition and monopoly.
3. *General Economics.* (3) Condensation of E.B. 1-2 for students in engineering, forestry, chemistry and pharmacy. Pr., sophomore standing.
4. *Survey of Economics.* (5) Not open to students in Economics and Business, economics majors in the College of Arts and Sciences, or others who expect to continue with Economics and Business courses.  
*Economic Geography.* (See Geography 7.)
- 12, 13, 14. *Typewriting.* (1, 1, 1) Students who present one or more units of typewriting as entrance credit may not receive credit for E.B. 12.
- 16-17-18. *Shorthand.* (3-3-3) Students who present one or more units of shorthand as entrance credit may not receive credit for E.B. 16.
19. *Office Machines.* (5) Laboratory instruction and practice in the operation of selected office machines, calculators, duplicating machines, filing equipment and devices. No prerequisite.
- 20, 21, 22. *Shorthand and Typewriting Review.* (2, 2, 2) Open to all students who for any reason are not qualified to meet the prerequisites for E.B. 116. Students having had E.B. 18, or having presented more than one unit of shorthand for entrance credit, may not receive credit for 20, 21, and 22.
54. *Business Law.* (5) Introduction to the study of law, its origin and development; formation and performance of contracts; fraud, mistake, duress and undue influence; rights of third parties and remedies available at law and equity; the law of agency as affecting the rights and duties of the principal, the agent, and third parties in their interrelationships. Pr., sophomore standing. Brown
55. *Business Law.* (5) Negotiable instruments, bailments, sales of personal property and property. Pr., 54. Brown
57. *Business Law.* (3) For engineering students or others unable to devote more than three credits to study of business law. May not be substituted for 54. Does not carry credit for students in economics and business. Pr., sophomore standing and English requirement of respective college.
60. *Statistical Analysis.* (5) Statistical methods and their application to practical economic and business problems. Pr., 1 and 2. Butterbaugh
- 62, 63. *Principles of Accounting.* (5, 5) The fundamental theory of accounts. Three lectures, four hours a week in laboratory. Pr., sophomore standing; 62 pr. for 63.
88. *Introduction to Insurance.* (5) The principles and uses of insurance in general. Pr., 1-2. Smith

## Intermediate Courses

101. *Scientific Management.* (5) The internal organization of the business enterprise and topics related thereto; standards, incentives, labor-management cooperation, planning, etc. Pr., 1-2. Mackenzie
103. *Money and Banking.* (5) Functions of money; standards of value; principles of banking with special reference to the banking system of the United States. Pr., 1-2. Dakan, Preston
104. *Principles of Transportation.* (5) General survey of the elements of transportation and communication. Pr., 1-2. Sheldon, Gifford
105. *Economics of Labor.* (5) Economic factors in labor problems; economic and social aspects of labor and employing organizations; analysis of government measures with regard to labor problems. Pr., 1-2.

\* On leave.

106. **Economics of Marketing and Advertising.** (5) Principles, processes, systems; middlemen and their functions; legislation. Pr., 1-2. Forrest, Burd, Miller
107. **World Economic Policies.** (5) Economic and commercial relations of nations; commercial treaties, tariff systems, and administration. Pr., 1-2. Skinner
108. **Risk and Risk Bearing.** (5) The risk factor in its economic and social consequences; ways of meeting risk. Pr., 1-2. Smith
109. **Principles of Real Estate I.** (5) Economic principles underlying the utilization of land; determining factors for the location and development of residential, commercial, industrial, and financial districts; public control. Pr., 1-2. Demmery
110. **Accounting Analysis and Control.** (5) Analysis and interpretation of accounting statements, with principles of valuation. Pr., 63. Gregory
111. **Advanced Theory of Accounts I.** (5) Application of accounting theory to business problems. Pr., 110. Draper
112. **Advanced Theory of Accounts II.** (5) Pr., 111. Draper
115. **Business Correspondence.** (5) Analysis of principles, including psychological factors; study of actual business letters in terms of these fundamentals. Pr., 1-2; Engl. 1, 2. Goehring
- 116, 117. **Secretarial Training.** (5, 5) Advanced shorthand and typewriting. Speed studies in taking dictation, and in transcription. General office practice and procedures. Hamack
118. **Office Management.** (5) Office organization; supervision of office functions; office personnel problems. Happ
120. **Business Organization and Combination.** (5) Covers the field of business ownership organization and industrial concentration. Pr., 1-2. Dakan

#### Advanced Courses

##### Banking and Finance

121. **Corporation Finance.** (5) Pr., 63 and 103. Dakan
122. **Principles of Investment.** (5) Pr., 103 or senior standing. Dakan
123. **Investment Analysis.** (5) Analytical study of typical industrial, public utility, and railroad securities; current corporation reports and prospectuses as a basis for determining investment values. Pr., 122. Dakan
125. **Advanced Money and Banking.** (5) Presupposes a knowledge of our existing financial organization and devotes attention to questions of banking and monetary policy. Pr., 103. Truax
126. **Bank Credit Administration.** (3) Based upon selected cases of loans to Pacific Northwest industries and agriculture. Pr., 63, 103, and permission. Truax
127. **Foreign Exchange and International Banking.** (5) Foreign currencies and banking systems; foreign exchange markets; theory of international exchange; financing of exports and imports. Pr., 103. Huber
128. **Personal Insurance.** (5) Scientific basis of life insurance; types of policies; premium rates and reserves. Pr., 108. Smith
129. **Property Insurance.** (5) Coverage of risks; types of companies; standard fire insurance contract. Pr., 108. Alternates with 128; not offered in 1946-1947. Huber

##### Foreign and Domestic Commerce

131. **Principles and Practices of Foreign Trade.** (5) Historical development of world commerce; theories, principal materials, trends. Foreign trade during and after the war. Pr., 107; Geog. 7 or 1. Huber
132. **Problems in Foreign Trade.** (5) Special emphasis on the Far East. Pr., 107; Geog. 7 or 1. Huber
134. **Wholesaling.** (5) Functions and agencies; internal operations; cost studies; warehousing; trade associations; problems and cases. Pr., 106. Miller
135. **Retailing.** (5) Profit planning; markup; turnover; inventories; expense, stock, markup, and buying control; operating activities. Pr., 106. Miller
136. **Advertising.** (5) Relation to demand, cost, price, consumer choice, marketing; who pays; research; organizations; techniques; social controls. Pr., 106. Forrest
137. **Retailing Field Work.** (1) Pr., permission. Miller
139. **Marketing Problems.** (3) Pr., permission. Miller

##### Public Utilities and Transportation

141. **Regulation of Public Utilities.** (5) Economic, legislative, and administrative problems of regulation. Pr., 104. Hall
142. **Advanced Economics of Public Utilities.** (5) Public utility rates and rate structure, costs, plant utilization and management policies. Hall

143. **Railway Transportation.** (5) Critical evaluation of problems of finance, operation, competition, combination, and regulation. Pr., 104. Gifford
144. **Water Transportation.** (5) Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104. Sheldon
145. **Highway Transportation.** (5) Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104. Gifford
146. **Air Transportation.** (5) Economic principles, with particular reference to operating methods and costs; traffic promotion; schedule maintenance; safety; governmental regulation; airport management. Pr., 104. Sheldon
148. **Traffic Management.** (5) Problems of routing, expediting, auditing, demurrage, reconsignment, port and terminal facilities. Pr., as for 147.
149. **Marine Insurance and Carriers' Risks.** (5) Liabilities of rail and water carriers; plans of marine underwriters; insurable interests; warranties. Pr., 143 or 144 or 145 or 146. Farwell

#### Management and Accounting

150. **Advanced Industrial Management.** (5) Case studies of companies from the viewpoint of the chief executive. Pr., 101. Mackenzie
151. **Production Control.** (5) The organization of the production planning and control department, standards for planning and control, control of inventories of raw materials, goods in process and finished goods. Pr., 101. Mackenzie
152. **Government Accounting.** (5) A study of accounting and financial reporting for municipal, county, state, and federal governments. Pr., 110. Lorig
153. **Accounting Systems.** (5) A thorough study of accounting and personnel problems to be considered in developing and installing accounting systems. Pr., 112. Lorig
154. **Cost Accounting I.** (5) Economics of cost accounting; industrial analysis; production control through costs; types of cost systems, burden application. Pr., 110. Gregory
156. **Income Tax Accounting.** (5) A study of Federal Revenue Acts and their application to individuals and different types of business organizations. Pr., 112. McConahey
157. **Auditing.** (5) A study of the theory, principles, procedures, and practices of auditing. Pr., 112. Cox
158. **C.P.A. Problems.** (5) Selected problems taken from American Institute of Accountants and state C.P.A. examinations. Pr., 157. McConahey

#### Advanced Economics and Business

161. **Labor Legislation.** (5) Consideration of legislative and judicial actions bearing directly on labor problems and the labor movement in their relation to social, political, and economic theories. Pr., 105.
163. **Economics of Consumption.** (5) Historical development of human wants; standards of living; attempts to control consumption through individual and group action. Pr., 105.
164. **Labor Relations.** (5) Study of labor relations and collective bargaining in various branches of American industry, together with an analysis of experience here and abroad with government intervention in labor disputes. Pr., 105.
167. **Personnel Administration.** (5) Policies and techniques designed to achieve proper placement of individuals according to their interests, abilities and skills; development in them of interest, efficiency, and cooperation.
169. **Real Estate II.** (5) Types of real estate uses and their characteristics; appraisals of farm and urban land and improvements; property rights, real estate finance; management of real property; leases. Pr., 109. Demmery
170. **Advanced Statistical Analysis.** (5) Analysis of problems and cases to develop ability in applying statistical technique to practical problems in economics and business. Pr., 60. Butterbaugh
171. **Public Finance and Taxation I.** (5) Growth of public expenditures; underlying principles and theory of various forms of public revenue; character of various forms of taxation; the principles and practices of public credit and of public financial administration. Pr., 103. Hall
172. **Public Finance and Taxation II.** (5) Analysis of fiscal thought; methods and problems in expenditure analysis; study of tax systems; equity and incidence in taxation; critical evaluation of the use of public credit and the custody and disbursement of public funds. Pr., 171. Hall
175. **Business Fluctuations.** (5) Survey of business fluctuations—trends, seasonal variations, irregular fluctuations, and business cycles; proposals for controlling them; analysis of current economic conditions; business forecasting. Pr., 103. Demmery
178. **Law in Accounting Practice.** (3) Business associations and bankruptcy. Pr., 54, 55. Brown
181. **Economic Development of the United States.** (5) Special attention to manufactures, commerce, labor, finance, and agriculture. Pr., 30 upper-division credits in economics and business.

182. **Economic Problems of the Far East.** (5) Commercial policies, exchange and finance, distribution, transportation, labor, reconstruction problems, industrialization, relation of government to business, agriculture, the problems of a "dependent" economy. Pr., 107 or consent.
183. **Economic Problems of China.** (5) Agricultural production; agrarian reform problems; local market economy; industrialization; taxation; currency and banking; foreign cooperation in Chinese development. Yang
185. **Advanced Economics.** (5) A study of markets, the making and control of prices, pricing formulas for industrial products, the laws of cost, and application of price analysis to wages, rent, interest, and profit. Pr., 120 university credits. Mund
187. **History of Economic Thought.** (5) The rise of modern capitalism, and the development of thought on the system of free enterprise. Special attention is given to the Mercantilists, the Physiocrats, Adam Smith, Ricardo, the Socialists, and to recent economic thought. Pr., 185, or senior standing and permission. Mund

**Research Courses for Undergraduates and Graduates**

- 193A, B, C. **Problems in Wholesaling, Retailing, and Advertising.** (5, 5, 5) Individual and group study. Required business contacts. Compiling, organizing, and interpreting data from original and library sources. Each student will specialize in one of the three fields. Pr., 134, 135, 136, permission. Burd
- 194A, B. **Research in Transportation.** (3, 3) Open only to qualified students in transportation who will be placed in part-time contact with transportation agencies. Pr., permission.
- 195A, B, C. **Research in Management and Accounting.** (3, 3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Gregory
- 196A, B, C. **Research in Public Utilities or Public Finance.** (3, 3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Hall
- 197C. **Research in International Trade.** (3) Open to qualified undergraduate and graduate students. Pr., permission.
- 199B, C. **Research in Real Estate and Business Fluctuations.** (3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Demmery

**Courses for Graduates Only**

- 200A, B, C. **Thesis Seminar.** (No credit)
  - 202B. **Graduate Seminar in Finance.** (5 to 7) Pr., permission. Preston
  - 205C. **Graduate Seminar in Public Finance.** (5 to 7) Pr., permission. Hall
  - 206B. **Graduate Seminar in Labor.** (5 to 7) Theories and problems. Pr., one advanced course in labor and permission.
  - 208A. **Graduate Seminar in Economics.** (5 to 7) Systematic review of the theories of value, price, and distribution; special reference to recent developments. Pr., permission. Mund
  - 210A, C. **French and German Economists.** (3, 3) Pr., permission. Skinner
  - 214A. **Graduate Seminar in International Economics.** (5 to 7) Pr., permission. Huber
  258. **Graduate Seminar in Accounting.** (5) Pr., permission. McConahey
- Teachers' Courses in Economics and Business.** (See Educ. 75E, 75F.)

Not offered in 1946-1947: 138, Recent Marketing Trends; 147, Transportation Rates; 155, Cost Accounting, II; 165, European Labor Problems; 177, Social Insurance; 179, Postwar Economic Problems; 212, Seminar in Public Service Problems.

**EDUCATION**

*Professors Powers, Bolton, Cole, Corbally, Draper, Dvorak,\* Osburn, Stevens, Williams; Associate Professor Jessup; Assistant Professor Hayden*

*An all-University grade-point average of at least 2.5 is prerequisite to and required in all Education courses leading to the Three-Year Secondary Certificate.*

1. **Education Orientation.** (2) Credit only to freshmen and sophomores. Required of all undergraduates planning to secure the Three-Year Secondary Certificate. Williams

**I. Elementary Courses (Upper-Division Credit)**

9. **Psychology of Secondary Education.** (3) Pr., 1, Psych. 1. Powers
30. **Washington State Manual.** (0) For all applicants for Washington teaching certificates. Corbally, Jessup
60. **Principles of Secondary Education.** (3) Pr., 1, 9, 70, 71-72, 75, 90. Draper
70. **Introduction to High School Procedures.** (5) Pr., 1, 9. Williams, Jessup
- 71-72. **Cadet Teaching.** (Semester basis, 5-3) Course 72 may precede or follow 71, but both courses must be taken to make a total of 8 credits for cadet teaching. Pr., 1, 9, 70, 90, 75 or

approved equivalent, and all-University grade-point average of at least 2.5. Work is done in the Seattle schools; a student should leave three consecutive hours free either in the morning or the early afternoon for this course. Education 30 must be taken during the same quarter as Education 71. Assignments are made in room 113B Education Hall the first day of the fall quarter and the third Monday in January. A fee of one dollar per credit is charged for the course. Corbally, Powers

71N-72N. Cadet Teaching for Vocational Home Economics Majors Only. (5-3) Education 30 must be taken the quarter immediately preceding or following 71N-72N. Pr., as for 71-72. A fee of one dollar per credit is charged for the course. Corbally

71P-72P. Cadet Teaching for Women Physical and Health Education Majors. (5-3). Pr., as for 71-72. Education 30 must be taken prior to 71P-72P. A fee of one dollar per credit is charged for the course. Corbally

90. Measurement in Secondary Education. (2) Pr., 1, 9, 70. Hayden

## II. Intermediate Courses (Upper-Division and Graduate Credit)

101. Educational Psychology. (3) Theoretical principles and experimental backgrounds. Powers

104. Psychology and Training of Exceptional Children. (5) Atypical children studied from the point of view of the teacher. Hayden

120. Educational Sociology. (3) Problems of education related to process of social evolution. Jessup

121. Remedial Teaching. (3) Osburn

122. Diagnosis in Education. (3) Osburn

125. Teaching Reading and Remedial Reading. (3) Osburn

127. Adult Education. (3) Corbally

140, 141. School Supervision. (4, 4) The improvement of school work through the in-service education of teachers. Jessup

145B. Principles and Objectives of Safety Education. (3) Corbally

146. Extracurricular Activities. (3) Draper

147. Principles of Guidance. (3) Corbally

153. Elementary School Curriculum. (4) Jessup

164-165. Principles and Techniques of Curriculum Making. (3-3) Draper

180, 181, 182. History of Education. (3, 3, 3) Social interpretation of the historic beginnings of education. Jessup

183. Historical Backgrounds of Educational Methods. (3) Williams

184. Comparative Education. (5) Modern education in foreign countries. Jessup

188. Philosophy of Education. (3) Jessup

191. Advanced Educational Measurements. (3) Pr., 90 or equivalent. Hayden

193. Character Education. (3) Powers

197, 198, 199. Individual Research. (2-5 ea. qtr.) Pr., consent of department. Indicate instructor and field. See 298, 299, 300. Staff

## III. Advanced Courses (Open to Graduates Only)

201. Advanced Educational Psychology. (3) Pr., courses in general and educational psychology. Powers

235-236-237. Organization of Supervisory and Administrative Programs. (5-5-5) Types of schools and changes being made in them. Supervision of instruction, and pupil accounting. Cole

265, 266. College Problems. (5, 5) The new instructor and administrative organization. Stevens

267, 268, 269. Guidance and Counseling. (5, 5, 5) Counseling in colleges and public schools. Students must reserve time each week for duties in a counselor's office. Discussion and reports. Stevens

270, 271. Problems in Modern Methods. (3, 3) Williams

275. Improvement of College Teaching. (5) Stevens

287, 288, 289. Seminar in Philosophy of Education. (3, 3, 3) Williams

291. Methods of Educational Research. (3) Required of candidates for the master's or doctor's degree in Education. Hayden

298, 299, 300. **Individual Research.** (†)

Staff

Field of interest should be indicated by letter when registering. Indicate instructor.

- |   |  |
|---|--|
| A. Educational psychology                     | G. History and philosophy of education     |
| B. Educational sociology                      | and comparative education                  |
| C. Educational administration and supervision | H. Higher education                        |
| D. Elementary education                       | I. Curriculum                              |
| E. Secondary education                        | J. Guidance and extracurricular activities |
| F. Classroom techniques                       | K. Remedial and special education          |

**THESIS.** (†) Advanced degree candidates in Education working on theses must be registered for "thesis" unless specially exempted by the Dean of the College of Education. This registration should be for the period during which the thesis is being prepared under the direction of a major professor. The normal allowance for a master's thesis is 6 credits, and for a doctor's thesis, 30 credits. When registration is for "thesis only," an incidental fee of \$12.50 is charged and the work, if desired, may be done *in absentia*. Staff

*Special Methods Courses in Secondary Subjects*

- |   |             |
|---|-------------|
| 75A. Art. (2) Pr., 1, 9, 70, senior standing in art, consent.   | Johnson     |
| 75B. Botany. (2) Pr., 1, 9, 70, and two years of botany. To be taken with or before 71.   | Frye        |
| 75C. Chemistry. (2) Pr., 1, 9, 70, and at least 20 credits of college chemistry of average "B" grade.   | Tartar      |
| 75D. Civics. (2) Pr., 1, 9, 70.   |             |
| 75E. Commercial Course, Accounting. (5) Two credits count as education; three credits as economics and business. Pr., 1, 9, 70, and 30 credits of the 49 required for a major in commercial teaching, including 10 credits in accounting. |             |
| 75F. Commercial Course, Shorthand and Typewriting. (5) Pr., 1, 9, 70; E.B. 16-17-18, and permission.  |             |
| 75H. English. (5) Two credits as education and three as English. Pr., 1, 9, 70.   | Emery       |
| 75K. French. (2) Pr., 1, 9, 70; French 103 and 158.   | Simpson     |
| 75L. German. (2) Pr., 1, 9, 70; German 120, or permission.  | Vail        |
| 75M. History. (5) Special reference to work of high school; two credits count as education and three as history. Pr., 1, 9, 70.   | Davis       |
| 75NA. Home Economics. (3) Two credits count as education. Pr., 1, 9, 70; 25 credits in home economics.  |             |
| 75NB. Home Economics. (3) Organization and methods for nurses, dietitians, internes, employees of hospitals or other institutions. Pr., 25 credits in home economics.   |             |
| 75O. Geography. (2) Pr., 1, 9, 70, and permission; Geog. 1 and five additional credits in geography.  |             |
| Journalism. (See Journalism 125 for teachers' course.)  |             |
| 75P. Latin. (2) Pr., 1, 9, 70; 20 credits of college Latin.   |             |
| 75Q. Mathematics. (3) Two credits count as education, one as elective. Pr., 1, 9, 70; Math. 109 or equivalent.  | Jerbert     |
| 75R. Senior High School Music. (2) Pr., 1, 9, 70; Music 98.   | Munro       |
| 75U. Physical Education for Men. (2) Pr., 1, 9, 70, and permission.   | Reeves      |
| 75V. Health and Physical Education for Women. (2) Pr., 1, 9, 70; P.E. 156, 162, 163, 164.   | Ruth Wilson |
| 75X. Speech. (5) Pr., 1, 9, 70.   | Nelson      |
| 75Y. Spanish. (2) Pr., 1, 9, 70; Spanish 103 and 158.   | Simpson     |
| 75Z. Zoology. (2) Pr., 1, 9, 70; 20 credits in zoology.   |             |

**ENGINEERING**

**I. AERONAUTICAL ENGINEERING**

*Professors F. S. Eastman, Kirsten; Associate Professor V. J. Martin;  
Assistant Professor Duinnell*

81. Introduction to Aeronautics. (2) History, opportunities, specialization, sources of information, nomenclature. Pr., sophomore standing.
100. Aircraft Engines. (3) Operating characteristics of conventional engines at altitude. Different types are considered, including jet engines. Pr., Phys. 99, M.E. 183.
101. Aerodynamics. (3) Fundamental fluid relations and their application to aerodynamics. Pr., C.E. 142, Math. 43, Physics 97, 98, 99.

†To be arranged.

102. **Aerodynamics.** (3) Wing section and planform characteristics; parasitic drag. Pr., 101.
103. **Airplane Performance.** (3) Basic performance computations; rapid methods of estimation. Pr., 102.
104. **Laboratory Methods.** (3) Verification of fluid relations and study of properties of wind tunnels. Two lect.; one 3-hr. lab. Pr., 101.
105. **Airfoil Test Laboratory.** (2) Determination of airfoil characteristics by force and pressure measurement in two and three dimensional flow; boundary layer phenomena. One lect.; one 3-hr. lab. Pr., 102, 104.
106. **Model Testing.** (3) Typical model testing in the 12-foot tunnel. Reduction, correction, analysis, and application of data; scale effect. Lecture and computation period; one 3-hr. lab. Pr., 105.
107. **Advanced Wind Tunnel Testing.** (2) One lect.; one combined lab. and computation period. Pr., 105; special permission.
111. **Airplane Design.** (4) Aerodynamic design and layout; weight and balance; stability and control. Pr., 103.
112. **Design Loads.** (2) Determination of flight and landing loads; compressibility effects; military and commercial requirements. Pr., 103.
121. **Lighter-than-air Craft.** (3) Aerostatics; design and operation of rigid and nonrigid types. Pr., 102.
141. **Aircraft Propulsion.** (3) Screw-propeller theory, design, and performance calculation. Pr., 102, 171.
142. **Advanced Aircraft Propulsion.** (3) Pr., 141.
161. **Applied Differential Equations.** (3) Application of ordinary differential equations to the solution of various engineering problems. Vibrations; reaction propulsion. Pr., permission.
- 171, 172. **Aircraft Structural Analysis.** (4, 4) Design and allowable stresses for common aircraft parts subjected to simple and combined loadings. Pr., C.E. 93, M.E. 111, 167; 171 for 172.
174. **Aircraft Monocoque Structures.** (3) Stress analysis; shear center; stiffened sheet in compression; partially buckled shear webs; fitting design. Pr., 172.
175. **Structure Test.** (2) Experimental verification of theoretical work done in 174. To be taken with 174. One lect.; one 3-hr. lab.
185. **Aeronautical Engineering Measurements.** (2) The use of standard and special measuring apparatus in aeronautical laboratories and in flight. Pr., senior standing.
- 188, 189, 190. **Seminar.** (1, 1, 1) Pr., senior standing.
- 191, 192, 193. **Research.** (2 to 5 ea. qtr.) Pr., senior standing.

*Courses for Graduates Only*

201. **Theoretical Aerodynamics.** (3) Potential flow theory; circulation; rotation; downwash and ground effects; lift distribution; viscosity effects.
202. **Compressibility.** (3) Compressible fluid theory; shock wave phenomena; empirical results and applications.
203. **Dynamic Stability.** (3) Theory and calculations; application to design and flight testing.
204. **Aircraft Vibration and Flutter.** (3) Forced vibrations with damping; beam vibration; flutter phenomena theory and design applications.
206. **Advanced Airplane Design.** (3) Advanced application of theoretical and experimental results to the aerodynamic design of the aircraft.
- 211, 212, 213. **Research.** (2 to 5 ea. qtr.)
- 217, 218, 219. **Graduate Seminar.** (†)
222. **Elastic Stability.** (3) Column and plate instability; stiffened panels with combined loadings; buckling of shells; elastic energy methods.
223. **Aircraft Structural Design.** (3) Selection of optimum type structure; design of spars and monocoque components; shear distribution and torsion; effects of shear lag.
241. **Rotary Wing Aircraft.** (3) Flying characteristics; theoretical approach to lift and thrust obtainable; performance estimation.
242. **Reaction Propulsion.** (3) Thermodynamic and aerodynamic principles of various jet and rocket configurations; application to design; duct design and installation.

Not offered in 1946-1947: 83, General Aeronautics; 151, Special Aeronautical Designs; 173, Aircraft Structural Mechanics; 221, Elasticity in Aircraft.

†To be arranged.

## II. CHEMICAL ENGINEERING

*Professor Benson; Associate Professor Moulton; Assistant Professors McCarthy, West*

51. **Industrial Chemical Calculations.** (2) Application of chemical units and laws in industrial calculations as applied to combustion processes. Two lectures. Pr., Chem. 23 or 26, Math. 33, or equivalents. Moulton
52. **Industrial Chemical Calculations.** (2) Material and heat balances over combustion furnaces and gas producers. Two lectures. Pr., 51. Moulton
53. **Industrial Chemical Calculations.** (2) Calculations for lime and cement kilns, sulphur compounds, crystallization processes. Two lectures. Pr., 52. Moulton
74. **Elementary Electrochemistry.** (2) Two lectures. Not open to chemists and chemical engineers. Pr., Chem. 26, Physics 98. Moulton
121. **Chemistry of Engineering Materials.** (5) Three lectures and two lab. periods. Pr., Chem. 111. Benson, Moulton
122. **Inorganic Chemical Industries.** (5) Development and control of inorganic unit processes. Three lectures and two lab. periods. Pr., Chem. 111. Benson, Moulton
123. **Organic Chemical Industries.** (5) Development and control of organic unit processes. Three lectures and two lab. periods. Pr., Chem. 111. Benson, Moulton
152. **Advanced Chemical Calculations.** (3) Mathematical study of chemical operations with solutions of typical engineering problems. Three lectures. Pr., Math. 41 or equivalent. Moulton
171. **Unit Operations.** (5) Flow of fluids, heat transfer, and drying. Three lectures and two lab. periods. Pr., 53. West
172. **Unit Operations.** (5) Distillation, adsorption, and extraction. Three lectures and two lab. periods. Pr., 171. West
173. **Unit Operations.** (3) Evaporation, mechanical separation, crushing and grinding, and crystallization. Three lectures. Pr., 172. West
174. **Chemical Engineering Calculations.** (3) Applications of thermodynamics in chemical engineering unit operations and processes. Pr., Chem. 182.
175. **Industrial Electrochemistry.** (3) Industrial applications of electrochemistry, solutions, and electric furnace applications. Three lectures. Pr., Chem. 181 for chemists and chemical engineers; 74 for others. Moulton
- 176, 177, 178. **Chemical Engineering Thesis.** (1 to 5 ea. qtr.) An assigned problem is investigated as a research project, and a thesis written. Benson, McCarthy, Moulton, West
179. **Research in Electrochemistry.** (2 to 5) Pr., permission. Staff

*Courses for Graduates Only*

- 218, 219, 220. **Advanced Unit Processes.** (2, 2, 2) Study of selected chemical process industries. Two lectures. Pr., 123. Benson
237. **Chemistry of High Polymers.** (2) Fundamentals of substances with high molecular weight, including study of valance considerations, molecular weight determination, polymerization and condensation reactions, cracking, fiber and film formation, glasses, and mechanical properties as related to chemical structure. One lecture and one lab. period. Pr., Chem. 132, 182. McCarthy
238. **Chemistry of High Polymers.** (2) Chemistry and technology of substances with high molecular weight, including natural and synthetic hydrocarbons, vinyls, rubbers, phenol-aldehyde resins, lignin, cellulose, starch, glycogen, nylons, proteins, and silicones. Two lectures. Pr., Chem. 132, 182. McCarthy
- 241, 242, 243. **Advanced Unit Operations.** (3, 3, 3) Heat transfer; fluid flow; mechanical separations. Offered every other year alternating with 244, 245, 246. Not offered in 1946-1947. Three lectures. Pr., 173.
- 244, 245, 246. **Advanced Unit Operations.** (3, 3, 3) Evaporation and drying; distillation; adsorption and extraction. Offered every other year alternating with 241, 242, 243. Three lectures. Pr., 173.
249. **Graduate Seminar.** (†) Offered as desired by various members of the staff.
250. **Research.** (†) Maximum total credit: for master's degree, 9 credits; for doctor's degree, 45 credits.

## III. CIVIL ENGINEERING

*Professors Van Horn, Farquharson, Harris, May, Miller, More, Tyler; Associate Professors Hennes, Moritz, Rhodes, Sergev, Smith; Assistant Professors Campbell, Chittenden, Collier; Lecturer Hauan*

56. **Forest Surveying.** (8) The use of steel tape, compass, clinometer, level transit and plane table. Pack Forest.
90. **Mechanics.** (4) Introduction to dynamics and statics. Pr., preceded by or concurrent with Physics 97; not a substitute for either 91 or 92.

†To be arranged.



91. **Mechanics.** (3) Kinetics, kinematics, and applied dynamics. Pr., 90 or G.E. 12, Math. 33; preceded by or concurrent with Physics 97. Sergev
92. **Mechanics.** (3) Mechanics of materials. Analysis and application of elementary structural design. Pr., 91 or permission. Sergev
93. **Mechanics.** (3) Dynamics and mechanics of materials continued. Pr., 91, 92. Sergev
112. **Route Surveying.** (3) Alignment survey problems associated with the location of highways and railways including preliminary and final location, staking of curves, compensation for curvature and sight distance, preparation of location map for highway. Pr., G.E. 21. Chittenden
113. **Location and Earthwork.** (3) Highway and railway grades, profiles, cross sections, earthwork quantities including shrinkage and swell, and application of the mass diagram to the problems of haul; legal description; estimates. Pr., 112. Chittenden
114. **Intermediate Surveying.** (3) Adjustment of instruments, calibration of tapes, horizontal and vertical control of intermediate precision, determination of azimuth, state plane coordinates, mapping. Pr., G.E. 21. Chittenden
115. **Geodesy and Photogrammetry.** (3) Baseline measurement, triangulation, engineering astronomy, photogrammetry and photo-interpretation. Pr., 114. Chittenden
- 116, 117, 118. **Structural Engineering for Architects.** (4, 4, 4) Girders, columns, and roof trusses in timber and steel; concrete slab, joist, column design, etc. Pr., junior standing in architecture, Math. 56, G.E. 48. Jensen

#### Transportation Engineering

121. **Roads and Pavements.** (3) Road-building methods and materials. Pr., junior standing in engineering. Hennes
123. **Railway and Waterway Engineering.** (3) Locomotive performance and train resistances; roadbed; railway location. Port development; breakwaters; channel control works. Pr., 113, 142. Hennes
124. **Highway and Runway Design.** (3) Theories of rigid and flexible pavements; roadway design; intersections. Airfield surfacing and drainage. Pr., 121. Hennes
125. **Principles of Transportation Engineering.** (3) Planning of highway, railway, air, and water transportation. Development of the master plan. Pr., senior or graduate standing; not open to civil engineering students. Hennes
126. **Airfield Design.** (3) The principles of highway engineering as applied to the surfacing and drainage of airfields. Pr., senior or graduate standing; not open to civil engineering students. Hennes
128. **Highway Administration.** (3) Financing, planning, and operation of highways. Pr., graduate standing or permission. Hennes

#### Hydraulic and Sanitary Engineering

142. **Hydraulics.** (5) Flow of water through pipes and orifices, over weirs, and in open channels; energy of jets with application to impulse wheels. Three lect., six hrs. lab. Pr., 91. Harris, Moritz
143. **Hydraulic Engineering.** (5) Complete projects, hydrometric methods; design of gravity spillway, flume intakes, surge, economic design of pipe line. Pr., 142. Van Horn, Moritz
145. **Hydraulic Machinery.** (3) Development and theory of water wheels and turbine pumps; design of a reaction turbine; hydrostatic machinery and dredging equipment. Pr., 142. Harris
147. **Hydraulic Power.** (3) Investigation of power development; generation of power; penstocks and turbines; types of installation. Pr., 143 and/or 142; senior standing. Harris
150. **Sanitary Science and Public Health.** (3) Sources of infection and modes of transmission of diseases. Bacteriological and chemical analyses of water and sewage. Pr., Chem. 2, 22 or equivalent. Two lect., four hrs. lab. Van Horn, Tyler
151. **Sanitation and Plumbing.** (2) For architects. Hauan
152. **Municipal Engineering.** (3) For students in city planning. City streets, traffic, and transportation. Municipal sanitation. Pr., junior standing. Not open to civil engineering students. Tyler
153. **Principles of Regional Planning.** (3) Land use, development of natural resources, and land settlement. Pr., senior or graduate standing. Tyler
154. **Sanitary Designs.** (3) Sewers, sewage-disposal, and water purification plants. Pr., 155, 158. Tyler
155. **Water Supply Problems.** (3) Design, cost estimation, construction, operation, and maintenance of water supplies, distribution systems, and purification plants. Pr., 142, 150. Tyler
157. **Reclamation.** (3) Drainage and irrigation engineering. Soil conservation. Pr., 143 and senior standing. Van Horn
158. **Sewerage and Sewage Treatment.** (3) Design, operation, and maintenance. Refuse collection and disposal. Pr., 142, 150. Tyler

## Engineering Materials

162. **Materials of Construction.** (3) Portland cement and concrete, concrete mixtures. Five hrs. lab. Pr., 92. **Collier**
163. **Materials of Construction.** (3) Strength and physical characteristics of timber and steel. Five hrs. lab. Pr., 92. **Smith**
166. **Soil Mechanics.** (3) Engineering properties of soils; bearing capacity and settlement of foundations. Four hrs. lab. Pr., senior standing in engineering. **Hennes**
167. **Earthwork Engineering.** (3) Design, construction, and analysis of earthwork. Four hrs. lab. Pr., 166. **Hennes**

## Structural Analysis and Design

- 171, 172, 173. **Structural Theory.** (3, 3, 3) Stresses and deflections of trusses and rigid frames; the mechanics of reinforced concrete, steel, and wood members and connections. Pr., 92. **Miller, Sergev**
- 175, 176, 177. **Structural Design.** (3, 3, 3) Design of reinforced concrete, steel, and wood structures, members, and connections. Pr., 171 for 175; 172 for 176. **Miller, Rhodes**
- 181, 182, 183. **Advanced Structures.** (3, 3, 4) Stresses and deflections in structures and structural members; statically indeterminate cases. Seniors and graduates in civil engineering. Pr., 177. **More, Miller**

## Special Senior and Graduate Courses

- †191, 193, 195. **Advanced Professional Design and/or Analysis.** (2 to 5 ea. qtr.)
- †192, 194, 196. **Research.** (3 to 6 ea. qtr.) Special investigations by seniors or advanced students under the direction of members of the staff.
209. **Engineering Relations.** (3) A study of business relations and economic conditions involved in engineering projects. Pr., senior or graduate standing.

## Courses for Graduates Only

- ‡210, 212, 214. **Research** (2 to 5 ea. qtr.)
- ‡220, 222, 224. **Seminar.** (2 to 5 ea. qtr.)
221. **Theory of Elasticity.** (3) **Sergev**
223. **Advanced Strength of Materials.** (3)
225. **Advanced Mechanics.** (3) **Sergev**
298. **Thesis.** (3 to 5 credits ea. qtr., total not to exceed 9)

## IV. ELECTRICAL ENGINEERING

*Professors A. V. Eastman, Loew, Hoard, Lindblom, Shuck, G. S. Smith; Associate Professor Cochran; Assistant Professor Hill; Acting Instructor Palmer*

99. **Direct-current Circuits.** (5) Five hours lecture and recitation, three hours lab. Beginning course for E.E. majors on direct-current circuit theory, including Ohm's Law, Kirchhoff's Law, Thevenin's Theorem, Superposition Theorem, effects of temperature. Pr., Math. 33.
101. **Direct Currents.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course in direct-current circuits and machinery for those who are not electrical engineering students. Pr., Physics 98, Math. 33.
105. **Electric Wiring.** (2) Two hours lecture and recitation. Special course for architects.
109. **Basic Field Theory.** (5) Four hours lecture and recitation, four hours lab. Basic study of magnetic and dielectric fields under static conditions. Simple transient phenomena in electric circuits. Pr., 99, Math. 41.
111. **Direct-current Machinery.** (3) Four hours lecture and recitation. Construction, operation, and characteristics of direct-current machinery. To be taken with 112. Pr., 109.
112. **Direct-current Machinery Laboratory.** (4) Eight hours lab. Experimental work on direct-current machinery. To be taken with 111.
121. **Alternating Currents.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course in alternating-current circuits and machinery for those who are not electrical engineering students. Pr., 101.
125. **Vacuum Tubes and Electronics.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course for those who are not electrical engineering students, covering vacuum tube construction, rectifiers, amplifiers, oscillators, and other electronic phenomena. Pr., 121.

† Students registering for these courses must indicate their field of study by a letter symbol after the course number, for example: 193H. These engineering fields of study and their symbols are: Hydraulics (H), Materials (M), Structural (S), Sanitary (W), and Transportation (T).

141. **Illuminating Engineering.** (3) Two hours lecture and recitation, three hours lab. Fundamental principles of illuminating engineering including the design of practical lighting installations, and a study of characteristics of illuminaires. Junior or senior elective. Pr., 109. Shuck
152. **Electrical Machine Design.** (3) One hour lecture, six hours lab. Design of a direct-current generator or motor, and of a transformer. Pr., 161. Lindblom
154. **Design of Electrical Apparatus.** (4) Two hours lecture, six hours lab. Design of switchboards, transformers, alternators, alternating-current motors, etc. Pr., 152. Lindblom
159. **Alternating-current Circuits.** (5) Three hours lecture and recitation, four hours lab. Theory of single-phase and three-phase circuits including vector notation. Pr., 109.
161. **Alternating-current Machinery.** (4) Six hours lecture and recitation. Theory of transformers, induction motors, alternators, synchronous motors, single-phase motors. To be taken with 162. Pr., 111 and 159.
162. **Alternating-current Machinery Laboratory.** (4) Eight hours lab. Experimental work with alternating-current machinery. To be taken with 161.
163. **Advanced Alternating Currents.** (6) Five hours lecture and recitation, four hours lab. Theory of rotary converters, dielectric phenomena, corona, transmission lines. Pr., 161.
165. **Electrical Measurements.** (3) Two hours lecture and recitation, three hours lab. Theory and operation of practical and precision measuring apparatus, including bridges, potentiometers, watt-hour meters, etc. Pr., 161.
- 170, 172, 174. **Individual Projects.** (2-5 ea. qtr.) Students registering for these courses are assigned a construction or design project to be carried out under the supervision of the instructor.
181. **Vacuum Tubes and Electronics.** (6) Five hours lecture and recitation, four hours lab. Fundamentals of vacuum tubes; theory of rectifiers and amplifiers; photoelectric cells; thyatrons; applications to power and communication fields. Pr., 159.
183. **Radio.** (6) Five hours lecture and recitation, four hours lab. Theory of vacuum tube oscillators, modulators, detectors, and amplifiers; applications in radio and other high frequency fields. Pr., 181.
185. **Communications Networks.** (6) Five hours lecture and recitation, four hours lab. Network theorems; series and parallel resonance; theory of transmission lines; theory and design of filters; equalizers; impedance matching. Pr., 159.
189. **Radio Design.** (2) One hour lecture, three hours lab. Problems of designing radio receivers and transmitters, and of audio and video amplifiers; selection of suitable components; proper layouts. Pr., 183.
190. **Radio-Telephone Transmitter Practice.** (2) Supervised study and practice in radio-telephone transmitter operation. Credit allowed only after student has passed U.S.F.C.C. first-class radio-telephone license examination. Pr., 183.
194. **Seminar.** (2-5)
195. **Electric Transients.** (4) Four hours lecture and recitation, three hours lab. Single and double energy transients in R, L, and C circuits; standing and traveling waves. Pr., 159. Smith
197. **Industrial Control.** (3) Two hours lecture and recitation, three hours lab. Theory, operation, and use of vacuum tubes, selsyns, autosyns, magnesyns, amplitudynes, etc., in various types of control circuits. Pr., 161 and 181. Hoard

*Courses for Graduate Students Only*

203. **Advanced Circuit Theory.** (3) Three hours lecture and recitation. Operational calculus applied to the solution of electric circuits. Pr., 161.
205. **Seminar.** (2-5)
- 210, 212, 214. **Research.** (2-5 ea. qtr.)
221. **Advanced Transients.** (5) Three hours lecture and recitation, four hours lab. Transient phenomena in rotating machinery, transmission lines; corona; lighting. Pr., 195. Smith
223. **Symmetrical Components.** (3) Three hours lecture and recitation. A study of unbalanced three-phase systems, transmission lines, and protection of alternating-current equipment, by means of symmetrical components. Pr., 163. Shuck
225. **Power Transmission.** (5) Three hours lecture, four hours lab. Theory, design, and operation of electric-power transmission lines. Pr., 163. Loew
241. **Electro-acoustics.** (5) Three hours lecture and recitation, four hours lab. and problems. Properties of sound, physiology of hearing; acoustics and properties of acoustical materials, electrical transducers, and sound reproduction. Pr., 181. Hill
251. **High-frequency Techniques.** (5) Three hours lecture and recitation, four hours lab. Cathode-ray tubes and circuits; trigger circuits; sweep circuits; ultra-high-frequency generators, including velocity-modulation tubes and magnetrons. Pr., 183. Cochran
261. **Wave Propagation.** (6) Five hours lecture and recitation, four hours lab. Vector analysis; Maxwell's equations; r-f transmission lines; antennas; arrays, wave guides; wave propagation through space. Pr., 185. Eastman

## V. GENERAL ENGINEERING

*Professors Wilcox, Warner; Associate Professors Brown, Rowlands; Assistant Professors Boehmer, Douglass, Engel, Jacobsen, Jensen; Instructors Gullikson, Jarvi; Lecturer Bliven*

1. **Engineering Drawing.** (3) Orthographic projection; lettering. Should be preceded by or accompanied by solid geometry. Boehmer
  2. **Engineering Drawing.** (3) Reading and execution of working drawings. Pr., 1. Douglass
  3. **Drafting Problems.** (3) Descriptive geometry. Pr., 1, 2. Warner
  7. **Engineering Drawing.** (3) Short course for forestry students. Warner
  11. **Engineering Problems.** (3) Orientation course; training in methods of analyzing and solving engineering problems. Deals principally with dynamics. Pr., high school physics, advanced algebra. Brown
  12. **Engineering Problems.** (3) Analytical and graphical statics. Pr., 1, 11, Math. 31. Jensen
  21. **Plane Surveying.** (3) Methods, use of instruments, computations, mapping, U.S. public land surveys. Pr., 1, 2, or equivalent, and trigonometry. Engel
  - 47-48. **Elementary Theory of Construction.** (3-3) Application of statics and strength of materials to problems in structures. (For architecture majors only.) Jensen
  151. **Inventions and Patents.** (1) Law and procedure for patenting inventions, employer-employee relationship, trademarks. Pr., junior standing. Bliven
- Not offered in 1946-1947: 9, Engineering Drawing.

## VI. HUMANISTIC-SOCIAL STUDIES FOR ENGINEERS

*Associate Professor A. V. Hall; Assistant Professor Roberts; Steering Committee: A. V. Eastman, Chairman; Van Horn, Tymstra*

- E.B. 3. **Economics for Engineers.** (3)
- E.B. 57. **Business Law.** (3)
- E.B. 166. **Industrial Relations.** (3)
- English B. **Spelling, Punctuation, and Grammar.** (0) A noncredit course for students whose written work shows them insufficiently prepared for English 40 (or who fail to pass the admission test for English 40).
- English 40. **Engineering Report Writing.** (1) Practice in accurate presentation of data in engineering reports; drill in good sentence structure and vocabulary. Pr., passing of test in the mechanics of writing.
- English 81. **Technical Writing, I.** (1) Principles of clear expression and of logical analysis; technical description, exposition of a process, and general exposition; order letters and letters of instruction; the laboratory report. Pr., English 40.
- English 82. **Technical Writing, II.** (1) Principles of convincing expression; adaptation of material to readers of unlike levels; analysis and evaluation of different points of view; argumentative writing; propaganda analysis; letters of adjustment and application. Pr., English 81.
- English 83. **Technical Writing, III.** (1) Studies in individual expression: analysis of superior writers widely varying in type; comparisons and contrasts; experimentation with different forms of expression, in an endeavor to develop the student's own characteristic style. Pr., English 82.
- English 85. **Technical Writing.** (3) A course equivalent to English 81, 82, and 83 for students with schedules that are irregular. Pr., English 40.
- English 123. **Humanities I.** (3) The background of civilization: earth, as viewed by astronomer, geologist, biologist, anthropologist; civilizations of the East. Readings in the works of outstanding thinkers; analysis and class discussion; training in speech and writing. Pr., English 83 or 85.
- English 124. **Humanities II.** (3) Civilization in the West: Greece and Rome; the Medieval synthesis; the three modern cycles of advance. Readings in great literature; analysis and class discussion; training in speech and writing. Pr., English 123.
- English 125. **Humanities III.** (3) World civilization: contemporary ideas and attitudes; trends in science, economics, and politics, in music, art, and literature; study of current magazines; training in speech and writing. Pr., English 124.
- English 194. **Nontechnical Reading I.** (1) Individual reading: literary and informational reading, planned to meet the greatest needs of the individual student; brief outlines and comments; weekly conference. Pr., English 83 or 85.
- English 195. **Nontechnical Reading II.** (1) Great names in literature: readings in important works of the past or of the present, and in the works of their interpreters and critics; brief reports and outlines; weekly conference. Pr., English 194.
- English 196. **Nontechnical Reading III.** (1) Contemporary literature: current views; new outlooks in science, literature, or art; brief reports and outlines; weekly conference. Pr., English 195.
- Psychology 123. **Industrial Psychology.** (3)

## VII. MECHANICAL ENGINEERING

*Professors Eastwood, McIntyre, McMinn, Schaller, Tymstra, Wilson, Winslow; Assistant Professor Cooper; Instructors Crain, Snyder, Sullivan*

53. **Manufacturing Methods.** (1) Principles of the founding of ferrous metals. Three hours lab. Schaller, Snyder, Sullivan
54. **Manufacturing Methods.** (1) Mechanical and heat treatment of steel; gas and electric welding. Three hours lab. Schaller, Snyder
55. **Manufacturing Methods.** (1) Fundamental theory and practice of machining operations on iron and steel. Three hours lab. Sullivan, Schaller
81. **Mechanism.** (3) Operation of machines involving the transmission of forces and the production of determinate motions. Three lectures. Pr., G.E. 3, Math. 32. McIntyre, Tymstra, Cooper, Crain
82. **Heat Engines.** (3) Various steam apparatus used in modern steam plants; construction, use, and reason for installation. Not open to freshmen. Three lectures. Pr., G.E. 2. Eastwood, McMinn, Tymstra, Winslow, Cooper, Crain
83. **Steam Engineering Laboratory.** (3) Calibration of instruments; horsepower tests; complete engine and boiler test. Two lectures, three hours lab. Preceded or accompanied by 82. Wilson, McIntyre, Cooper, Crain
104. **Manufacturing Methods.** (1) Founding, welding, and machining of nonferrous metals. Three hours lab. Schaller
105. **Advanced Manufacturing Methods.** (1) Individual problems of machining operations on mechanical equipment. Three hours lab. Pr., 55. Sullivan
106. **Advanced Manufacturing Methods.** (1) Study of machining problems from the standpoint of production. Three hours lab. Pr., 105. Sullivan
107. **Production Planning.** (1) Design and equipment of a representative manufacturing plant. Three hours lab. Pr., 106. Schaller
108. **Production Management.** (3) A study of the location, operation, and organization of manufacturing plants. Three lectures. Schaller
109. **Factory Cost Analysis.** (3) Analyzing shop operations from the standpoint of manufacturing costs. Three lectures. Schaller
110. **Heating and Ventilation.** (2) Abridged for architecture students. Two lectures. Pr., junior standing in architecture. Eastwood
- 111, 112. **Machine Design.** (3, 3) Six hours lab. Pr., C.E. 92. McMinn, McIntyre, Tymstra, Winslow, Cooper, Crain
- 113, 114. **Machine Design.** (2, 2) Advanced problems. Six hours lab. Pr., 112. Winslow
115. **Steam Engine Design.** (3) Computations and drawings. Six hours lab. Pr., 114. Winslow
- 123, 124. **Engines and Boilers.** (3, 3) Generation and use of steam in various types of boilers and engines. Three lectures. Pr., 83; preceded or accompanied by C.E. 91. Winslow
- 151, 152. **Experimental Engineering.** (3, 3) Continuation of 83, involving more extended and complete investigations. Six hours lab. Pr., 83. Wilson, McIntyre
153. **Internal Combustion Engine Laboratory.** (3) Tests and investigations on various internal combustion units. Six hours lab. Pr., 198. McIntyre
161. **Quality Control.** (3) Control of manufacturing processes to make quality of the end product a function of production. Application of statistical methods to sampling, control charts, and analysis of variance. Three lectures. Pr., senior standing. Schaller
162. **Methods Analysis.** (3) Survey and measurement of factors concerning the human element in its relationship to standards of performance and production. Three lectures. Pr., senior standing. Schaller
167. **Engineering Materials.** (3) Properties of the various materials used in engineering construction. Two lectures, three hours lab. Pr., C.E. 92. McMinn
182. **Heating and Ventilation.** (3) Various systems of heating and ventilating methods with designs. Three lectures. Pr., 82. Eastwood
183. **Thermodynamics.** (5) Fundamental principles underlying the transformation of heat into work; special application to engineering. Five lectures. Pr., 82, junior standing in engineering. Eastwood
184. **Power Plants.** (5) Design of steam power plants, involving their location, building, prime movers, and power transmission. Five lectures. Pr., 83, 123. Winslow
185. **Naval Architecture.** (3) Theory of naval architecture. Displacement; stability; strength; construction. Three lectures. Pr., junior standing
186. **Naval Architecture.** (3) Theory of naval architecture. Displacement; stability; strength; performance. Six hours lab. Pr., 185.
187. **Naval Architecture.** (3) Applications of principles of naval architecture. Calculations and design. Six hours lab. Pr., 112, 186.

- 188. **Marine Engineering.** (3) Application of mechanical engineering to ships, including propulsion. Three lectures. Pr., 186.
- 189. **Refrigeration.** (3) Thermodynamics of refrigeration and air-conditioning processes. Two lectures, three hours lab. Pr., 183. McMinn
- 191, 192, 193. **Research.** (2 to 5 ea. qtr.)
- 195. **Thesis.** (2 to 5) Investigation, design, or experiment. To be taken in the senior year. Wilson
- 198. **Internal Combustion Engines.** (3) Analysis and practice; stationary, marine, automobile, airplane, and diesel engines. Three lectures. Pr., 82. Wilson
- 199. **Internal Combustion Engine Design.** (3) Calculations and plans for the design of a given type of engine. Six hours lab. Pr., 198. Wilson

*Courses for Graduates Only*

- 200. **Vibrations of Machinery.** (3) Mathematical investigations of vibration phenomena with emphasis on applications to operating conditions of machines. Elective for approved seniors and graduates. Three lectures. Winslow
- 202. **Advanced Engineering Materials.** (3) Their properties, including metallographic, magnetic, and X-ray methods of inspecting and testing. Two lectures, three hours lab. Pr., 167. McMinn
- 204. **Diesel Engines.** (2) Analysis and practice. Diesel engines and gas turbines. Two lectures. Pr., 198. Wilson
- 211, 212, 213. **Research.** (3, 3, 3)

**ENGLISH**

*Professors Griffith, Benham, Blankenship, Cox, Harrison, Hughes, Taylor, Winther; Associate Professors Cornu, Eby, Hall, Lawson, Savage, Stirling, Zillman; Assistant Professors Bostetter, Burns, Kabin, Koerber, Redford, Roberts; Instructors Adams, S. F. Anderson, Beal, Burgess, Burn, Emery, Ethel,\* Gillette, Hilen, Kuhn, McKinlay, Nix, Person, Walters; Associates V. Anderson, Butterworth, Colton, Guberlet, Hunner, Huston, Mark, Miller, Olmer, St. Clair, Stubbs, Sylvester, Thorpe, Thompson, Willis, Vickner, Yaggy; Lecturer Sperlin; Librarians Gilchrist, Jones*

*English 1 or equivalent is prerequisite to all literature courses except 67, 69, 72, 73.*

- A. **Elementary Composition.** (No credit) For those who fail in entrance test for 1. Lawson in charge
- 1, 2, 3. **Composition.** (3, 3, 3) Includes also methods of collecting material for longer papers; the study of evidence, fallacies, and proof; analysis of modern literature. Lawson in charge
- 31, 32, 33. **World Literature.** (2, 2, 2) Readings from an anthology of classical (Greek and Roman), medieval, and modern literature.
- 51, 52, 53. **Advanced Exposition.** (3, 3, 3) Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent. Person
- 54. **Introduction to Nonfictional Writing.** (3) Biographies, magazine and feature articles, and expository papers. Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent.
- 55, 56. **Advanced Writing.** (3, 3) Students in any department may present material in the various forms of writing, or may write on a special subject, or may study writing as it is related to his major field. Recommended to English majors and others. Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent.
- 57. **Introduction to Modern Poetry.** (5) Zillman
- 58. **Introduction to Fiction.** (5) Narrative poems, short stories, novels, plays. Upper-division credit for upper-division students. Winther
- 61, 62, 63. **Verse Writing.** (2, 2, 2) Pr., English 1, 2, 3. Zillman
- 64, 65, 66. **Literary Backgrounds.** (5, 5, 5) The most important English classics, their appreciation, literary forms, and historical relations. Grade of "A" or "B" grants upper-division credit to an upper-division student for the quarter in which the grade is earned.
- 67, 69. **Survey of American Literature.** (3, 3) Blankenship
- 70. **Advanced English.** (3) For students in nursing at Harborview Hospital.
- 72, 73. **Introduction to Modern Literature.** (3, 3) Essays, poetry, novel, and drama.
- 74, 75, 76. **Dramatic Composition.** (3, 3, 3) Experimental creative work. Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent. Redford, Savage
- 77, 78, 79. **Narrative Writing.** (3, 3, 3) Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent.
- 96. **The Bible as Literature.** (5) Upper-division credit for upper-division students. Benham
- 100. **Technical Composition.** (3) For students in the colleges of Engineering and Mines. Pr., passing of test in the mechanics of English. Hall in Charge

101. **Modern Reading.** (3 to 5) For students in technology; reading in nontechnological fields. Hall
- 102, 103. **English for Engineers.** (3, 3) For students in the colleges of Engineering and Mines; representative authors of the past and present. Pr., 100. Hall
104. **Modern European Literature.** (5) Harrison
106. **Modern English Literature.** (5) Harrison
- 107, 108, 109. **Nontechnical Reading.** (1, 1, 1) For students in the colleges of Engineering and Mines. Pr., 100. Hall
- 110, 111, 112. **Advanced Verse Writing.** (2, 2, 2) Pr., 61, 62, 63. Zillman
117. **History of the English Language.** (5) Growth and development of the English language from Anglo-Saxon times to the present. Open to sophomores; 180 may be substituted for this course. Butterworth
120. **Modern Poetry.** (5) Zillman
- 131, 132, 133. **Advanced Nonfictional Writing.** (5, 5, 5) Pr., 54. Burns
- 137, 138, 139. **Advanced Short Story Writing.** (5, 5, 5) Pr., 77, 78, 79, or permission. Redford
140. **Social Ideals in Literature.** (5) Model commonwealths. Literature and society. Benham
- 144, 145. **Eighteenth Century Literature.** (5, 5) 144: Swift, Pope, Defoe, Addison and Steele; 145: Doctor Johnson and his circle; the pre-romantics. Pr., 144 to 145. Cox, Cornu
- 147, 148, 149. **Great English Novels.** (3, 3, 3) Winther
- 150, 151, 152. **Old and Middle English Literature.** (5, 5, 5) 150: Old English literature in translation; 151: Chaucer and contemporaries; 152: Romances and folk literature. Griffith, Butterworth
- 153, 154. **English Literature: 1476-1642.** (5, 5) 153: The Renaissance; 154: non-Shakespearean Elizabethan drama. Taylor
- 156, 157, 158. **Novel Writing.** (5, 5, 5) Pr., 77, 78, 79, or permission. Savage
- 161, 162, 163. **American Literature.** (5, 5, 5) 161: exclusive of New England; 162: New England; 163: Twain, Howells, James. Blankenship, Burns, Harrison
166. **Modern American Literature.** (5) The beginning of realism; tendencies from 1900 to 1915; contemporary fiction and poetry. Harrison
- 167, 168, 169. **Seventeenth Century Literature.** (5, 5, 5) 167: Bacon, Burton, Brown, the Spensereans, the cavalier poets, the metaphysical poets; 168: Milton; 169: Dryden, Bunyan, Locke, the dramatists, the lyric poets. Benham
- 170, 171, 172. **Shakespeare.** (5, 5, 5) 170: Introduction; 171: Comedies and Histories; 172: Tragedies and Romances. Pr., 170 for 171 and/or 172. Kocher, Stirling, Taylor
- 174, 175, 176. **Late Nineteenth Century Literature.** (5, 5, 5) Pr., 174 for 175. Winther
- 177, 178, 179. **Early Nineteenth Century Literature.** (5, 5, 5) Pr., 177 for 178. Cox, Zillman
- 180, 181, 182. **Old English Language.** (5, 5, 5) Anglo-Saxon classics in the original. Butterworth
- 184, 185, 186. **Advanced Writing Conference.** (3 to 5 ea. qtr.) Revision of manuscripts. Student entering this course should have the preliminary work on his writing project completed. Pr., permission. Savage, Redford
187. **English Grammar.** (3)
- 190, 191, 192. **Major Conference.** (3, 3, 3)
- Teachers' Course.** (See Educ. 75H.)

For descriptions of courses in foreign literatures in translation, see departments of Classical, Far Eastern, Germanic, Scandinavian, and Romanic Languages.

#### *Courses for Graduates Only*

201. **Graduate English Studies.** (5) Required of candidates for a master's degree. Griffith
- 202, 203. **Literary Criticism.** (5, 5) Required of candidates for the master's degree. Winther
- 204, 205, 206. **Chaucer.** (5, 5, 5) Required of candidates for the doctor's degree. Griffith
- 208, 209, 210. **Pre-Shakespearean Drama.** (5, 5, 5) Benham
- 217, 218, 219. **Shakespeare.** (5, 5, 5) Taylor
- 221, 222, 223. **Seventeenth Century Literature.** (5, 5, 5) Benham
- 224, 225, 226. **American Literature.** (5, 5, 5) Eby
- 230, 231, 232, 233. **Old English.** (5, 5, 5, 5) Anglo-Saxon grammar, Old English prose and poetry; Middle English language; Beowulf. Required of candidates for the doctor's degree. Butterworth

- 238, 239, 240. Early 19th Century Literature. (5, 5, 5) Cox  
 241, 242, 243. Victorian Literature. (†) Winther  
 244, 245, 246. Eighteenth Century Literature. (5, 5, 5) Cox  
 250, 251, 252. Thesis Research. (†) Student should not enroll for this course until he has chosen a thesis subject.

## FAR EASTERN

*Professor Taylor; Visiting Professor Wang Kan-yu; Associate Professors Michael, Schulteis, Spector, Williston; \* Assistant Professors Shib, Tatsumi, Yang; Instructors Bacon, \* Gershevsky, Kastner, Sunoo; Acting Instructor Ch'eh; Associate Maki\**

10. Survey, Problems of the Pacific. (5) Taylor  
 40. Chinese Civilization. (5) Social, intellectual, institutional life; recent changes. Michael  
 41. Japanese Civilization. (5) Tatsumi  
 42. Korean Civilization. (3) Sunoo  
 90. History of China. (5) Upper-division credit to upper-division students. Yang  
 91. History of Japan. (5) Upper-division credit to upper-division students. Steiner  
 113. Civilization of Southeastern Asia. (5) Kastner  
 126. Development of Modern Japan. (5) Economic.  
 130. Russian Literature. (5) The great masters of the Golden Age. Spector  
 132. Contemporary Russian Literature. (5) Outstanding writers from Gorky to Sholokhov. Spector  
 134. Russian Drama. (5) A survey of representative Russian plays, 1782-1946. Spector  
 136. Modern Russian History. (5) Open to all students.  
 143. Chinese Peoples. (5) Population problems, social institutions, transformation. Yang  
 170. Literature of China in Translation. (5) Shih  
 171. Literature of Japan in Translation. (5) Tatsumi  
 180. Modern Chinese History. (5) Pr., 90 or upper-division standing. Yang  
 181. Modern Japanese History. (5) Steiner  
 182. Modern India. (5) Its geography, peoples, and politics.  
 184. Modern Korean History. (5)  
 190. Undergraduate Research. (3-5) For F.E. majors. Pr., permission. May be repeated for credit.  
 191. Contemporary Japan. (†)  
 192. History of the Ming Dynasty. (3) Schulteis  
 193. Contemporary China. (3) Political, social, and economic situation in China. Wang Kan-yu  
 194. Tokugawa Period. (†)  
 195. The Meiji Restoration in Japan. (3)  
 196. Russian Expansion and Colonization in Asia. (5) Ivan IV to 1917. Pr., permission Spector  
 199. Seminar on China. (2) Development of postwar China. Yang  
 See also, Anthro. 142; Art 182, 183, 184; Geog. 103, 132; History 132; Pol. Sci. 114, 129, 132, 147, 166, 169; Economics 182, 183; Sociology 41.

## Chinese

44. Chinese Language. (10) Intensive A. Shih  
 44a. Chinese Language, Conversation. (5) Ch'eh, Shih  
 46. Chinese Language. (5) For students with some knowledge of Chinese but not prepared for 147. Shih  
 147. Chinese Language. (10) Intensive B. Pr., Intensive A or equivalent. Shih  
 149. Chinese Language. (10) Intensive C. Pr., Intensive B or equivalent. Shih  
 172, 173, 174. Advanced Chinese Language. (5) Ch'eh, Shih

† To be arranged.  
 \* On leave.



*Japanese*

1. Japanese Language. (10) Intensive A.
- 1a. Japanese Language, Conversation. (5)
3. Japanese Language. (5) For students with some knowledge of Japanese but not prepared for 107.
107. Japanese Language. (10) Intensive B. Pr., Intensive A or equivalent.
109. Japanese Language. (10) Intensive C. Pr., Intensive B or equivalent.
- 120, 121, 122. Advanced Japanese Language. (5 ea. qtr.)

*Korean*

4. Korean Language. (10) Intensive A. Sunoo
- 4a. Korean Language, Conversation. (5) Sunoo
5. Korean Language. (5) For students with some knowledge of Korean but not prepared for 175. Sunoo
175. Korean Language. (10) Intensive B. Sunoo
- 176, 177, 178. Advanced Korean Language. (5 ea. qtr.) Sunoo

*Russian*

7. Russian Language. (10) Intensive A. Spector, Gershevsky, Lavaska
- 7a. Russian Language, Elementary. (5) Staff
9. Russian Language. (5) For students with some knowledge of Russian but not prepared for 141. Staff
141. Russian Language. (10) Intensive B. Pr., Intensive A or equivalent. Staff
162. Russian Language. (10) Intensive C. Pr., Intensive B or equivalent. Staff
- 167, 168, 169. Advanced Russian Language. (5 ea. qtr.) Spector, Staff

*Courses for Graduates Only*

- 220, 221. Seminar in Eastern Asia. (2, 2) Taylor
223. Russian History and Government. (3)
- 225, 226. Seminar in Far Eastern Diplomacy. (3, 3)
- 280, 281, 282. Research. (†) Pr., permission. Yang
- 290, 291, 292. Thesis. (2 to 5 ea. qtr.)

Not offered in 1946-1947: 50, India Reflected in Her Literature; 52, The Muhammadan World; 101, 102, 103, 155, 156, 157, Hebrew; 104, 105, 106, 152, 153, 154, Sanskrit; 115, 116, History of Religion; 117, 118, 119, 158, 159, 160, Arabic; 222, Seminar in Western Asia.

**FISHERIES**

*Professors W. F. Thompson, Lynch; Associate Professor Donaldson; Instructor Welander*

101. Comparative Anatomy of Fishes. (5) Morphology. Emphasis on evolution of structures in reference to phylogeny. Pr., Zool. 1, 2. Welander
102. Classification and Identification of Soft-rayed Fishes. (5) Special attention given to salmon and trout. Pr., 101. Welander
103. Classification and Identification of Spiny-rayed Fishes. (5) Special emphasis on game and food fishes. Pr., 102. Welander
- 105, 106, 107. Commercial Aquatic Invertebrates. (5, 5, 5) Classification, life history, uses. Pr., Zool. 1, 2. Lynch
- 108, 109, 110. Problems of Fisheries Science. (1, 1, 1) Required of all majors. Thompson
- 125, 126, 127. Early Life History of Fishes. (3, 3, 3) Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
150. Natural Fish Foods and Water Supplies. (5) Fresh-water insects and crustacea and their relation to pond culture; physical and chemical determinations of the suitability of water; algae, higher plants, and miscellaneous invertebrates in relation to fish. Pr., Zool. 1, 2; Chem. 1-2 or 21-22. Lynch
151. Propagation of Salmonoid Fishes; Methods of Hatching and Rearing. (5) Collection and incubation of salmon eggs; design, structure and maintenance of hatcheries, pond systems and aquaria. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
152. Nutrition of Fish. (5) Feeding and efficiency of diets; food costs and supplies; nutritional diseases. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson

153. Hatchery Biology. (5) Propagation of pond, salt-water and aquarium fishes; stream improvement; stocking policies. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
154. Diseases of Fish. (5) Pr., 101, 102; Bacteriology 101. Lynch
156. Later Life History of Fishes: Geographic Distribution, Migration, and Racial Differentiation. (3) Pr., 101, 102. Thompson
157. Later Life History of Fishes: Rates of Growth, Death, and Laws of Population Change. (3) Pr., 156. Thompson
158. Later Life History of Fishes: Conservation and Regulation. (3) Pr., 157. Thompson
- 180, 181, 182. Fisheries Technology: An Introduction. (5, 5, 5) Pr., permission.
- 190, 191, 192. Elementary Problems. (2 to 5 ea. qtr.) Pr., 15 credits in fisheries. Staff
- 195, 196, 197. Fisheries Literature. (2, 2, 2) Preparation of research programs and reports. Pr., 15 credits in fisheries. Thompson

*Courses for Graduates Only*

- 201, 202, 203. Research. (2 to 5 ea. qtr.) Pr., 25 credits in fisheries or their equivalent in zoology. Staff
- 205, 206, 207. Graduate Seminar. (2 to 5 ea. qtr.) Required of all graduate students. Thompson

**FORESTRY AND LUMBERING**

*Professors Marckworth, Grondal, Pearce, Winkenwerder; Associate Professors Robertson, Schrader; Instructor Covington*

- 1a, 1b. Dendrology. (3, 3) Identification, classification, distribution of the trees of North America.
3. Development of Forestry. (3) Orientation course required of all freshmen. Marckworth
4. Forest Fire Protection. (3) Factors influencing their spread, methods of presuppression, detection, and suppression. Required of all freshmen. Marckworth
5. First Aid to the Injured. (2) Dr. Hall
6. General Forestry. (3) For nonmajors. Winkenwerder
8. Forestry Problems. (5) Methods of attack, emphasizing accuracy, analysis, and interpretation of forestry data. Pr., Math. 4. Schrader
15. General Lumbering. (5) Comparative methods in different regions of the U. S. Prerequisite to all courses in logging and milling. Pearce
21. Silvics. (3) Relation of trees and forests to soil, moisture, light, and temperature; forest ecology. Pr., 1b, 3, Bot. 11.
40. Silviculture. (2) Field studies and nursery practice. Given at Pack Forest. Pr., 21. Covington
60. Forest Mensuration. (5) Theory of scaling, volume and taper tables, sample plot methods, determination of contents of stands, growth, yield. Pr., 3, 8, Math. 4. Robertson
62. Field Problems in Forest Mensuration. (6) Given at Pack Forest. Pr., 1b, 60, G.E. 7. Covington
104. Timber Physics. (5) General mechanics, stresses, tests, theory of flexure, moisture and strength; mechanical properties of wood. Pr., 8, Physics 3 or 6. Schrader
105. Wood Preservation. (3) Classification and control of wood-destroying agencies; mechanical properties of treated wood. Pr., 111. Grondal
106. Wood Preservation Laboratory. (2) Evaluation of preservatives; methods of testing and inspection of treated material. Must be preceded or accompanied by 105. Grondal
108. Timber Design. (3) Beams, columns, trusses, timber connectors and fastenings; design, fabrication and erection of timber structures. Pr., 104. Schrader
109. Wood Technology. (3) Identification, taxonomy, physical and chemical properties of wood. Pr., 1a, Physics 3 or 6, 10 credits in chemistry, Bot. 19. Grondal
111. Wood Structure. (3) Identification, xylotomy, and elementary microtechnique. Grondal
115. Forest Protection. (3) Fire plans; forestry practice in the control of insect and fungus attacks. Pr., 4.
119. Forest Policy. (3) Development of forest policies; forest laws. Pr., senior standing. Marckworth
122. Silvicultural Methods. (5) Type and site classification; intermediate and final cuttings; natural and artificial regeneration. Pr., 21, 40.
140. Construction. (4) Roads, trails, wood bridges, telephone lines; land clearing; design of wood structures. Pr., 104, G.E. 7, C.E. 56. Pearce

151. **Forest Economics and Finance.** (5) Position of forests in the economic structure; cost of growing timber; valuation of land for forest production. Pr., 60, E.B. 3 or 4. Robertson
152. **Forest Administration and Regulation.** (5) Sustained yield management; forest working plans. Pr., 151. Robertson
154. **Wild Life Management.** (3) Interrelations between forests and wild life; life histories and habits of animals involved. Pr., 3.
155. **Range Management.** (3) Correlation of grazing with other forest uses; range regulation and economics. Pr., 21, Bot. 19.
156. **Forest Recreation.** (3) Recreational needs, values, resources and objectives; planning and development of outdoor recreational resources. Pr., 3 or 6.
157. **Forest Products Industries.** (3) Secondary forest industries; production and marketing of forest products other than lumber, plywood and pulp.
158. **Forest Utilization.** (5) Secondary and derived forest products. Pr., 111.
159. **Plywood, Lamination, and Glues.** (3) Manufacture of plywood and laminated wood; glues and their proper employment; utilization of glued wood products. Pr., 104, 157, 183. Schrader
- 160, 161, 162. **Undergraduate Studies.** (1 to 5 ea. qtr.) Enables students to prepare themselves for work in fields for which there is not sufficient demand to warrant the organization of regular classes. Instructor assigned according to nature of work.
- 164, 165, 166, 167. **Senior Management Field Trip.** (4, 4, 4, 4, 164: Surveys; 165: Inventory; 166: Studies; 167: Report. The courses lead to development of a working plan for a large operation. Robertson
170. **Logging Safety.** (2) Frequency and cost of accidents; methods of accident prevention. Pr., senior standing. Pearce
171. **Forest Geography.** (3) Economic geography of the forest regions of the world. Pr., senior standing. Grondal
182. **Lumber Grading.** (2) Study and practice of regional grading rule and American lumber standards of sizes and patterns. Pr., 15, 104, 109. Schrader
183. **Milling.** (5) Organization, planning, operation, and administration of timber conversion plants. Pr., 15, 104, 158, M.E. 82. Grondal
184. **Manufacturing Problems.** (5) Lumber-producing regions; economics and geography of utilization; selling and distribution of lumber; financing methods. Pr., 183, E.B. 62. Schrader
185. **Forest Engineering.** (5) Logging plans and costs; correlation of logging engineering methods with condition of stand, topography, forest management, etc. Pr., senior standing. Pearce
186. **Logging Engineering.** (5) Machinery, equipment, and problems. Pearce
187. **Senior Logging Engineering Field Trip.** (16) Development of a complete logging plan and cost analysis in a large operation. Pearce
188. **Theory and Practice of Kiln Drying.** (3) Wood-liquid relationships and hygrometry; application of gas laws. Problems in the design of dry kilns. Pr., 111, 158. Grondal
189. **Wood Pulp.** (5) Design of waste conversion plants; wood pulp manufacture. Pr., 111, 158, 183, 188. Grondal
190. **Microtechnique.** (3) Preparation, sectioning, staining, and mounting of woody tissues and fibers. Pr., 111. Grondal

*Courses for Graduates Only*

202. **Thesis.** (3 to 6 ea. qtr.) Total requirement nine credits.
203. **Advanced Wood Preservation.** (3) Theory of penetrance; design of treating plants. Fire proofing and fire-proofing compounds. Pr., 105, 106. Grondal
204. **Forest Management Plans.** (3 to 5 ea. qtr.) Pr., 167. Marckworth
208. **Graduate Seminar.** (3) Required of graduate students. Staff
- 210, 211, 212. **Graduate Studies.** (3 to 5 ea. qtr.) In fields for which there is not sufficient demand to organize regular courses.
- 213, 214, 215. **Research.** (3 to 5 ea. qtr.)
220. **Advanced Forest Engineering.** (5) Logging management, cost analyses, stumpage and logging appraisal, financial reports. Pr., 187. Pearce
221. **Forest History and Policy.** (3) Forestry policy of the U.S.; the rise of forestry abroad. Marckworth

## GENERAL LITERATURE

Professors Benham, Read

- 151, 152, 153. Masterpieces of European Literature. (3, 3, 3) Pr., sophomore standing. Read  
 101. Introduction to Criticism and Literature. (5) (May receive credit in English) Benham  
 191, 192, 193. General European Literature. (3, 3, 3) A synthetic view of the literatures of the world as they have affected English literature. To approximately 1650 A.D. Benham  
 194, 195, 196. General European Literature. (3, 3, 3) Pr., 193. From approximately 1650 A.D. to approximately 1900. Benham

For other courses that form a part of the general literature program, see English, and the foreign language departments.

## GENERAL STUDIES

*Advisory Committee: H. B. Densmore (Greek), Chairman; J. D. Barksdale (Geology); Russell Blankenship (English); Viola Garfield (Anthropology); J. R. Huber (Economics); A. R. Jerbert (Mathematics); Kathleen Munro (Music)*

- 21-22. American Social Trends. (5-5) Nontechnical introduction to the various social sciences in terms of American experiences and institutions.  
 151. Sources of the Modern Cultural Crisis. (2 to 6) Individual reading to be assigned by members of the interdepartmental staff. May be repeated in various fields in the same or successive quarters. Primarily for upper-division students. Pr., permission. Interdepartmental Staff<sup>1</sup>  
 155-156. Analysis of the Modern Cultural Crisis. (3-3) Economic, psychological, scientific and technological, artistic, moral, religious aspects; essential conflicts; the problem of synthesis. For seniors; juniors by permission. Interdepartmental Staff<sup>1</sup>  
 191, 192, 193. Senior Study. (†) Pr., permission.

## GEOGRAPHY

*Professor Martin; Associate Professors Church, Earle; Assistant Professors Pierson, Stanislawski, Williams; Instructor Sherman; Acting Instructors Rankin, Rhymsburger; Acting Associate McIntyre*

1. Survey of World Geography. (5) World regions; man's relation to his habitat. Not open to students who have had 7 or 70. Williams, Rankin  
 2. Physical Geography. (5) Land forms; soils; waters; mineral products; topographic maps. Pierson  
 4-5-6. Survey of World Geography. (2-2-2) Same as Geography 1. Williams, Staff  
 7. Economic Geography. (5) Regions and resources; factors locating industries; commodities in international trade. Not open to students who have had 1 or 70. Martin, McIntyre, Staff  
 11. Weather and Climate. (5) World distribution of temperature, pressure, winds, precipitation. Weather maps. Pierson, Sherman  
 70. World Geography. (5) Economic-political; for journalism students. Not open to students who have had 1 or 7. Martin, Staff  
 77. Urban Geography. (3) Major cities of U.S. Martin  
 101. World Regional Geography. (5) Same as 1, but with additional work. Not open to those who have had 1 or 7 or 70. Pr., junior standing. Williams, Rankin  
 102. Geography of United States. (5) Regional and industrial. Pr., 1 or 101 or 7, or junior standing. Sherman, Rankin  
 103. Geography of Asia. (5) Countries and natural regions; resources; population; transportation; trade. Pr., 1 or 101 or 7, or permission. Earle  
 104. Geography of Europe. (5) Countries and regions; manufacturing; commercial relationships. Pr., 1 or 101 or 7, or permission. Martin  
 105. Geography of South America. (5) Genesis and development of culture regions; resources, economic activities, and relations. Pr., 1 or 101 or 7, or permission. Stanislawski  
 106. Geography of Africa. (5) Colonization and development. Resources; plantation agriculture; tropical problems. Pr., 1 or 101 or 7, or permission. Earle

<sup>1</sup>M. Jacobs (Anthro.), R. Penington (Art), V. Sivertz (Chemistry), J. R. Huber, V. Mund (Economics), C. T. Williams (Education), R. G. Tyler (Engineering), J. B. Harrison (English), F. Williston (Far Eastern), H. B. Densmore (General Studies), G. Costigan (History), D. Monroe (Home Economics), G. Lutey (Liberal Arts), R. A. Beaumont (Math.), G. McKay (Music), H. J. Phillips, M. Rader, H. D. Aiken (Philosophy), D. H. Loughridge, E. A. Uehling (Physics), L. A. Mander, T. I. Cook (Political Science), R. Gundlach (Psychology), Rev. J. Bartlett (Religion), Howard L. Nostrand, L. V. Simpson (Rom. Lang.), R. W. O'Brien, Mrs. Laile Bartlett (Sociology), M. H. Hatch (Zoology).

<sup>†</sup>To be arranged.

107. Geography of Australia and New Zealand. (5) Agriculture, resources, colonization. Pr., 1 or 101 or 7, or permission. Earle
108. Geography of Canada and Alaska. (3) Regions, resources, economic and social development; northern settlement. Pr., 1 or 101 or 7, or permission. Pierson
109. Geography of Caribbean America. (5) Genesis and development of economic and culture regions. Pr., 1 or 101 or 7, or permission. Stanislawski
110. Resources of the Pacific Northwest. (2) Rural and urban development; industry; regional problems. Rhynsbarger
111. Climatology. (5) Same as 11, but with additional work. Not open to those who have had 11. Pr., junior standing. Pierson, Sherman
112. Meteorology. (5) Physics of the atmosphere. Pr., 11 or 111. Church
119. Physical Climatology. (5) Climatic elements, controls, classifications, collection and use of climatic data. Pr., 11 or 111, or permission. Church
121. Regional Climatology. (5) Climatic types and their continental distribution. Pr., 119 or permission. Church
122. Aeronautical Meteorology. (3) The troposphere. Radiation, temperature, clouds, fog, thunderstorms, ice formation on aircraft. Engineering juniors and seniors only. Sherman
125. Geographic Background of American History. (3) Pr., 10 credits of history or geography. Martin, Stanislawski
132. Islands of the Pacific. (5) Geography, climate, resources, peoples, etc. Pr., 1 or 101 or 7, or permission. Earle
133. Geography of the U. S. S. R. (3) Agriculture, resources, industrial development. Pr., 1 or 101 or 7, or permission. Williams
140. Geography in the Social Studies. (2) Pr., 10 credits in geography, or permission.
152. Air Mass Analysis. (3) The frontal theory. Vertical and horizontal properties of air masses. Life cycle of extra-tropical cyclones. Pr., 112 or 122. Church
- 153, 154. Meteorological Laboratory. (3, 3) Weather charts based on frontal and isentropic methods. Church
155. Influences of Geographic Environment. (5) Theory of occupancy; urbanization; human adjustment. Pr., 20 credits of geography, or permission. Earle
156. Weather Instruments and Observations. (2) Pr., 112. Sherman
160. Cartography. (5) Map projections, symbols, scales, sketch mapping, block diagrams. Pierson, Sherman
162. Advanced Cartography. (†) Pr., 160. Pierson
170. Conservation of Natural Resources. (5) Public policy; land reclamation; resource utilization. Martin
175. Political Geography. (3) Geographic basis of national and international problems. Pr., 10 credits of geography, or permission. Stanislawski
192. Readings in Climatology or Meteorology. (†) Pr., permission. Church
195. Readings in Geography. (†) Pr., permission. Staff
199. Preseminar in Geography. (3) Research methods; presentation of paper. Pr., permission. Martin

Teachers' Course in Geography. (See Educ. 75-O.)

#### *Courses for Graduates Only*

200. Geographic Theory. (5) Earle
201. Seminar in Source Materials. (3) Earle
202. Seminar: Writing and Critique. (3) Martin
203. Seminar in Asia. (3) Earle
204. Seminar in Europe. (3) Martin
205. Seminar in Latin America. (3) Stanislawski
207. World Resources and Industries. (†) Staff
211. Research in Meteorology or Climatology. (†) Church
220. Land Utilization. (†) Pierson
255. History and Theory of Geography. (†) Earle
295. Individual Conference and Research. (†) Staff
- 301, 302, 303. Individual Research. (†) Staff

† To be arranged.

## GEOLOGY

*Professors Goodspeed, Weaver, Fuller; Associate Professors Barksdale, Coombs, Mackin*

1. Survey of Geology. (5) Coombs
2. Geology in World Affairs. (5) Geological occurrence, world distribution and production of coal, petroleum, and the important industrial minerals. Pr., 1. Barksdale
3. Geology of the Pacific Northwest. (5) Field trips to various points of geological interest in the Northwest with lectures, lab. studies, and selected readings to be given on the campus. Pr., 1, or 5 credits in geology. Coombs
5. Rocks and Minerals. (5) Pr., high school chemistry. Goodspeed
6. Elements of Physiography. (5) Processes and agencies affecting the earth's surface; relation of topography to structure, etc. Pr., 1 or 5. Mackin
7. Historical Geology. (5) Origin and evolution of the earth, with emphasis on the general history of North America. Pr., 5 credits of geology, or Zool. 1 and 2. Weaver
10. Engineering Geology. (5) Elements of geology for civil engineers. Mackin
100. History of Geology. (3) Required of all majors in geology. Pr., 15 credits in geology. Barksdale
102. Geology in World Affairs. (5) Same as 2, but with additional work. Pr., 1, junior standing. Barksdale
103. Geology of the Pacific Northwest. (5) Same as 3, but with additional work. Pr., 1, junior standing. Coombs
105. Rocks and Minerals. (5) Same as 5, but with additional work. Pr., high school chemistry, junior standing. Goodspeed
106. Elements of Physiography. (5) Same as 6, but with additional work. Pr., 1 or 5, junior standing. Mackin
107. Historical Geology. (5) Same as 7, but with additional work. Pr., 5 credits in geology, or Zool. 1 and 2; junior standing. Weaver
110. Engineering Geology. (5) Elements of geology for civil engineers. Same as 10, but with additional work. Pr., junior standing. Mackin
112. Physiography of Eastern United States. (5) Pr., 5, 6, 7, 131, or permission. Mackin
113. Physiography of Western United States. (5) Pr., as for 112. Mackin
114. Map Interpretation: Constructional Landforms. (5) Pr., 5, 6, 7. Mackin
116. Glacial Geology. (5) Pr., 5 and 6. Mackin
121. Mineralogy. (5) Determinative crystallography and blowpipe analysis. Pr., 5, and high school chemistry. Coombs
123. Optical Mineralogy. (3 or 5) Petrographic microscope and recognition of common minerals in thin section. Pr., 5, 121 (except for upper-division chemistry students). Goodspeed
- 124, 125. Petrography and Petrology. (3 or 5 ea. qtr.) Systematic study of rocks with the petrographic microscope. Pr., 123 for 124; 124 for 125. Goodspeed
126. Sedimentary Petrography. (3 or 5) Correlation of sedimentary rocks by their mineral constituents. Pr., 124. Coombs
127. Ore Deposits. (5) Their form, structure, mineralogy, petrology, and mode of origin. Pr., 121, 124. Goodspeed
129. Mineral Resources—Metals. (3) Pr., 127. Goodspeed
130. General Paleontology. (5) Systematic study of fossils. Pr., 7, or Zool. 1 and 2. Weaver
132. Invertebrate Paleontology. (5) Fossils of each geologic period. Pr., 7, or Zool. 1 and 2. Weaver
133. Mesozoic Geology. (5) From a world standpoint with special emphasis upon Europe. Pr., 130, 132. Weaver
134. Tertiary Geology. (5) With special emphasis upon Europe and correlation with North and South America. Pr., 130, 132. Weaver
135. Study of Ammonites. (2) For advanced students in paleontology or zoology. Weaver
136. Geology of South America. (3) Pr., 5, 6, 7. Weaver
142. Structural Geology. (5) Interpretation of rock structures and their genesis. Pr., 5, 6, 7. Barksdale
143. Advanced Structural Geology. (3) Pr., 142. Barksdale
144. Field Methods. (5) Geologic and topographic surveying and recording. Pr., 143, G.E. 21. Barksdale
160. Principles of Geomorphology. (5) Pr., permission. Mackin

181. Preparation of Geologic Reports and Publications. (3) Pr., senior in geology. Coombs  
 190. Undergraduate Thesis. (5) Thesis must be submitted at least one month before graduation. Pr., senior in geology.

*Course Open to Approved Seniors and Graduates*

200. Advanced Work in General Geology. (†) Open to advanced undergraduates upon permission.

*Courses for Graduates Only*

Two modern foreign languages are necessary for graduate work in geology.

201. Advanced Petrography and Petrology of Igneous Rocks. (†) Goodspeed  
 202. Advanced Petrography and Petrology of Metamorphic Rocks. (†) Goodspeed  
 212. Advanced Studies or Field Work in Physiography. (†) Mackin  
 220. Advanced or Research Work in Mineralogy, Petrography, and Petrology. (†) Goodspeed, Coombs  
 227. Advanced or Research Work in Economic Geology. (†) Goodspeed  
 230. Advanced or Research Work in Paleontology and Stratigraphy. (†) Weaver  
 240. Advanced Studies in Structural Geology. (†) Barksdale

Not offered in 1946-1947: 128, Mineral Resources—Nonmetals; 131, Stratigraphy; 137, Tertiary Faunas of Washington; 150, Elements of Seismology.

GERMANIC LANGUAGES AND LITERATURE

*Professors Vail, Eckelman, Lauer, Meisner; Associate Professor Meyer; Instructors Ankele, Schertel, Wesner, Wilkie*

Students of mathematics and the applied sciences should take German 1-2, 3, an additional course in second-year German, 60, and the upper-division scientific courses for specialized reading. Students of history and the social sciences should elect German 10 or 30 and the courses listed in the 130's.

Credit is allowed for any quarter in any course except German 1-2.

- 1-2. First Year. (5-5)  
 3. First Year Reading. (5) Pr., 1-2 or one year of high school German.  
 4. Second Year Reading. (5) Pr., 3 or two years of high school German.  
 5. Second Year Reading. (3) Pr., as for 4; not open to those who have had 4.  
 6. Second Year Reading. (2) Pr., as for 4; not open to those who have had 4.  
 7. Second Year Grammar Review. (3) Especially valuable as preparation for 120, 121, 122. Pr., 4, 5, or 6. Wesner  
 10. Advanced Second Year Reading. (3) Pr., 4, 5, or 6.  
 30. Conversation Based on Rapid Reading. (3) For students interested primarily in acquiring a speaking knowledge. Pr., 4, 5, or 6. Ankele  
 60. Lower-division Scientific German. (3) Pr., 4, 5, or 6.  
 113, 114, 115. Upper-division Scientific German. (2 or 3 ea. qtr.) Each student reports on reading in his own field in weekly conferences. Pr., 60, or equivalent. Schertel  
 116. Upper-division Scientific German for Premedics. (3) Pr., as for 113. Schertel  
 120, 121, 122. Grammar and Composition. (2, 2, 2) Primarily for majors and minors. To be taken preferably in the junior or senior year. Pr., 8 credits of second-year German or equivalent. Vail, Meyer, Schertel  
 128. Phonetics. (2) German speech sounds, stage pronunciation, phonetic transcription. Pr., 3. Meyer  
 129. History of the German Language. (5) From early Germanic to the present day. Open to senior and graduate majors and minors, and to junior majors. Meyer  
 130, 131. Introduction to the Classical Period. (3, 3) Lessing, Goethe, and Schiller. Biographical studies. Pr., 8 credits of second-year German or equivalent. Ankele  
 132. Introduction to the German Novelle. (3) Representative writers, such as Keller, Meyer, and Storm; theory of the *Novelle*. Pr., as for 130. Wesner  
 143. Expressionism and Twentieth-century Realism. (3) Eckelman  
 160. Lessing: Life and Dramatic Works. (3) Vail  
 168. Schiller's Historical Dramas. (3)  
 180, 181, 182. Nineteenth Century Literature. Alternates with 183, 184, 185. Not offered in 1946-47. Eckelman

† To be arranged.

- 183, 184, 185. *History of German Literature*. (3, 3, 3) To the age of Goethe. Pr., 130 or equivalent. Alternates with 180, 181, 182. Wilkie, Vail  
 198. *Studies in German Philology*. (1 to 5) Pr., 130 or equivalent.  
 199. *Studies in German Literature*. (1 to 5) Pr., 130 or equivalent.  
*Teachers' Course in German*. (See Educ. 75L.)

*Courses in English Translation*

No knowledge of German required. Open to all students.

100. *Masterpieces of German Literature*. (5) The Middle Ages to the 19th century. Vail  
 102. *Goethe*. (3) Eckelman  
 104. *Thomas Mann*. (3) Conflicting tendencies in German thought and letters during the 20th century; social and economic backgrounds. Schertel

*Courses for Graduates Only*

The following graduate courses are regularly offered by the department. In order to form suitable groups for graduate study, students must consult with the executive officer of the department and secure permission to register for any of the courses listed below. Time for all courses will be arranged.

*Literature Courses*

200. *Bibliography and Methodology*. (2) Required of all majors and Ph.D. minors.  
 210. *Literature of the Middle Ages*. (5)  
 211. *Reformation and Renaissance*. (3)  
 212. *Baroque*. (3)  
 213. *Eighteenth-century Movements*. (3)  
 214. *Survey of the Classical Period*. (3)  
 220. *Goethe*. (5)  
 221. *Schiller*. (4)  
 222. *Lessing*. (3)  
 230. *The Romantic Movement*. (4)  
 231. *The Literature of the Nineteenth Century*. (5)  
 232. *The Literature of the Twentieth Century*. (3)  
 240. *The History of the Novel*. (3)  
 241. *History of the German Drama*. (3)  
 290, 291, 292. *Seminar in Literary History*. (1 to 5 ea. qtr.)

*Philology Courses*

- 201, 202, 203. *Advanced Syntax and Synonymy*. (2, 2, 2) Required of all majors and minors.  
 204. *Introduction to Linguistics*. (3)  
 250. *Middle High German*. (5)  
 251. *Middle High German Literature in the Original*. (5)  
 255. *Gothic*. (5)  
 256. *Old High German*. (5)  
 257. *Old Saxon*. (5)  
 260. *Modern Dialects*. (3)  
 295, 296, 297. *Seminar in Germanic Philology*. (1 to 5 ea. qtr.)

Not offered in 1946-1947: 1R, 2R, 3R, *First Year Reading*; 1S, 2S, 3S, *First Year Speaking*; 1X, 2X, 3X, *First Year Intensive*; 101, *The Novel*; 103, *The Drama*; 140, *Heimatkunst*; 141, *Recent Novellen*; 145, *Modern Novels*; 147, 148, *Modern Drama*; 162, *Goethe's Lyric Poetry*; 163, *Goethe's Dramatic Works*; 166, 167, *Goethe's Faust*; 186, *Lyrics and Ballads*.



## HISTORY

*Professors Holt, Levy, Lucas; Associate Professors Costigan, Dobie, Gates, Katz, Quinton; Assistant Professors Emerson, Stanislawski, Thayer; Instructor Brown; Associate Davis*

1. Medieval European History. (5) From the Roman world to 1500. Quinton, Dobie, Katz
  2. Modern European History. (5) From 1500 to the present. Quinton, Dobie, Emerson
  - 5-6. English Political and Social History. (5-5) By special work, upper-division students may receive upper-division credit. Costigan
  7. A Survey of the History of the United States. (5) By special work, upper-division students may receive upper-division credit. Gates, Holt, Thayer
  - 21-22. American Social Trends. (5-5) Survey of social trends from the earliest times to the present. Gates, Blankenship
  - 41-42. Latin American History. (5-5) Stanislawski
  - 72-73. Ancient History. (5-5) The Mediterranean world, Greece and Rome. By special work, upper-division students may receive upper-division credit. Not open to freshmen. Katz
  100. Greece in the Age of Pericles. (3) Katz
  101. Alexander the Great, and the Hellenistic Period. (3) Katz
  106. English Constitutional History. (5) Costigan
  110. The Byzantine Empire. (5) Katz
  112. Introduction to Roman Law. (5) Levy
  114. The Culture of the Renaissance. (5) Lucas
  115. The Reformation. (5) Lucas
  120. Medieval Civilization: Art, Letters, Religion, Education and Thought. (5) Lucas
  128. France from the Reformation to the French Revolution. (5) Quinton
  129. The French Revolution and Napoleonic Era. (5) Quinton
  130. Europe, 1814-1870. (5) Emerson
  131. Europe, 1870-1914. (5) Emerson
  133. Europe Since 1914. (5) Levy
  134. Germany from 1648 to 1914. (5) Emerson
  140. American Colonial History. (5) Thayer
  141. American Revolution and Confederation. (5) Thayer
  144. History of the United States, 1789-1829. (5) Thayer
  147. History of the Civil War and Reconstruction. (5) Brown
  150. Twentieth Century America. (5) Thayer
  159. American Diplomatic History, 1861 to the Present. (5) Holt
  164. History of Washington and the Pacific Northwest. (5) Gates
  165. The Westward Movement in American History. (5) Gates
  170. Constitutional History of the United States to 1801. (5) Brown
  171. Constitutional History of the United States from 1801 to Present. (5) Brown
  180. History of the British Empire since 1783: Britain in India, Africa, and the Pacific. (5) Dobie
  182. England in the Eighteenth Century. (5) Costigan
  183. England in the Nineteenth Century. (5) Costigan
  184. England in the Twentieth Century. (5) Costigan
  199. Individual Conference and Research. (1 to 5) Staff
- Teachers' Course in History. (See Educ. 75M.)
- Geographic Background of American History. (See Geog. 125.)

Not offered in 1946-1947: 103, The Roman Republic; 104, The Roman Empire; 111, Greek and Roman Political Institutions; 118, 119, Medieval Civilization; 124, Economic History of Europe since the Industrial Revolution; 132, History of Modern Colonial Empires; 145, History of the United States, 1829-1860; 149, History of the United States, 1877-1920; 151, History of American Industrial Society; 155, History of Canada; 158, The United States in World Affairs; 1776-1861; 181, History of the British Empire since 1783; British Commonwealth of Nations; 188, History of Australia; 189, History of New Zealand and Pacific Islands.

# HOME ECONOMICS

*Professors Rowntree, Denny, Payne, Terrell; Associate Professors Bliss, Dresslar; Assistant Professors McAdams, Obst; Lecturer Wade; Instructors Boyken, Corey, Johnson, Johnston, Lloyd, Myers, Smith, Warning*

7. Introduction to Home Economics. (1) Function, history, present status in technological and relational aspects, place in curriculum, professional opportunities, personal accounts and budgets. Rowntree
9. Nutrition for Student Nurses. (5) For student nurses only. Pr., Chem. 1. Bliss
12. Costume Design, Construction, and Selection. (5) Obst, Warning
15. Food Preparation. (3 or 5) Students who present 2 years of home economics credit from high school may, with the consent of instructor, omit the laboratory work and receive 3 credits. Dresslar, Boyken
24. Textiles for Nonmajors. (2) Fibers and fabrics, their characteristics, varieties, uses, and care. Denny
25. Textiles. (3 for students who have had 13, or are given credit for a high school course in textiles; 5 for all others) Fibers and fabrics. Relation of raw materials, construction, and finish to quality, use, and cost of fabrics. Denny, Corey
26. Institution Textiles. (3) Purchase, specifications, testing, storage, care. Denny
41. Home Furnishings for Nonmajors. (3) Artistic structure, color harmony, cost and upkeep. Obst
83. Food and Nutrition. (5) Cooking, nutrition, and management. For nonmajors. Rowntree
84. Clothing and Textiles. (5) Sewing; selection of clothing; home furnishing. For nonmajors. Warning
- 101, 102. Needlecraft. (2, 2) Historic laces and embroideries of various nationalities; application of authentic and original designs. Pr., 12 or 13, Art 9. Payne
104. Nutrition for Nonmajors. (2) For physical education majors, premedics, social service workers and others. Pr., Physiol. 7, high school or college chemistry, junior standing, or permission. Rowntree
105. Diet Therapy for Graduate and Student Nurses. (5) Pr., graduate nurse; or H.E. 9, organic chemistry, and physiology. Johnson
106. Nutrition for Public Health Nurses. (5) Pr., graduate nurse. Johnson
- 107-108. Nutrition. (5-3) Pr., 15, organic chemistry, physiology. Premedics and chemistry majors may enroll with the instructor's permission. Prerequisite to all advanced courses in nutrition. Rowntree
109. Managing Family Finances. (3) Family practices of spending and saving; social security and other government programs affecting family expenditures. For nonmajors. Johnston
112. Costume Design and Construction. (3) Flat-pattern designing and wool technique. Pr., 12 or 13, Art 9. Corey
113. Costume Design and Construction. (3). Design by draping and rayon technique. Pr., 112.
114. Costume Design and Construction. (3) Basic principles of coat and suit construction; comparative costs of ready-to-wear. Pr., 113. Corey
115. Food Preparation. (3) Pr., 15, general chemistry, Physiol. 7. Dresslar
116. Advanced Food Preparation. (3) Application of economic and nutritional principles to meal preparation. Pr., 108, 115, 181. Lloyd
121. Institution Food Preparation. (5) Laboratory study and institution practice in large-quantity food preparation and control. Pr., 116 or 120. Terrell, Smith
122. Institution Food Purchasing. (3) Market organization; food selection and care; planning of kitchen layout and specifications of equipment. Pr., 116 or 120. Terrell
123. Institution Management I. (3) Food service organization and administration; finances; personnel and equipment; housing and furnishing standards. Open to students in institution administration curricula or by permission. Terrell
124. Institution Management II. (5) Institution accounting problems and cost control. Pr., 123. Terrell, Myers
126. Demonstration Cookery. (3) Its usefulness as an effective method in teaching and business. Pr., 116 or 120. Dresslar
131. Clothing Selection. (2) Emphasizes appropriateness to personality and occasion as well as judgment of quality and cost. No credit to those who take 12 or 13. Payne
133. History of Costume. (5) Culture as expressed in costumes. A large collection of national costumes enriches the course. Source material for professional costume designers. Pr., 112, Art 169. Payne
141. The House, Equipment, Management. (3) Housing needs, standards, and social regulation; floor plans and construction; fixtures; the saving of energy and time. Pr., or concurrent, physics and chemistry. Lloyd

144. **Income Management and Family Consumption.** (4) Managing family and personal incomes; family consumption at different income levels; savings and investment; government programs affecting family income management. Johnston
  145. **Family Relationships.** (3) Organization of the household; basic principles and desirable attitudes. Pr., E.B. 1 or 4, junior standing. Rowntree
  146. **Home Furnishings and Textiles.** (5) Economic and esthetic values; historic and modern furniture, pictures, rugs, tapestry, china, glass, silver; textile fabrics and their uses and care. Three lectures and two two-hour labs. Primarily for art majors. Denny
  147. **Home Furnishings.** (5) Economic and esthetic values; historic and modern furniture, pictures, rugs, tapestry, china, glass, silver. Pr., Art 9. Denny
  148. **Home Management House.** (3 for prospective teachers; 2 for all others) Organization, financial management, records, housekeeping, food preparation and service, and hospitality. For home economics majors. Pr., senior standing. Lloyd
  160. **Advanced Costume Design and Construction.** (5) Flat-pattern drafting, grading, and designing. Pr., 114, Art 169. Payne
  161. **Advanced Costume Design and Construction.** (5) Advanced designing by draping and custom work. Pr., 160. Payne
  175. **Institution Equipment.** (3) Construction; operation; care required; routing of work. Pr. or parallel, 124. Terrell
  181. **Consumer Problems.** (3) Supply and demand; standardization and informative labeling; different types of retail stores; installment buying and consumer credit; marketing policies, costs and trends. Pr., E.B. 1 or 4 or permission. Johnston
  187. **Experimental Cookery.** (3) Pr., senior or graduate standing, permission. Dresslar
  188. **Advanced Textiles.** (3) Testing methods, analysis of fabrics, legislation, standardization, consumer education. Pr., 25, E.B. 4. Denny
  189. **Hand Weaving.** (2) As a medium of artistic expression. Color, design, texture, technic of weaving, interpretation of drafts. Pr., 25, Art 9. Obst
  190. **Child Nutrition and Care.** (3) Maternity and infancy; physical and mental health of children. Pr., 104 or 107. Rowntree, Wade
  191. **Diet Therapy.** (3) Pr., 108. Johnston
  195. **Research in Home Economics.** (†) A problem in household management. Pr., fifth year. Lloyd
  198. **Historic Textiles.** (3) A collection of rare materials is available for study. Pr., 25, 147, Art 9, 10, 11, or equivalent. Denny
- Teachers' Course in Home Economics.** (For junior and senior high school, see Educ. 75NA and 71N-72N; for institution administration, see Educ. 75NB.)

*Courses for Graduates Only*

200. **Investigation Cookery.** (3) Research in food supply and preparation. Pr., 116 or 120. Dresslar
202. **Home Economics Education.** (†) McAdams
204. **Introduction to Research Techniques in Nutrition.** (†) Taken with 214. Pr., 108. Johnson
- 205, 206. **Research in Nutrition.** (†) Mineral or energy metabolism, animal feeding, or dietary studies. Pr., 204.
- 207, 208, 209. **Research in Textiles.** (†) Pr., permission. Denny
- 211, 212. **Research in Costume Design.** (†) Pr., 114, 133. Payne
- 214, 215. **Readings in Nutrition.** (†) Library research. Pr., 108. Rowntree, Johnson
- 220, 221, 222. **Research in Institution Administration.** (†) Problems of food service and housing units. Pr., 121, 122, 123, 124, or equivalent. Terrell
245. **Social and Economic Problems of the Consumer.** (†) Pr., 144, 145, 181. Johnston
250. **Thesis.** (9)

Not offered in 1946-1947: 110, Food Study for Technology; 111, Nutrition for Technology.

**JOURNALISM**

*Professors Everest, McKenzie, Jones; Associate Professors Benson, Christian, Kennedy, Mansfield; Assistant Professors Astol, Frost; Associates Helberg, Jacobsen, Murton*

1. **Exploring Journalism.** (2) Required in the freshman year of journalism majors.
51. **Preliminary News Writing.** (5) Required in the sophomore year of journalism majors.
84. **Editorial Techniques.** (2) Required of sophomore journalism majors. Pr., 51.

† To be arranged.

- 90, 91, 92. *Contemporary Affairs.* (2, 2, 2)
116. *Propaganda as a Social and Political Force.* (5)
125. *Principles of High School Journalism.* (5) For teachers in high schools and junior colleges. Editorial, advertising, circulation, and mechanical production of school publications. Offered during Summer Quarter only. Pr., 51.
130. *Fundamentals of Advertising.* (3) Display, attention devices, media. Pr., major in journalism or in marketing and advertising in the College of Economics and Business, or permission.
131. *Display Advertising.* (3) Layouts and copy writing. Pr., 130.
132. *Advertising Typography.* (3) Laboratory course in display advertising. Pr., 131.
133. *Advertising Campaigns and Media.* (3) Steps involved in planning and preparing an advertising campaign. Each student will make layouts, write copy, and set up a budget for campaigns. Pr., 130, 131.
134. *Advertising Regulation.* (2) National, state, and city laws regulating advertising; provisions governing trade-marks; rulings of F.T.C., F.C.C. and other official bodies. Pr. or concurrent, 130.
- 147-148-149. *Fundamentals of Journalism.* (5-5-5) Editorial sequence: reporting, contemporary affairs, social implications, editing, advertising, printing processes, business office, printing laboratory, and photography laboratory. Advertising sequence: principles of advertising, laboratory techniques, editing, printing processes, business office, social implications, and regulation of advertising. Pr., junior standing and permission.
- 150-151. *Fundamentals of Journalism.* (5-5-) Editorial sequence: history of journalism, contemporary affairs, daily editing, social implications, reporting, urban geography, and radio. Advertising sequence: copy writing, layout, selling techniques, social implications, printing laboratory, photography laboratory, and radio.
- 152-153-154. *Fundamentals of Journalism.* (5-5-5) Editorial sequence: public relations, contemporary affairs, reporting, editing, law of the press, and radio special events. Advertising sequence: advertising campaigns and media, advanced copy writing, advanced advertising laboratory, radio advertising, selling techniques, and public relations.
165. *Public Relations.* (3) The improvement of relations between business, the press, and the public. For upper-division students; for lower-division students, pr., permission.
- 171-172. *Magazine and Feature Writing and Trade Journalism.* (3-3)
- 173, 174-175. *Short Story Writing.* (5, 5-5) Professional fiction writing for national magazines. Admission only to upper-division students with permission of the instructor.
- 181, 182, 183. *Editorial Techniques.* (2 to 5 ea. qtr.) Journalism majors only.
199. *Problems of Journalism.* (2 to 5) Research and individual study. Upper-division students only.

*Courses for Graduates Only*

201. *Propaganda.* (5) Study of the crystallization of public opinion and of propaganda techniques. Pr., 116, or permission.
- 225, 226, 227. *Graduate Seminar in Short Story Writing.* (2 to 4 ea. qtr.) Advanced professional fiction writing for national magazines. Limited to eight students. Instructor's permission required.
250. *Research in Journalism.* (3 to 5) Pr., permission.

**LAW**

*Professors Falknor, Ayer, Gose, Green, Harsch, Levy, Martin, Nottelmann, O'Bryan, Richards, Shattuck, Sholley, Taylor; Associate Professor Cross; Assistant Professor Gallagher; Lecturer Shefelman*

**First Year**

*All first-year subjects are required*

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| 100. <i>Property I. A.</i> (3) Aigler, Bigelow, and Powell, <i>Cases on Property</i> , Vol. 1                | Cross     |
| †101. <i>Contracts. A.</i> (4); W. S. (3-3) Shepherd, <i>Cases on Contracts</i> . 1939                       | Shattuck  |
| †102. <i>Torts. A.</i> (4); W. S. (3-3) Seavey and Thurston, <i>Cases on Torts</i> .                         | Richards  |
| †104. <i>Property II. W. S.</i> (3-3) Aigler, Bigelow, and Powell, <i>Cases on Property</i> , Vols. 1 and 2. | Cross     |
| †105. <i>Criminal Law and Procedure. A. W.</i> (3-3) Harno, <i>Cases on Criminal Law</i> , 2nd ed.           | Green     |
| 112. <i>Agency. S.</i> (4) Seavey, <i>Cases on Agency</i> .  | Gose      |
| 130. <i>Legal Bibliography. W.</i> (3) Beardsley, <i>Legal Bibliography and the Use of Law Books</i> .       | Gallagher |

† No examination for credit until completion of entire course.

## Second Year

*All second-year subjects are required*

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| 110. Sales. A. (4) Casebook to be announced.  | Taylor     |
| 111. Wills. W. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed.    | Richards   |
| 113. Domestic Relations. S. (3) Shattuck, Washington Materials on Domestic Relations. | Shattuck   |
| 114. Equity. A. W. (4-4) Walsh, Cases on Equity.                                      | Nottelmann |
| 115. Evidence. A. W. (4-4) McCormick, Cases on Evidence.                              | Falknor    |
| 116. Bills and Notes. S. (4) Britton, Cases on Bills and Notes, 3rd ed.               | Taylor     |
| 119. Constitutional Law I. A. W. (3-2) Dowling, Cases on Constitutional Law.          | Sholley    |
| 120. Constitutional Law II. S. (4) Dowling, Cases on Constitutional Law.              | Sholley    |
| 127. Code Pleading. S. (3) Cathcart & Howell, Cases on Code Pleading.                 | Green      |

## Third Year

*All third-year subjects are required*

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| 117. The Legal Profession. A. (3) Cheatham, Cases and Materials on the Legal Profession.   | Shefelman  |
| 121. Administrative Law. S. (4) Casebook to be announced.  |            |
| 123. Property III. W. S. (3-3) Aigler, Bigelow, and Powell, Cases on Property, Vols. 1 and 2.  | Cross      |
| 126. Trusts. W. S. (2-4) Scott, Cases on Trust, 2nd ed.  | Nottelmann |
| 142. Practice and Procedure I. A. (3) Sunderland, Cases and Materials on Trial and Appellate Practice, 2nd ed., supplemented by Washington Code of Procedure and Washington cases. | Green      |
| 143. Practice and Procedure II. W. (3) Casebook to be announced.   | Green      |
| In 143 and 144, Moot Court meets once each week. Each student is required to bring his case to issue, introduce the evidence, and try the case before the court or jury.           |            |
| 144. Practice and Procedure III. S. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed., supplemented by the Washington Probate Code and Washington cases.         | Green      |
| 145. Credit Transactions. A. W. (3-3) Shattuck, Washington Materials on Security Transactions.   | Shattuck   |
| 149. Business Associations. A. W. (4-4) Casebook to be announced.  | Gose       |

## Fourth Year

*Required Courses*

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| 118. Conflict of Laws. W. S. (2-3) Cheatham, Dowling, Goodrich, and Griswold, Cases and Material on Conflict of Laws.                  | Sholley    |
| 124. Community Property. S. (3) Mechem, Sholley, Luccock, Cases on Washington Law of Community Property.                               | Harsch     |
| 135. Legislation. W. (4) Horack, Cases on Legislation.   | Harsch     |
| 146. Taxation. A. (5) Casebook to be announced.  | Harsch     |
| 199. Seminars and Individual Research Courses. Ten credits required of the following one-quarter seminars, each carrying five credits. |            |
| 199D. Law of Income Taxation. W. (5)   | Harsch     |
| 199E. Constitutional Law. A. (5)   | Sholley    |
| 199F. Corporation Practice. S. (5)   | Gose       |
| 199G. Comparative Law. W. (5)  | Levy       |
| 199H. Government Regulation of Business. A. (5)  |            |
| 199I. Civil and Criminal Procedure. S. (5)   | Falknor    |
| 199J. Labor Law. A. (5)  | Nottelmann |

*Elective Fourth-Year Courses*

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| 122. International Law. A. W. (3-3) Briggs, The Law of Nations.                      | Martin   |
| 125. Trade Regulation. S. (4) Casebook to be announced.                              |          |
| 128. Damages. A. (3) McCormick on Damages.   | Taylor   |
| 131. Quasi-Contracts. A. (3) Laube's Edition of Woodruff's Cases on Quasi-Contracts. | Richards |
| 136. Insurance. W. (4) Casebook to be announced.                                     | Taylor   |

‡ No examination for credit until completion of entire course.

138. *Future Interests*. A. (4) Leach, *Cases on Future Interests*, 2nd ed. Cross
139. *Administration of Debtors' Estates*. W. (4) Casebook to be announced.
141. *Admiralty*. S. (4) Lord and Sprague, *Cases on Admiralty*, 2nd ed. Richards
147. *Municipal Corporations*. S. (4) Tooke, *Cases on Municipal Corporations*, 2nd ed. Shefelman
152. *Modern Civil Law*. A. (4) Levy
- 199K. *Research Problems in Law*. A.W.S. (1 to 3 ea. qtr.) Qualified third- and fourth-year students may, with the consent of a member of the law faculty and the Dean of the Law School, receive from one to three credits for individual research in any of the major fields covered by the curriculum. Staff

Not offered in 1946-1947: 129, *Drafting of Legal Instruments*; 132, *Legal Accounting*; 133, *Public Utilities*; 134, *Federal Jurisdiction and Procedure*; 137, *Water Rights*; 140, *Mining Law*; 151, *Labor Law*; 190, *Roman Law*; 191, *Comparative Law*; 199A, *Trusts*; 199B, *Banking Law and Advanced Problems in Security*.

### LIBERAL ARTS

*Professor Cory; Instructor Lutey*

1. *Introduction to Modern Thought*. (5) Upper-division students may obtain upper-division credit by registering in the proper sections. Cory, Lutey
11. *Introduction to the Study of the Fine Arts*. (5) Upper-division students may obtain upper-division credit on the basis of extra reading and conferences. Cory, Lutey
- 114, 115, 116. *Realism in Philosophy, Literature, and the Arts*. (5, 5, 5) Cory

### LIBRARIANSHIP

*Associate Professor Gilder; Professor C. W. Smith; Assistant Professors Groves, Gallagher, Turner, Wulfekoetter; Lecturer H. C. Bauer; Associate Stokke*

#### Preprofessional Courses§

- §151. *Children's Books*. S. (2) An introduction to the field of children's books, with special emphasis on their selection and application to the school curriculum and to the child's recreational reading interests. For teacher-librarians only. Groves
- §161. *Reference for High School Libraries*. A. S. (3) Dictionaries, encyclopedias, and other outstanding reference books are examined, with emphasis on the factors that make them useful in a school library. Many basic books in the various subject fields are also studied to show how they or similar materials may be used in correlation with the curriculum. Turner
- §163. *Classification, Cataloging, Subject Headings for High School Libraries*. A. W. (4) Simplified cataloging routines that strive to develop an understanding of the structure and purpose of the catalog in the school library. Turner
- §164. *Classification, Cataloging, Subject Headings for High School Libraries*. W. S. (3) Books are cataloged for a permanent high school collection so that the student encounters a real situation in which he may develop speed, accuracy, and increased understanding of cataloging problems. Pr., 163. Turner

#### Professional Graduate Courses

200. *Libraries, Librarians, and Society*. A. (2) An overview of the library profession, with consideration of the types of libraries and trends in their development; attention is given to personality factors and their relation to successful professional practice. The future of libraries and their place in a changing complex society is also examined. Gilder
201. *Organization and Administration: Public Libraries*. W. (2) A study of public library service and the operation of library units; includes a consideration of legislation, finance and budgets, statistics, buildings and equipment, personnel, and the extension of library service. Bauer
202. *Organization and Administration: Academic and Special Libraries*. S. (2) A study of the factors covered in Librarianship 201, as related to college and university libraries, with attention to principles of particular import to them. The field of special libraries is also considered. Bauer

§ Admission to the School of Librarianship is granted only to graduate students except for courses marked §, which are open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools in accordance with requirements established by the State Department of Education. Permission of the School should be requested before registering for courses so marked.

209. *Practice (Directed Field Work)*. S. (5) Four weeks, 40 hours a week, of field work in varying types of libraries of the Northwest. Professionally supervised. Gidter
210. *Bibliography and Reference*. A. (3) General principles of reference work and study of the most frequently used reference materials. Smith, Wulfekoetter
211. *Bibliography and Reference*. W. (3 or 4) Study of reference material by subject; subject bibliography. Pr., 210. Smith, Wulfekoetter
212. *Bibliography and Reference*. S. (3) United States and other government publications. Pr., 211. Wulfekoetter
220. *Classification, Cataloging, and Subject Headings*. A. (4) Introduction to classification of books according to the Dewey Decimal System, and basic elements of cataloging and subject heading. Wulfekoetter
221. *Classification, Cataloging, and Subject Headings*. W. (3) Further study of Dewey classification and of cataloging and subject heading principles and practices. Pr., 220. Wulfekoetter
222. *Classification, Cataloging, and Subject Headings*. S. (3 or 5) Comparison of Library of Congress classification with that of Dewey; advanced problems in cataloging. Pr., 221. Wulfekoetter
230. *Selection of Books for Libraries*. A. (3) Principles and practices of book selection, with attention to community characteristics. A study of standard aids, criteria for evaluating printed materials, both fiction and non-fiction; book reviews and their sources, publishers, translations and editions are studied. The writing of annotations is included. Gidter
231. *Selection of Books for Libraries*. W. (2 or 3) Continuation of 230. Pr., 230. Gidter
232. *Selection of Books for Libraries*. S. (3) Continuation of 231. Practical problems of selection, stressing the use of *Publishers' Weekly*. Pr., 231. Gidter
240. *Advanced Legal Bibliography*. A. (4) Bibliographical data and use of federal and state law reports and statutes; quasi-legal and commissioners' reports of the states, bar association records, legal periodicals, indexes and digests, legal regional bibliographies, cooperative bibliographies of law collections. Gallagher
241. *Order and Accessioning of Law Books*. A. (4) Aids to selection, processing, microphotography of legal material, etc. Gallagher
242. *Legal Reference and Research*. W. (5) Bibliographical lists, law reference questions, briefing, annotations, local legal history. Gallagher
243. *Law Library Administration*. S. (5) Staff, patrons and public relations, circulation, architecture, book arrangements, equipment, rules, publicity, publications, budgets, reports, professional societies, regional service, cooperative buying. Gallagher
250. *Introduction to Library Work with Children*. A. (3) A survey of the philosophy and place of children's work in the public library. A study of the organization and administration of a children's department, with emphasis on its relationship with other social agencies. Lectures, round-table discussions, and comprehensive viewing of children's books. Groves
252. *Story Telling*. §A. S. (3) A practical course on the art of story telling in public libraries, schools and recreational centers. Folk and fairy tales, myths, epics, and short stories are used as source material. Open to juniors, seniors and graduates, Autumn Quarter only; for School of Librarianship students, Spring Quarter. Groves
253. *Advanced Children's Work*. W. (2) An intensive study of the organization and function of a children's department. Special attention is given to problems of book buying, cooperation with the schools, library lessons, library publicity, and other activities. Pr., 250. Groves
254. *Selection of Books for Children*. W. (3) Attention is focused on some of the problems of actual selection of children's books and on the reading and discussion of books in specific fields. Pr., 250. Groves
255. *Selection of Books for Children*. S. (3) A further discussion of children's reading interests, with special emphasis on the history of children's books. Pr., 254. Groves
- §260. *School Library Administration*. A. W. S. (3) Discusses methods that may be used in making the library a strongly functioning and integral part of the school. Problems involving personnel, library planning, and simple mechanical routines are stressed. Turner
- §262. *Book Selection for High School Libraries*. A. W. S. (3) A study of the principles underlying the selection of books for young people and the tools used in their selection. Many representative books, differing in subject, form, and reading level, are read and reviewed. Turner
270. *History of the Book*. W. (3) Early materials and practices in writing and book making; development of printing and publishing, and recent modifications of the processes. Wulfekoetter

Second-Year Library Work with Children. Not offered in 1946-1947.

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§ Admission to the School of Librarianship is granted only to graduate students except for courses marked §, which are open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools in accordance with requirements established by the State Department of Education. Permission of the School should be requested before registering for courses so marked.

## MATHEMATICS

*Professors Carpenter, Ballantine, Winger; Associate Professors Birnbaum, Cramlet, Jacobsen, Jerbert, McFarlan, Mullemister, Taub; Assistant Professors Beaumont, Haller, Kingston, Zuckerman*

Mathematics 1 may be taken concurrently with Mathematics 4, and Mathematics 2 with Mathematics 4, 5 or 7, 6, 107.

1. Advanced Algebra. (5) Pr., one year high school algebra.
  2. Solid Geometry. (5) Pr., one year plane geometry.
  4. Plane Trigonometry. (5) Pr., one and one-half years algebra, one year plane geometry.
  5. College Algebra. (5) Pr., one and one-half years algebra.
  6. Analytic Geometry. (5) Pr., 4.
  7. Algebra and Introduction to Statistics. (5) Pr., one and one-half years algebra and permission. This course may replace 5 in the requirements for a major.
  11. Theory of Investment. (5) Interest, annuities, amortization, capitalization, depreciation, sinking funds, etc. Pr., one year algebra.
  12. Mathematics of Finance and Insurance. (5) Pr., 11.
  13. Elements of Statistical Method. (5) Pr., one year algebra, one year plane geometry.
  - 31, 32, 33. Engineering Freshman Mathematics. (5, 5, 5) Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
  - 41, 42, 43. Engineering Calculus. (3, 3, 3) Pr., 33 for 41; 41 and solid geometry for 42; 42 for 43.
  - 54, 55, 56. Mathematics for Architects. (3, 3, 3) Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
  105. Mathematics of Navigation. (5) Pr., 2 and 4.
  - 107, 108, 109. Differential and Integral Calculus. (5, 5, 5) Pr., 6; 107 for 108, 108 for 109.
  - 114, 115, 116. Ordinary and Partial Differential Equations. (3, 3, 2) Pr., 109 or equivalent; 114 for 115; 115 for 116.
  - 117, 118, 119. Projective Geometry. (3, 3, 3) Pr., calculus, unless taken concurrently.
  - 121, 122, 123. Theory of Equations. (2, 2, 2) Pr., 109.
  - 144, 145, 146. Calculus of Observations. (3, 3, 3) Pr., 109.
  - 150, 151. Advanced Analysis. (2, 3) Selected topics in advanced differential calculus. Pr., 109 or 114; 150 for 151.
  160. Vector Analysis. (5) Pr., differential calculus (107 or 33).
  - 167, 168, 169. Foundations of Algebra. (2, 2, 2) Pr., 109.
  - 197, 198, 199. Seminar in Mathematics. (†) Offered as desired by various members of the staff.
- Teachers' Course in Mathematics. (See Educ. 75Q.)

*Courses for Graduates Only*

All courses numbered above 200 require as prerequisite a full year of differential and integral calculus and the consent of the instructor in charge.

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|---|----------|
| 214, 215, 216. Higher Calculus. (3, 3, 3)                 | Beaumont |
| 244, 245, 246. Calculus of Variations. (3, 3, 3)          | McFarlan |
| 254, 255, 256. Riemannian Geometry. (3, 3, 3)             | Taub     |
| 271, 272, 273. Advanced Differential Equations. (3, 3, 3) | Cramlet  |

Variations from the above program for succeeding years will be made by selections from the following courses:

**Undergraduate:** Survey of Mathematics, Advanced Analytic Geometry, Introduction to Actuarial Science, Algebraic Curves, Elementary Theory of Numbers, Calculus of Probabilities and Statistics, Interpolation and Approximation.

**Graduate:** Modern Algebra, Topology, Finite Differences, Advanced Topics in Algebra, Invariant Theory, Functions of Real Variables, Functions of Complex Variables, Integral Equations, Metric Differential Geometry.

† To be arranged.



# MILITARY SCIENCE AND TACTICS (ARMY R.O.T.C.)

*Colonel Jones; Lieutenant Colonel Joseph; Captain Hilsenberg, Captain Merrick; Staff Sergeant Putnam; Sergeants Gage, Sprague, ZurMuehlen*

The instruction for the first two years, together with that provided for the third and fourth years, constitutes the courses prescribed by the War Department for institutional units of the Reserve Officers' Training Corps. The advanced courses, those of the third and fourth years, are open to selected students who have completed the first two years (basic course) of instruction and training or have been granted credit for its equivalent in accordance with regulations.

## First Year

- 7, 8, 9. Branch Immaterial. (3, 3, 3) Orientation, leadership, military courtesy and discipline, rifle marksmanship, first aid and personal and sex hygiene, interior guard duty, Articles of War, organization of the army, patrol operations, infantry weapons. One year required.

## Second Year

- 41, 42, 43. Branch Immaterial. (3, 3, 3) Map and aerial photo reading, field fortifications, tactics of small units, individual scouting and patrolling, leadership, field sanitation, associated arms, military law, defense against enemy attacks, recognition. One year required.

## Third Year

- 107, 108, 109. Branch Immaterial. (3, 3, 3) Basic infantry tactics, combined arms, communications, drill, ceremonies and inspections, principles of leadership, individual tactics, map and aerial photo reading, mess management, military law and boards of officers, principles of intelligence, weapons.
130. Advanced Camp. (3) Offered in summer only.

## Fourth Year

Courses to be arranged. (3, 3, 3)

# MINING, METALLURGICAL, AND CERAMIC ENGINEERING

*Professors Roberts, Daniels; Assistant Professor Zuvermann; Instructors Denny, Keith\*; Associates Finley, Pifer*

## Prospector's Course (See page 117)

- Mining 10. Prospecting and Mining. (0) Three hours lecture, five hours laboratory; field trips. Pifer  
Mining 20. Milling. (0) Two hours lecture, five hours laboratory. Roberts, Pifer  
Metallurgy 30. Metals. (0) Three hours lecture, two hours laboratory. Daniels

## Mining Engineering

51. Elements of Mining. (3) Prospecting, boring, drilling, explosives, rock breaking. Pr., G.E. 1, 2, or sophomore standing. Daniels  
52. Methods of Mining. (3) Metal, coal, and placer mines, nonmetallic deposits. Pr., 51. Daniels  
101. Milling. (3) Preliminary course. Pr., junior engineering standing. Roberts  
103. Mine Rescue Training. (1) The use of oxygen rescue apparatus; first aid; instruction during first six weeks of quarter. Physical examination required. Daniels  
106. Mine Excursion. (1) Five-day trip in spring of junior year to a neighboring mining region. Expense approximately \$25.  
107. Mine Excursion. (1) Five-day trip in spring of senior year, similar to 106.  
122. Coal Mining Methods. (3) Pr., 51, 52. Daniels  
151. Elements of Mining. (3) Same as 51. Pr., junior standing. Not open to those who have had 51. Daniels  
152. Methods of Mining. (3) Same as 52. Pr., 151 and junior standing. Not open to those who have had 52. Daniels  
161. Mineral Dressing. (4) Pr., 101. Roberts  
162. Economics of the Mineral Industry. (4) Mine valuation; costs of plant and operation; financial provisions; mining law. Pr., senior engineering standing. Roberts  
163. Mining Engineering. (4) Principles and practice. Laboratory studies of air compressors, drills, etc.; studies at nearby mines. Pr., senior engineering standing. Roberts  
171. Mine Ventilation. (3) Daniels  
176. Coal Preparation. (3) Dry and wet cleaning processes; control by float-and-sink methods. Examinations of washing plants at local mines. Pr., 101, Met. 103. Daniels

182. **Mineral Industry Management.** (3) Employment of labor, systems of payment, social and economic aspects. Pr., senior engineering standing, E.B. 3. Daniels  
 191, 192, 193. **Thesis.** (†) In mining, metallurgical, or ceramic engineering. Completed thesis due three weeks before graduation. Pr., senior standing. Minimum total of five credits required. Staff

*Courses for Graduates Only*

- 201, 202, 203. **Seminar.** (1, 1, 1) Lectures and discussions. Required of fellowship holders in the College of Mines. Staff  
 211, 212, 213. **Graduate Thesis.** (†) In mining, metallurgical, or ceramic engineering. Finished thesis due one month before graduation. Total of nine credits allowed for thesis. Staff  
 221, 222, 223. **Metal Mining.** (†) Roberts  
 231, 232, 233. **Mineral Dressing.** (†) Roberts  
 251, 252, 253. **Coal Mining.** (†) Daniels  
 271. **Cooperative Research with U.S. Bureau of Mines.** (6)

**Metallurgical Engineering**

53. **Elements of Metallurgy.** (3) Metals and alloys, fuels, refractory materials, furnaces, the extraction of the common metals from their ores. Open to all sophomore engineers. Pr., Chem. 23. Daniels  
 101. **Fire Assaying.** (3) Testing of reagents, crushing, sampling, and assaying of ores, furnace and mill products. Pr., Chem. 111.  
 102. **Metallurgical Laboratory.** (2) Pr., 53.  
 103. **Fuel Technology.** (3) Primary and manufactured fuels; source, composition, methods of utilization, and economy. Pr., junior standing. Daniels  
 104. **Nonferrous Metallurgy.** (3) Pr., 53.  
 153. **Elements of Metallurgy.** (3) Same as 53. Pr., junior standing. Not open to those who have had 53. Daniels  
 154. **Wet Assaying.** (3) The determination of elements in ores and furnace products. Pr., Chem. 109, 110, or 111.  
 155. **Iron and Steel.** (3) Their metallurgy and manufacture, properties, and uses in engineering work. Pr., junior engineering standing. Daniels  
 160. **Metallurgical Analysis.** (2) Slags, industrial products, and (for ceramics and geology students) clays and rocks. Pr., 153.  
 162. **Physical Metallurgy.** (3) The constitution of metals and alloys and their relations to the physical and mechanical properties of the metal. Open to all upperclass engineering students. Daniels  
 163. **Metallography.** (3) Preparation, photomicrography, study of metal sections. Open to all senior engineering students.  
 165. **Metallurgical Calculations.** (3) Physical chemistry of the metallurgist, slag calculations, furnace problems. Pr., 104.  
 166. **Advanced Nonferrous Metallurgy.** (3) The extraction of the metals. Pr., senior in mines or graduate standing.

*Courses for Graduates Only*

- 221, 222, 223. **Advanced Metallurgy.** (†) Pr., graduate standing.  
 261, 262, 263. **Fuels and Combustion.** (†) Daniels

**Ceramic Engineering**

90. **Industrial Minerals.** (3) Nonmetallic minerals and their products. Pr., sophomore standing in mines, engineering, or science. Roberts, Zwermann  
 100. **Clays, Plasticity, and Suspensions.** (3) Pr., 90. Zwermann  
 101. **Firing and Firing Problems.** (3) Vitrification of clay; melting, fusion, crystallization of silicates. Pr., 100. Zwermann  
 102. **Ceramic Decoration.** (3 to 6) Its value; colors, surface textures, glazes. Pr., 101. Zwermann  
 104. **Calculations for Bodies and Glazes.** (3) Physics and chemistry of preparing, drying, firing, and testing ceramic materials and glazes. Pr., junior standing in mines or engineering.  
 105. **Drying and Drying Problems.** (3) The physics and chemistry of drying clay products. Pr., junior standing in mines or engineering.

† To be arranged.

110. **Ceramic Physical-Chemical Measurements.** (2) Testing of clays and other ceramic materials. Pr., junior standing in mines or engineering.
- 121, 122, 123. **Ceramic Products Laboratory.** (5, 5, 5) Pr., 90 to 110. **Zwermann**
- 131, 132, 133. **General Ceramics, Pottery Techniques.** (3 to 5 ea. qtr.) (For 3 hrs. credit, 6 hrs. lab.; for 5 hrs. credit, 8 hrs. lab. and a special problem.) Industrial and craft methods of manufacturing ceramic products, mainly architectural terra cotta and pottery; decorative processes; glaze studies. No prerequisites. **Denny**
- 161, 162, 163. **Glazes, Enamels, and Refractories.** (†) Pr., permission.
190. **Industrial Minerals.** (3) Same as 90. Pr., junior standing. Not open to those who have had 90. **Roberts, Zwermann**

#### Courses for Graduates Only

- 221, 222, 223. **Ceramic Research.** (†) The ceramic resources of the Pacific Northwest or new products or processes. **Zwermann**
- 231, 232, 233. **Physical Measurements.** (†) **Zwermann**
- 241, 242, 243. **Industrial Minerals Research.** (†) **Zwermann**

#### MUSIC

*Professors Wood, McKay, Munro, Rosen, Werner; Associate Professors Hall, Jacobson, Lawrence, Normann, Van Ogle, Welke, Woodcock; Assistant Professors Bostwick, Creel, Eichinger, Irvine, Kirchner, Terry, Wilson; Instructors Adams, Risegari, Thiel; Associates Beck, Graf, Horsfall, Philipps, Schardt, Tustin; Lecturer Kinscella*

The following courses are suitable for students not majoring in music (such students should consult the music adviser): Music 5, 6, 15, 16, 21, 22, 23, 25, 26, 44, 54, 55, and courses in vocal or instrumental study and ensemble.

- 1AX-2AX-3AX. **Elementary Piano.** (2-2-2) Group instruction. For music students not majoring in piano. Fee, \$5. **Bostwick**
- 1CX-2CX-3CX. **Elementary Voice.** (2-2-2) Group instruction. For music students not majoring in voice. Fee, \$5. **Wilson**
4. **Introduction to Music Literature and History.** (3) Technic of listening and of using reference materials in relation to concert programs. Required of freshman music majors. **Terry**
5. **Sight Singing and Analysis.** (2) Unison and part singing incorporating simple intervals and rhythmic patterns in major. **Terry in charge**
6. **Ear Training and Notation.** (1) Scales, intervals, and chords in major; improvisation and transposition of simple melodies; melodic dictation; keyboard drill. **Terry in charge**
- 7AX-8AX-9AX. **Elementary Piano.** (2-2-2) Group instruction, second year. Fee, \$5. **Bostwick**
- 7CX, 8CX, 9CX. **Elementary Voice.** (2, 2, 2) Group instruction, second year. Fee, \$5. **Wilson**
- 10-11-12. **University Singers.** (1-1-1) Study, preparation, and performance of oratorios, cantatas, and other large choral works. No prerequisites. **Lawrence**
15. **Intermediate Sight Singing and Analysis.** (1) Continuation of 5. Unison and part work in minor; more advanced rhythmic patterns. Pr., 5 or exemption. **Terry in charge**
16. **Intermediate Ear Training and Notation.** (2) Scales, intervals, and chords in minor; improvisation, transposition, and dictation of more difficult melodies. Pr., 6. **Terry in charge**
- 18, 19, 20. **Instrumental Instruction.** (2 or 3 ea. qtr.) Secondary piano (Sec. A) or violin (Sec. B) for majors in another field. See description for 48, 49, 50.
21. **Survey of Music.** (5) Backgrounds for understanding of musical forms, idioms, styles. **Risegari, Kinscella**
22. **Music Appreciation: Symphonic Music.** (2) For the general student. Upper-division credit for upper-division students. **Irvine**
23. **Music Appreciation: Opera.** (2) Special attention to Metropolitan broadcasts. Upper-division credit for upper-division students. **Irvine**
25. **Advanced Sight Singing and Analysis.** (1) Continuation of 15. More difficult problems in unison and part work; emphasis upon individual reading. Pr., 15 or exemption. **Terry in charge**
26. **Keyboard Harmony and Advanced Ear Training.** (2) Melodic creation incorporating uneven and compound measure and simple modulation; dictation with use of C clef; harmonization of simple melodies at the keyboard. Pr., 16. **Terry in charge**
- 27, 28, 29. **Eurhythmics.** (1, 1, 1) Experience and understanding of rhythm in music through the synchronization of mind and body. **Thiel**
- 30, 31, 32. **Elementary Band.** (1, 1, 1) For underclassmen not registered in Military Band. **Welke**

†To be arranged.

- 37, 38, 39. Piano Ensemble I. (1, 1, 1) Reading symphonic literature arranged for two pianos. Pr., permission. Van Ogle
40. Elementary Orchestral Instruments (Woodwind). (2) Pr., 16. Welke, Normann
41. Elementary Orchestral Instruments (Brass). (2) Pr., 16. Welke
42. Elementary Orchestral Instruments (String). (2) Pr., 6. Kirchner
44. Music Appreciation: Modern Symphonic Music. (2) General survey of orchestral music since 1900. Upper-division credit for upper-division students. Woodcock
- 45-46-47. University Singers. (2-2-2) Men's group, selected from those registered for 10-11-12 on basis of audition. Pr., permission. Lawrence
- 48, 49, 50. Vocal or Instrumental Instruction. (2 or 3 ea. qtr.) Weekly studio class in interpretation and repertory and one or two individual half-hour lessons per week. The course numbers indicate successive grades of advancement, and any number may be used in any quarter. Detailed description of the courses in vocal and instrumental music may be obtained on application to the Secretary of the School of Music. Fee, \$25 or \$37.50. The teacher is designated by a number subjoined to the section letter, and both must be used in all registration procedure.
  - A. Piano. Van Ogle (A<sub>1</sub>), Jacobson (A<sub>2</sub>), Creel (A<sub>3</sub>), Woodcock (A<sub>4</sub>), Bostwick (A<sub>5</sub>), Normann (A<sub>6</sub>)
  - B. Violin or Viola. Rosen
  - C. Voice. Werner (C<sub>1</sub>), Lawrence (C<sub>2</sub>), Wilson (C<sub>3</sub>), Adams (C<sub>4</sub>)
  - D. Violoncello or Bass. Kirchner
  - E. Organ. Eichinger
  - F. Woodwind. Horsfall (flute, F<sub>1</sub>), Tustin (oboe, F<sub>2</sub>), Phillips (clarinet, F<sub>3</sub>), Peterson (bassoon, F<sub>4</sub>), Benno (oboe, F<sub>5</sub>), Swarner (clarinet, F<sub>6</sub>)
  - G. Brass. Schardt (horn, G<sub>1</sub>), Gift (trumpet or trombone, G<sub>2</sub>)
  - H. Harp. Beck (H<sub>1</sub>), Graf (H<sub>2</sub>)
51. Elementary Harmony. (5) Structural and physical basis of chords. All primary harmonies and nonharmonic tones. Pr., 26 and 3AX or equivalent. Wood, Risegari
52. Score Reading. (3) Pr., 51. Irvine
53. Intermediate Harmony. (5) Secondary harmonies and simple modulations. Pr., 52 or exemption. Richinger
54. Berlioz, Liszt, Strauss. (2) Pr., 4 or 21. Van Ogle
55. Russian Composers. (2) The Russian Five and Chaikovski. Pr., 4 or 21. Van Ogle
60. Advanced Orchestral Instruments (Wind). (2) Class instruction. Pr., 40, 41, or permission. Welke
62. Advanced Orchestral Instruments (String). (2) Class instruction. Pr., 42 or permission. Kirchner
- 65-66-67. Choral Ensemble. (1½-1½-1½) Women's Glee Club. Werner
- 68, 69, 70. Vocal or Instrumental Instruction. (2 or 3 ea. qtr.) See description for 48, 49, 50. Pr., 50.
- 73, 74, 75. Keyboard Transposition and Improvisation I, II, III. (2, 2, 2) Pr., 53 or permission. Terry
- 77, 78, 79. Advanced Eurhythmics. (1, 1, 1) Experience and understanding of rhythm in music taught through the synchronization of mind and body. Pr., 29. Thiel
- 80-81-82. University Singers. (2-2-2) A cappella choir of mixed voices selected from those registered for 10-11-12, on basis of audition. Pr., permission. Lawrence
83. Piano Repertory IV. (2) Haydn and Mozart. Reading of representative compositions with emphasis upon stylistic performance. Pr., permission. Woodcock
84. Piano Repertory V. (2) Beethoven and Schubert. Pr., permission. Bostwick
85. Piano Repertory VI. (2) Schumann, Mendelssohn, and Chopin. Pr., permission. Woodcock
- 90, 91, 92. University Concert Band. (2, 2, 2) Audition required first week of quarter. Welke
- 93, 94, 95. University Symphony Orchestra. (2, 2, 2) Auditions every afternoon, first week of quarter. Kirchner
98. Choral Music I. (2) Reading skill and interpretation. Pr., 25 and 51, or permission. Terry, Hall
101. Advanced Harmony. (5) Chromatic harmonies and modulations. Pr., 109. McKay
105. The French Impressionists. (2) Pr., 4. Van Ogle
106. Modern Spanish and British Composers. (2) Pr., 4. Van Ogle
109. Counterpoint I. (5) Regulation of concurrent melodies. Sixteenth-century motet style. Pr., 53, 98. Wood, Creel
112. Musical Forms. (5) Analysis and exercises in composition. Pr., 53. Wood, Woodcock

116. **Junior High School Music.** (3) Contribution to the needs of the adolescent. Pr., 136, Educ. Hall  
75R.
- 118, 119, 120. **Vocal or Instrumental Instruction.** (2 or 3 ea. qtr.) See description for 48, 49, 50.  
Pr., 70.
- 121-122-123. **Madrigal Singers.** (1½-1½-1½) An organization of selected voices. Hall
- 124, 125, 126. **Chamber Music.** (2, 2, 2) Small instrumental groups both with and without piano.  
Pr., permission. Rosen, Jacobson
128. **Choral Music II.** (2) Reading skill and interpretation. Pr., 98. Terry, Hall
132. **Haydn, Mozart, and Beethoven.** (2) Orchestral and chamber music. Pr., 112. Woodcock
133. **Piano Repertory VII.** (2) Brahms and Liszt. Reading representative compositions with  
emphasis upon stylistic performance. Pr., permission. Jacobson
134. **Piano Repertory VIII.** (2) Debussy and Ravel. Pr., permission. Jacobson
135. **Piano Repertory IX.** (2) Contemporary composers. Pr., permission. Jacobson
136. **Technique of Conducting.** (3) Practical experience in directing choral groups. Pr., 98.  
Munro
138. **Accompanying.** (2) Music of different types and periods for piano in combination with voice  
or instruments. Pr., permission. Woodcock
139. **Piano Ensemble II.** (2) Two-piano literature for advanced pianists. Pr., permission.  
Jacobson
143. **Orchestration.** (5) Composing and arranging for instrumental and vocal ensembles. Pr., 109.  
McKay
- 148, 149, 150. **Vocal or Instrumental Instruction.** (2 or 3 ea. qtr.) See description for 48, 49, 50.  
Pr., 120.
151. **Richard Wagner.** (2) Pr., 4. Van Ogle
153. **Modern Russian and Finnish Composers.** (2) Pr., 4. Van Ogle
155. **Supervision of School Music.** (5) Pr., 116. Normann
156. **Instrumental Music in the Schools.** (2) Survey of materials; technics of the instrumental  
program in the elementary and secondary schools. Normann
- 157, 158, 159. **Composers' Laboratory, First Year.** (3, 3, 3) Pr., permission. McKay
161. **Music in the Americas.** (3) To the beginning of the twentieth century. Lecture and illus-  
tration. Kinscella
162. **Music in the Americas.** (3) The twentieth century. Lecture and illustration. Kinscella
163. **Counterpoint II.** (5) Style of Bach. The invention and fugue. Pr., 109. Wood
- 168, 169, 170. **Vocal or Instrumental Instruction.** (2 or 3 ea. qtr.) See description for 48, 49, 50.  
Pr., 120.
- 177, 178, 179. **Composers' Laboratory, Second Year.** (3, 3, 3) For majors in composition and  
others specially qualified. Pr., permission. McKay
180. **Orchestral Conducting.** (3) Pr., 40, 41, 42, 136. Welke
181. **History of Keyboard Music.** (3) Kinscella
190. **Palestrina to Bach.** (3) Pr., senior standing. Munro
191. **Vocal Literature: Haydn to Debussy.** (3) Pr., senior standing. Wilson
192. **Contemporary Music.** (3) Pr., senior standing. McKay, Wilson
193. **Music History Reading Course.** (5) Required of senior music majors and of graduate students  
from other institutions. Woodcock
195. **Choral Conducting.** (3) Pr., 136. Munro
199. **Senior Recital.** (2)
- Teachers' Course in Music.** (See Educ. 75R.)

#### *Courses for Graduates Only*

200. **Introduction to Musicology.** (2) Survey of scope, aims, and methods; training in research  
procedure. Lectures, reports, and discussions. Pr., permission. Irvine
210. **History of Musical Performance.** (2) Munro
- 218, 219, 220. **Graduate Vocal or Instrumental Instruction.** (2 or 3 ea. qtr.) Pr., thirty credits in  
the same branch of music. See description for 48, 49, 50.
223. **History of Music Theory.** (2) Irvine
230. **Seminar in Music Education.** (1 to 3) Selected topics in secondary school music and super-  
vision. Pr., permission. Munro

233. Seminar in Musicology. (1 to 3) Selected topics in music history, literature, and theory. Pr., permission. Irvine
- 240, 241, 242. Graduate Composition. (†) Original work including composition submitted as thesis. McKay
- 250, 251, 252. Research and Thesis. (†) Individual problems in music education and musicology. Pr., permission. Irvine, Munro

Not offered in 1946-1947: 24, Music Appreciation: Solo and Chamber Music; 33, 34, 35, Piano Repertory I, II, III; 43, The School Orchestra; 87, Gregorian Chant; 145, Church Music; 160, Song; 165-166-167, Piano Teaching; 173, 174, 175, Keyboard Transposition and Improvisation; 187, Music of the Middle Ages; 211, Music of the Elizabethan Age; 212, Opera; 221, History of Instruments; 222, History of Notation.

### NAVAL SCIENCE AND TACTICS

*Capt. McIntosh; Comdr. Fritter; Lt. Comdr. Plumb; Lt. Comdr. Brosa; Lt. Comdr. Schroyer; Lt. Low; Lt. Echternach; Lt. Peach; Lt. (jg) Scudder; Lt. (jg) Myers; CBM Austin; CBM Davis; CSM Jennings; CTC King; CQM McGuire; CSM Pendleton; CGM Sands; CSK Tinsley.*

#### First Year†

1. Orientation and Naval Administration. (3)
2. Communications. (3)
3. Basic Seamanship and Tactics. (3)

#### Second Year‡

51. Ordnance. (3)
52. Fire Control. (3)
53. Advanced Fire Control, Sound and Electronic Devices. (3)

#### Third Year‡

101. Navigation: Piloting and Beginning Celestial. (3) Pr., trig.
102. Navigation: Advanced Celestial, Aerial, and Maneuvering Board. (3)
103. Escort Trainer and Attack Teacher. (3)

#### Fourth Year‡

151. Naval Engineering. (3)
152. Damage Control. (3)
153. Advanced Damage Control. (3)

### NURSERY SCHOOL AND CHILD DEVELOPMENT

*Assistant Professor Evans; Associate Erwin*

101. Child Development. (2) The first six years. Pr., Psych. 1 and junior standing. Evans
102. Child Guidance. (2) Problems and guidance of the first six years. Pr., 101 or permission. Evans
103. The Nursery School. (3) Its history and program. Pr., 101. Erwin
104. Nursery School Participation and Special Problems. (†) Pr., permission. Evans, Erwin

### NURSING

*Professor Soule; Associate Professors Leaby, Olcott; Assistant Professors Cross,\* Hoffman, Korn-gold, Patterson, Tschudin; Instructors H. Anderson, J. M. Anderson, Barry, Blackman, Burke, Caldwell, Clark, Coffman, Cornell, Felton, F. I. Gray, M. Gray, Hicks, Hierstein, Jacobson, Jamison, Kintner, Lambert, Livingston, MacIvor, Markham, Maxey, Morgan, Northrop, Ostroth, Seeley, Smith, Steele, Stoleson, Tillotson, White*

1. History of Nursing. (3) Open to any woman student. Leaby
  5. Prevention and Care of Illness in the Home. (3) The utilization of community resources is stressed in regard to maintaining optimum health for the child. Anderson
- Courses 120-149 inclusive are Hospital Division courses. They are open only to students in Curriculum A or in approved schools of nursing.
120. Principles and Practice of Elementary Nursing. (5) Gray, Hoffman, Jamison
  121. Advanced Nursing Procedures and Methods of Planning Individualized Nursing Care. (3) Gray, Hoffman, Jamison
  122. Practice in Elementary Nursing and Special Hospital Departments. (3) Medical and surgical services correlated with laboratory, X-ray, and pharmacy experience. Gray, Hoffman, Jamison

† To be arranged.

‡ All courses include drill.

\* On leave.

123. Introduction to Medical and Nursing Science. (3) Tschudin
124. Principles of General Medicine, Surgery, Otolaryngology, and Nursing Care. (5) Caldwell, Seeley
125. Principles of Medical and Surgical Specialties and Their Nursing Care. (5) Seeley, Stoleson, White
128. Medical Nursing Practice. (6) Including communicable disease and related out-patient clinics. Caldwell, Stoleson
129. Principles of Special Therapy. (2) Light, electricity, heat, water, massage, exercise, and occupation as aids in care or control of disease processes. Anderson
130. Principles of Preventive Medicine and Nursing Care in Communicable Diseases. (4) Stoleson
132. Surgical Nursing and Diet Therapy Practice. (6) Six weeks in general surgical service with related out-patient clinics and six weeks in diet therapy. Seeley, Felton
133. Operating Room and Emergency Service Practice. (6) Ten weeks in operative nursing and anesthetic care. Two weeks in emergency service. Steele, Felton
134. Nursing Practice in Surgical Specialties. (6) Orthopedic, emergency surgery, head injury, urology, gynecology, ear, nose and throat, related out-patient clinics. Seeley, White
137. Introduction to Public Health Nursing. (2) Smith
138. Professional Problems in Nursing. (2) Korngold
139. Principles of Pediatrics and Pediatric Nursing. (5) Physical and mental development of normal children included. Markham
140. Pediatric Nursing and Nursery School Practice. (6) Gray, Markham
141. Principles of Obstetrics and Obstetrical Nursing. (5) Barry
142. Obstetrical Nursing Practice. (6) Felton, Hicks, Barry
143. Nursing Practice in Special Fields. (6) 12 weeks in tuberculosis, out-patient, industrial, or rural hospital nursing. Staff
144. Senior Nursing Practice. (6) 12 weeks advanced nursing practice in a hospital or a public health agency. Tschudin, Staff
145. Tuberculosis Nursing Practice. (3) Six weeks in a tuberculosis sanatorium. Staff, Hierstein, Maxey, Jacobson, Blackman
146. Visiting Nursing Practice. (3) Six weeks in a public health agency. Staff, Patterson
147. Principles of Psychiatry and Psychiatric Nursing. (5) Lamberty
148. Psychiatric Nursing Practice. (6) Clark, Morgan
149. Principles of Ward Management and Bedside Teaching. (3) Management of ward routines and assistant head nursing, including individual and bedside teaching. Tschudin, Staff

*Courses for Graduate Registered Nurses Only*

150. Principles of Teaching Nursing and Health. (5) Leahy, Tschudin
151. Administration of Schools of Nursing. (5) Olcott
152. Supervision of Hospital Departments. (5) Ward teaching and supervision. Olcott, Tschudin
153. Hospital Administration in Relation to Nursing Service. (5) Hoffman
154. Cadet Teaching and Ward Administration in Hospitals. (10) Pr., 150, 152. Olcott, Tschudin
- 155, 156, 157. Advanced Nursing Practice in Clinical Specialties. (3 ea. qtr.) Staff
158. Advanced Nursing Practice in Emergency, Fracture, and Neurological Injuries. (3) White
159. Principles of Advanced Nursing. (2) Integration of all aspects of nursing in the solution of nursing problems in special clinical fields. Tschudin
161. Orientation in Public Health and Community Nursing. (3) Public health theory combined with planned field trips. Patterson
162. Field Practice in Public Health Nursing. (5) Health teaching and nursing. Patterson
163. Field Practice in Public Health Nursing. (5) Administrative activities and record work. Patterson
164. Field Practice in Public Health Nursing. (6) Family health planning. Use of social agencies and maintenance of community relationships. Patterson
165. Survey of Current Literature in Specialized Fields in Public Health Nursing. (2) Pr., 167. Patterson
166. Advanced Field Work. (12) Pr., 164. Patterson
167. Principles of Public Health Nursing. (3) Policies and trends in the organization and administration of national, state, and local public health nursing services. Soule

168. Special Fields of Public Health Nursing. (5) Patterson
169. Public Health. (3) History, development, principles of public health programs. Open to health education majors. Palmquist
182. Survey of Orthopedic Conditions and Nursing Problems. (3) Principles of orthopedic nursing applied toward prevention, home care, and rehabilitation of persons with orthopedic and plastic defects. Anderson
183. Advanced Orthopedic Nursing. (5) Lectures and teaching clinics on orthopedic conditions by an orthopedic surgeon, demonstration and practice of advanced orthopedic nursing procedures and integration of orthopedic principles into all patient care. Anderson
185. Teaching of Nursing Arts and Science. (3) A study of principles and methods. Hoffman
190. Methods of Supervision of Public Health Nursing. (3) Leahy
191. Personnel and Counseling Problems in Nursing. (3) Leahy
192. Field Work in Placement and Counseling. (8-16) Practice in offices where placement for nurses is carried on, and in the general field of personnel work such as department stores and industry. 20-40 hours per week. Leahy
195. Survey of Trends in Contemporary Nursing. (3) Particular emphasis on postwar problems. Soule

*Courses for Graduates Only*

- 201, 202, 203. Seminar in Nursing Problems. (†) Pr., graduate registered nurse, thirty credits in nursing. Soule, Staff
205. Research in Nursing Education, Hospital Administration, Public Health Nursing. (†) Pr., 167, 168; Bact. 101, 102, 103, or Nurs. 150, 151, 152. Soule, Staff

*Service Courses for Other Hospitals*

Requirement: Student must be employed as an attendant in an approved hospital.

6. Principles and Practice of Elementary Attendant Nursing. (3) Morgan
9. Principles of Psychiatry and Psychiatric Attendant Nursing. (3) Morgan
11. Sociology for Hospital Attendants. (3) Morgan

**OCEANOGRAPHIC LABORATORIES**

*Professors T. G. Thompson, Norris, Robinson, Utterback;  
Associate Professors Church, Mackin, Ordal*

1. Survey of Oceanography. (5) Church

*Courses for Graduates Only*

249. Graduate Seminar. (†) Staff
  250. Research in Oceanography. (†) Staff
- Courses in Marine Animal Biology. (See Animal Biology 106, 107, 125, 126.)  
Course in Marine Bacteriology. (See Bacteriology 207.)  
Courses in Marine Botany. (See Botany 210, 211, 275.)  
Courses in Oceanographical Chemistry. (See Chemistry 155, 156, 225.)  
Course in Physical Oceanography. (See Physics 166.)  
Courses in Geology. (See Geology 116, 126, 131, 200.)

**PHARMACY, PHARMACOGNOSY, PHARMACEUTICAL CHEMISTRY AND TOXICOLOGY,  
AND PHARMACOLOGY**

*Professors Goodrich, Fischer, Johnson, Rising; Associate Professor Plein;  
Assistant Professor Arrigoni; Instructor Youngken*

*General and Practical Pharmacy*

- 1, 2, 3. Theoretical and Manufacturing Pharmacy. (3, 3, 3) Pharmaceutical operations and preparations of U.S.P. and N.F. galenicals. Rising
4. The Profession of Pharmacy. (2) Survey of the development of pharmacy. Plein
- 9, 10, 11. Prescriptions. (3, 3, 3) Theory and practical application of extemporaneous compounding. Plein
15. Home Remedies. (2) Open to all students. Rising
51. Elementary Pharmacy. (2) For nurses. Larson

† To be arranged.



- 113, 114, 115. Advanced Prescriptions. (5, 5, 5) Problems in dispensing and manufacturing; study of the U.S.P. and N.F. Rising, Plein
118. Pharmaceutical Accounting. (5) Principles of bookkeeping and accounting to meet needs of retail pharmacist.
173. Cosmetics. (3 to 5) Preparation and manufacture of many types. Rising
- 182, 183. New Remedies. (3, 3) Those having, largely, a nonofficial status. Plein
184. New Remedies and the Laws. (3) Plein
191. Research Problems. (1 to 5) Open to juniors, seniors, and graduates.

*Courses for Graduates Only*

201. Major Research for M.S. degree. (†) Maximum of twenty-five credits. Rising, Plein
202. Major Research for Ph.D. degree. (†) Maximum of forty-five credits. Rising, Plein

*Pharmacognosy*

- 13, 14, 12. Pharmacognosy. (3, 2, 4) Plant and animal drugs, their sources, methods of collection and preservation, identification, active constituents, and adulterations. Goodrich, Youngken
- 104, 105. Pharmacognosy. (3, 2) Microscopic study of crude and powdered drugs for purposes of identification and detection of adulteration. Youngken
106. Medicinal Plants. (2) Field study of plants of the Northwest and their commerce. Youngken
112. Biologicals. (3) Goodrich
193. Research Problems. (1 to 5) Open to juniors, seniors, and graduates.

*Courses for Graduates Only*

205. Major Research for M.S. degree. (†) Maximum of twenty-five credits. Goodrich, Youngken
206. Major Research for Ph.D. degree. (†) Maximum of forty-five credits. Goodrich, Youngken

*Pharmaceutical Chemistry and Toxicology*

5. Gravimetric Quantitative Analysis. (5) Arrigoni
6. Volumetric Quantitative Analysis. (5) Arrigoni
107. Urinalysis. (2) Arrigoni
108. Pharmacopoeial Assay. (2) Arrigoni
192. Research Problems. (1 to 5) Open to juniors, seniors, and graduates.
- 195, 196, 197. Pharmaceutical Chemistry and Toxicology. (5, 5, 5) Pharmacy and chemistry of alkaloids, glucosides, fixed oils, volatile oils, and other plant and animal principles; also includes the separation and identification of poisons from animal tissue. Fischer

*Courses for Graduates Only*

203. Major Research for M.S. degree (†) Maximum of twenty-five credits. Fischer, Arrigoni
204. Major Research for Ph.D. degree. (†) Maximum of forty-five credits. Fischer, Arrigoni
- 211, 212, 213. Advanced Pharmaceutical Chemistry. (5, 5, 5)

*Pharmacology*

61. Pharmacology and Therapeutics. (3)
- 101, 102, 103. Pharmacology and Toxicology. (3, 3, 3) Action of drugs; posology and rational uses in therapeutics; symptoms and treatment of poisoning.
170. Pharmacology. (2) Source, action, uses of the common drugs. Open to premedical students and others interested in a survey of the field of pharmacology.
- 185, 186. Experimental Pharmacology. (2 or 3 ea. qtr.)
187. Biological Assay. (2 or 3)
194. Research Problems. (1 to 5) Open to juniors, seniors, and graduates.

*Courses for Graduates Only*

207. Major Research for M.S. degree. (†) Maximum of twenty-five credits.
208. Major Research for Ph.D. degree (†) Maximum of forty-five credits.
209. Graduate Seminar. (0) Reports on assigned reading.

† To be arranged.

# PHILOSOPHY

*Professor Nelson; Associate Professor Rader; Assistant Professors Melden, Phillips, Smullyan*

1. Introduction to Philosophy. (5) Main problems, and typical solutions. Melden, Phillips, Smullyan
2. Introduction to Social Ethics. (5) With special emphasis on democracy. Rader
3. Introduction to Ethics. (5) Moral principles and their application to the problems of life. Melden
5. Introduction to Logic. (5) Conditions of clear statement, adequate evidence, and valid reasoning. Nelson, Melden, Smullyan
- 101-102-103. History of Philosophy. (4-4-4) Ancient, medieval, and modern. Rader
- 104-105-106. Metaphysics. (3-3-3) Theories of reality; nature of existence, appearance and reality, causation, relation of mind to body, pluralism and monism, the self and human freedom. Pr., 1 or 103 or permission. Nelson
111. Semantics. (5) Survey of the main theories of the origins and functions of language, including its logical, descriptive, emotive, and expressive uses. Attention will be given to semantical problems of the social sciences and of the humanities. Pr., 5. Smullyan
112. Philosophy of History. (5) An analysis of the basic concepts employed in historical interpretation. Phillips
113. Philosophy of Religion. (5) A study of religious experience and religious belief. Rader
129. Philosophy of Art. (5) Theories of art and beauty. Rader
133. Ethical Theory. (3) An advanced course in ethics. Pr., 2 or 3. Phillips
- 141-142-143. Contemporary Philosophy. (2-2-2) Idealism, intuitionism, positivism, pragmatism, realism, and vitalism. Pr., 1 or 103. Smullyan
193. Advanced Logic. (5) Symbolic logic; critical examination of logical doctrine bearing on philosophical questions; inductive method. Pr., 5. Nelson
196. The Ethical and Political Philosophy of China. (3) Shih

## Courses for Graduates Only

- 207-208-209. Seminar in Philosophy of Science. (4-4-4) Pr., permission. Melden
  - 237-238-239. Seminar in Locke, Berkeley, Hume. (4-4-4) Phillips
  - 251, 252, 253. Research in Philosophy. (1 to 6 ea. qtr.) Pr., permission. Staff
- Not offered in 1946-1947: 130-131-132, Philosophical Issues in the War and the Peace; 137-138-139, Development of Social Philosophy; 144-145, American Philosophy; 194, The Hindu Philosophies of India; 195, Buddhism in India and China; 197, 198, 199, Reading in the Philosophical Classics; 214-215-216, Seminar in Logic; 234-235-236, Seminar in Descartes, Spinoza, Leibnitz; 241-242, Seminar in Plato and Aristotle; 244-245-246, Seminar in Kant and Hegel.

# PHYSICAL AND HEALTH EDUCATION

## I. FOR MEN

*Professors Foster, Belshaw; Assistant Professors Auernheimer, Cutler, Kundo, Peck, Reeves, Torney; Instructor Mills; Associates Buckley, Clark, Edmundson, Eriksen, Graves, Stevens, Ulbricksen, Welch*

- 1, 2, 3. Adapted Activities. (1, 1, 1) Gymnastics, games, and sports to meet the needs of the individual. Reeves
- 7, 8, 9. Physical Education Activities for Freshman Majors. (1, 1, 1)
- 10, 11, 12. Physical Education for Sophomore Majors. (1, 1, 1)
- 16 to 70. Physical Education Activities. (1 each) Course 16, handball; 17, basketball; 18, tennis; 19, playground ball; 20, golf†; 21, track; 22, crew (class); 23, fencing; 24, boxing; 25, tumbling; 26, apparatus and stunts; 27, wrestling; 28, volley ball; 29, swimming; 30, soccer; 31, touch football; 32, badminton; 33, archery; 34, calisthenics; 35, jiu jitsu; 36, speedball; 51, freshman varsity crew; 52, varsity crew; 53, freshman varsity football; 54, varsity football; 55, freshman varsity track; 56, varsity track; 57, freshman varsity swimming; 58, varsity swimming; 59, freshman varsity basketball; 60, varsity basketball; 61, freshman varsity baseball; 62, varsity baseball; 63, freshman varsity tennis; 64, varsity tennis; 65, varsity golf; 66, Pack Forest; 67, varsity skiing; 68, varsity volleyball; 69, varsity hockey. Staff
15. Personal Health. (2) Health information that affords a basis for intelligent guidance in the formation of health habits and attitudes. Reeves

† Golf instruction fee (payable to golf club), autumn, spring, \$3; winter, \$1.50.

## II. FOR WOMEN

*Professor Hutchinson; Associate Professors Andrews, deVries, McLellan, Rulifson, Wilson; Assistant Professors Horne, Kidwell, McGownd, MacLean; Instructors Fox, Slaughter*

## Activity Courses

- 11, 12, 13. **Physical Education Activities for Freshman Majors.** (2, 2, 2) Hockey, basketball, tennis, stunts and tumbling.
- 51, 52, 53. **Physical Education Activities for Sophomore Majors.** (2, 2, 2) Practice in the skills and techniques of folk dancing, tap and clog and social dancing, swimming, modern dance, and archery.
- 57 to 98. **Physical Education Activities.** (1 ea. qtr.) Course 57, fencing; 58, advanced fencing; 61, folk and national dancing; 62, clog and tap dancing; 63, advanced clog and tap dancing; 64, hockey; 65, basketball; 66, advanced folk dancing; 67, tennis; 69, advanced tennis; 70, athletic games; 75, archery; 76, advanced archery; 82, volley ball; 83, indoor baseball; 84, badminton; 85, canoeing; 86, advanced badminton; 87, golf†; 88, advanced golf; 89, bowling‡; 90, skiing; 91, modern dancing; 92, advanced modern dancing; 93, advanced bowling‡; 95, elementary swimming; 96, intermediate swimming; 97, advanced swimming; 98, diving; 99, life saving.

## Health Education Course

10. **Health Education.** (2) Health problems of freshman women. McLellan, Horne

## III. PROFESSIONAL COURSES FOR MEN AND WOMEN

101. **Methods and Materials in Gymnastics, Stunts, and Tumbling.** (3) WOMEN. Pr., or accompanying courses, Anat. 110 and Physiol. 7. MacLean, Wilson
102. **Problems in Physical and Health Education and Recreation.** (2) MEN and WOMEN. Relation of problems to professional study. Hutchinson, Reeves
107. **Personal and General Hygiene.** (3) MEN. Advanced course designed primarily for professional students in physical education. Pr., 15. Reeves
109. **The School Dance Program.** (2) MEN and WOMEN. Practical knowledge of folk dances and tap dance steps to be learned; organization of dance programs for boys in schools and organized recreation centers. Wilson
111. **Rhythmic Activities for Small Children.** (2) WOMEN. Educational value, significance in child development, methods of presentation. Wilson
112. **Elementary School Athletic Program.** (3) WOMEN. Progressive series from the hunting games and elementary forms to the standard athletic activities of adolescent years. Rulifson
115. **Physiology of Muscular Exercise.** (5) MEN and WOMEN. Relation to physical activities. Muscular efficiency, fatigue, recovery, chemical changes, and neuro-muscular control, with special reference to games, sports, corrective work and posture. Pr., Anat. 110, Physiol. 7. Belshaw
116. **First Aid and Safety.** (3) MEN and WOMEN. May satisfy both the Standard and Advanced American Red Cross First Aid Certification. Pr., junior standing. Reeves, MacLean
118. **Analysis of Rhythm.** (3) WOMEN. Rhythmic form and analysis; relation to the physical education program; principles of building rhythmic patterns to be used in teaching dancing; relation of musical form to dance form. Pr., 51, 52. deVries, Wilson
122. **Kinesiology.** (3) MEN and WOMEN. Analysis of leverage in body movement and problems of readjustment in relation to posture and to physical education activities. Pr., 115, Anat. 110, Physiol. 7. Cutler
124. **Playground Program.** (3) MEN and WOMEN. Activities suitable for various age levels, i.e., handcraft, music, dramatics, nature study, low organized games, free play, social recreation, contests and tournaments, story telling, special features, and outing activities. Pr., 145 and six credits in methods courses. Kunde
126. **Observation and Practice Teaching.** (In Recreation) (2 or 4) MEN and WOMEN. Fifty hours of practice teaching in organized recreation centers. Pr., 145 and six credits in methods courses. For men, 2 credits; for women, 4 credits. Kunde, Wilson
127. **Tests and Measurements.** (3) MEN and WOMEN. Their place in health and physical education; criteria for selection; formulation of a testing and measuring program. Pr., senior standing. Belshaw
128. **Organization and Administration of Camp Programs.** (3) MEN and WOMEN. The educational significance of current movements and existing local and national organizations; administrative practices; organization of activities. Pr., 124. McLellan, Kunde
129. **Methods in Teaching First Aid and Safety.** (2) MEN and WOMEN. Student may satisfy the requirements for an Instructor's First Aid certification in the American Red Cross. Pr., 116. Reeves
135. **Adapted Activities.** (3) MEN and WOMEN. Atypical cases from the standpoint of individual needs. Pr., 115, 122, Physiol. 7. Kunde, Kidwell

† Golf instruction fee (payable to golf club), autumn, spring, \$3; winter, \$1.50.

‡ Bowling fee (payable at bowling alley), \$4.20.

145. **Principles of Physical Education.** (3) MEN and WOMEN. Social, biological, and educational foundations. The place of physical education in the school program. Pr., Physiol. 7, Soc. 1, Psych. 1, and junior standing. Foster
150. **The School Physical Education Program.** (3 or 2) MEN and WOMEN. Problems of organization and administration. Pr., 158, 161, 163, or 162, 163, 164. For men, 3 credits; for women, 2 credits. Belshaw, Hutchinson
153. **Methods and Materials in Health Teaching.** (3) MEN and WOMEN. The place of health instruction in the elementary and high school; the general program; subject matter and methods. Pr., senior standing and 145, 165, Physiol. 50. McLellan
155. **Dance Composition.** (2) WOMEN. Practice in modern dance; analysis of choreography; opportunity for creative work. Pr., 92, 118. deVries
156. **Methods and Materials in Teaching Dance.** (2) WOMEN. Sources of materials; their selection and organization; methods of presentation; music, and types of accompaniment. Pr., 52 or 92, 118. deVries
158. **Methods in Teaching Apparatus, Tumbling and Stunts.** (2) MEN. Pr., permission. Auernheimer
- 159-160. **Dance Production.** (2-2) WOMEN. Costuming, lighting, staging for dance concerts and festival programs. Pr., 52 or 92, 118. deVries
161. **Methods in Teaching Boxing and Wrestling.** (2) MEN. Pr., permission. Mills, Stevens
162. **Methods and Materials in Teaching Folk, Tap, and Clog Dancing.** (2) WOMEN. For majors, pr., 51; for minors, no pr. Wilson
163. **Methods and Materials in Teaching Sports.** (3 or 2) MEN and WOMEN. Women, 3 credits; pr., 51, 52, 112; men, 2 credits; pr., permission; women minors, 2 credits. Rulifson, MacLean, Cutler
164. **Methods in Teaching Swimming.** (3 or 2) MEN and WOMEN. Includes diving, life saving, and direction of camp waterfront program. Women, three credits; pr., 53 or 97 and 99, 85; men, two credits; pr., permission. MacLean, Torney
165. **The School Health Education Program.** (3) MEN and WOMEN. Schoolroom construction, lighting, heating, ventilation, sanitation of spaces, selection and location of equipment, medical inspection and supervision, communicable disease, the school lunch, fatigue, rest, and play. Pr., junior standing.
170. **Methods in Teaching Football.** (2) MEN. Pr., junior standing. Welch
171. **Methods in Teaching Basketball.** (2) MEN. Pr., junior standing. Edmundson
172. **Methods in Teaching Track and Field.** (2) MEN. Pr., junior standing. Edmundson
173. **Methods in Teaching Baseball.** (2) MEN. Pr., junior standing. Graves
193. **Problems in Athletics.** (3) MEN. The place of interschool athletics in education. Control, finance, eligibility, safety measures, publicity, and public relations. Qualifications and duties of coaches, managers, and officials. Pr., 145, 150. Foster

**Teachers' Course in Physical Education.** (See Educ. 75V.)

For additional courses in Health Education, see School of Home Economics and School of Nursing.

*Courses for Graduates Only*

201. **Seminar in Physical Education.** (3) MEN and WOMEN. Pr., 145, 150. Hutchinson, Foster
203. **Seminar in Health Education.** (3) MEN and WOMEN. Pr., 145, 153, 165. Hutchinson
206. **The Curriculum.** (3) MEN and WOMEN. Selection and organization of program content in relation to such problems as characteristics and needs of pupils and local conditions. Pr., 145, 150. Foster
207. **Research.** (2 to 5) Staff  
A—Physical Education  
B—Tests and Measurements  
C—Physiology of Exercise  
D—Health Education  
E—Recreation
208. **Administration of Recreation.** (5) Pr., 124, 145, or permission. Kunde
250. **Thesis.** (6 to 9) Staff

## PHYSICS

*Professors Utterback, Brakel, Henderson,\* Loughbridge; Associate Professor Uebling;  
Assistant Professors Higgs,\* Kenworthy, Sanderman*

Students not in engineering must elect Physics 4, 5, 6 unless they have had a year of high school physics.

- 1, 2, 3. General Physics. (5, 5, 5) 1: Mechanics and sound; 2: Electricity and magnetism; 3: Heat and light. Pr., one year of high school physics for 1; 1 for 2 and 3.
- 4, 5, 6. General Physics. (5, 5, 5) Same as 1, 2, 3. Pr., plane geometry, 4 pr. to 5 and 6.
10. Survey of Physics. (5) Students who expect to continue with physics should begin with 1 or 4.
50. Sound and Music. (5)
54. Elementary Photography. (4) Pr., elementary physics or chemistry. Higgs
70. Physics for Nurses. (5) Sanderman
90. Selected Topics in Physics for Home Economics Majors. (5) Sanderman
- 97, 98, 99. Physics for Engineers. (5, 5, 5) 97: Mechanics; 98: Electricity; 99: Heat and light. Pr., one year high school physics, 10 credits college mathematics. Brakel, Loughridge
- 101, 102. Introduction to Modern Physics. (3, 3) Pr., 3 or 6. Utterback
- 105, 106. Electricity. (3, 3) Pr., 3 or 6. Brakel
115. Photography. (4) The more important processes; application to the sciences and arts. Pr., 54.
140. Sound. (3) Sources, transmission, and absorption. Pr., 3 or 6.
150. Heat and Introduction to Thermodynamics and Kinetic Theory. (3) Pr., 3 or 6.
154. Low and High Frequency Measurements. (4) Resistance, inductance, and capacitance as a function of frequency. Simple and coupled circuits, impedance of complex circuits, and vacuum tube characteristics. Pr., 106, calculus.
155. Introduction to Modern Physics for Electrical Engineers. (3) Pr., senior in E.E.
- 160, 161. Optics. (3, 3) Pr., 3 or 6, calculus.
- 167, 168, 169. Special Problems. (†) Pr., permission.
170. Spectrometry. (3) Pr., 160 or permission.
180. History of Physics. (2) Pr., 3 or 6.
- 191, 192. Theoretical Mechanics. (4, 4) Pr., 20 credits in physics, calculus. Loughridge
- 195, 196. Experimental Atomic Physics. (3, 3) Pr., 30 credits in physics.

*Courses for Graduates Only*

- 200, 201, 202. Introduction to Theoretical Physics. (6, 6, 6) Foundation for subsequent specialization and more intensive study. Pr., 40 credits in physics; Math. 114 concurrently.
204. Thermodynamics. (6) Pr., 40 credits in physics.
205. Kinetic Theory. (6) Pr., 40 credits in physics.
210. Mathematical Theory of Sound. (3) Pr., 202 or permission.
212. Conduction of Electricity Through Gases. (6) Pr., 40 credits in physics.
- 213, 214. Electricity and Magnetism. (4, 4) Pr., 201.
220. Advanced Dynamics. (6) Pr., 202.
- 239, 240. Wave Mechanics. (4, 4) Pr., 202 or equivalent.
- 250, 251, 252. Seminar. (†)
- 256, 257, 258. Research. (†)

Not offered in 1946-1947: 109, Pyrometry; 166, Physical Oceanography; 211, Statistical Mechanics; 216, X-Rays; 219, Hydrodynamics; 221, Collision Theory; 222, The Metallic State; 226, 227, Electromagnetic Theory; 230, 231, Atomic Structure; 241, 242, 243, Relativity; 245, 246, 247, Advanced Quantum Mechanics.

† To be arranged.

\* On leave.

POLITICAL SCIENCE

*Professors Martin, Cole, Cook, Levy, Mander, Taylor, Wang Kan-yu, Carsun Chang; Associate Professors von Brevern, Michael, Webster; Instructor Schram*

*Elementary Course Primarily for Freshmen*

1. Survey of Political Science. (5) Principles and problems of government. The state in theory, law, politics, and administration. Martin, Mander

*Intermediate Courses Primarily for Sophomores*

52. Introduction to Public Law. (5) Legal construction of political organization; the state and the individual; leading concepts in constitutional, international, and administrative law. Open to freshmen who have had 1. Cole
54. International Relations. (5) Rise of modern states; alliances, imperialism, the League of Nations; present and future problems. Open to freshmen who have had 1. Mander
56. American Political Institutions. (5) American political ideas as formalized into institutions; major principles of the American governmental system, historical and contemporary. Open to freshmen who have had 1. Cook
58. Government in Action. (5) Problems of political leadership; public opinion and political organization; bureaucratic control. Open to freshmen who have had 1.

*Upper-Division Courses*

101. The American Constitutional System. (3) Fundamental principles; function; evolution; unwritten constitution. Recent tendencies. Webster
111. The Western Tradition of Political Thought. (5) Origin and evolution of the major political concepts of the Western world. Nineteenth-century modifications. Cook
112. American Political Thought. (5) Major thinkers and movements from the Colonial period to the present. Cook
113. Contemporary Political Thought. (5) Changing political ideas since the French and Industrial Revolutions, as bases for contemporary philosophies of democracy, communism, and fascism. Cook
114. Oriental Political Thought. (5) Theories of the Oriental state as exhibited in the writings of statesmen and philosophers. Carsun Chang
116. Introduction to Roman Law. (5) Its importance, sources, and civil procedure; classic law of persons, property, contracts, torts, and succession in the light of modern research. For advanced undergraduates; open to qualified sophomores. Levy
118. The Evolution of Western Political Institutions. (5) The conflict between law and force in conditioning the character of modern government. Cole
121. American Foreign Policy. (3) Major policies as modified by recent developments. International cooperation. von Brevern
122. The Foreign Service. (3) Department of State; diplomatic and consular services; American diplomatic practice and procedure. Martin
- Law 122. International Law. (3) As developed by custom and agreement and as exhibited in decisions of international tribunals and municipal courts. Martin
123. International Relations of the Western Hemisphere. (5) The Monroe Doctrine; Pan-Americanism; special interests in the Caribbean; hemispheric solidarity. "Good Neighbor" policy; Latin America and the War. von Brevern
124. Contemporary International Relations in Europe. (5) Foreign policies of the major powers; international organization between the two World Wars; recent and contemporary developments. von Brevern
127. International Government and Administration. (5) Law and organization in international relations; foreign offices; regional and global international institutions. Mander
129. International Relations in the Far East. (5) China, Japan, Russia, and the Philippines; the Western powers and the Orient; the Far East in world politics. Michael
130. International Relations in the Middle and Near East. (5) Egypt, Turkey, Afghanistan; mandates; critical problems today. Mander
132. American Foreign Policy in the Far East. (5) In relation to diplomacy, trade, and internal politics. Michael
133. Europe Since 1914. (5) Broad outline of history from World War I to the present. Levy
135. Comparative Colonial Policies and Administration. (5) Colonial policies of leading powers; government of dependent peoples; mandates; national versus international controls. von Brevern
136. National Power and International Politics. (5) Geographical, economic, and political foundations of the Major Powers as factors in international relations of the world. For advanced undergraduates only. von Brevern

141. **Comparative Federal Systems.** (5) Federalism as exhibited in the governments of Canada, Australia, Switzerland, and Russia. Cole
142. **Comparative Unitary Systems.** (5) Centralization as exhibited in the governments of the United Kingdom, France, Belgium, and Italy.
145. **Comparative Political Institutions.** (5) Analytical study of doctrines, forms, functions, processes and controls of all governmental systems, without regard to region or country. Martin
147. **Comparative Governments of the Far East.** (5) Structure and organization in China and Japan; puppet regimes; colonial administration. Michael
150. **Government and Interest Groups.** (5) Agrarian, labor, professional, business, and industrial interests in politics; impact on representative institutions and governmental processes.
151. **The American Democracy.** (5) Nationalism and federalism; regionalism; the presidency; the representative system; judicial institutions; reconciliation of policy and administration.
152. **Political Parties and Elections.** (5) Organization and methods.
153. **Introduction to Constitutional Law.** (5) Growth and development of the United States Constitution as reflected in decisions of the Supreme Court; political, social, and economic effects. Cole
155. **Introduction to Public Administration.** (5) Including relationship of administration to other agencies of government.
161. **Government and Business.** (5) Government control of the economic order; historical background; constitutional limitations; restraint of trade and manipulation of prices; control of public utilities.
162. **Problems of Municipal Government and Administration.** (5) The city charter; relations with the state and other local units; municipal functions and services, with special reference to the city of Seattle. Webster
163. **State and Local Government and Administration.** (5) Structure; functions; procedures; suggested reorganization; with special reference to Washington State, King County, and other units of government. Webster
164. **Public Policy in Governmental Planning.** (3) Historical development of governmental planning; legal basis of national, state, and local planning agencies; general scope of their powers and functions; policy determination; coordination of planning agencies and administrative departments. Schram
166. **Chinese Government.** (5) Imperial government; transition period; national government; present forms of local government; constitutional draft; present political situation. Wang Kan-yu
167. **Introduction to Administrative Law.** (5) Creation of administrative authorities, scope of limitations on their powers, remedies, judicial control of administrative action. Schram
168. **Comparative Administrative Systems.** (5) Principles and practice of administration under foreign governments, especially in Europe and the British Commonwealth.
169. **Japanese Government.** (5) Emergence of modern government; the emperor; position of the military; central and local government; diet; parties and popular movements.

Public Finance. See Economics and Business 171.

#### *Course for N.R.O.T.C. Only*

- 170-171-172. **Foundations of National Power.** (3-3-3) Basic factors in international politics in terms of population, national resources, political organization of National States, and the distribution of power among them; the strength, aims, and policies of the major powers. von Brevern

#### *Courses for Advanced Undergraduates*

195. **Honors Course for Seniors.** (5) Open to qualified majors in the last term of the senior year. Cook
199. **Individual Conference and Research.** (2-5) Pr., permission. Staff

#### *Courses for Graduates Only*

- 201, 202, 203. **Graduate Seminar.** (3, 3, 3) Oral and written studies in contemporary problems, domestic and foreign. For candidates for higher degrees in political science. Martin
- 211, 212, 213. **Seminar in Readings in Political Science.** (3, 3, 3) Writings of first importance of the masters in political science; the political classics. Required of candidates for higher degrees. Cole
214. **Seminar in Problems in Political Theory.** (3 to 5) Selected topics, historical and conceptual; national, regional, and universal. Cook
215. **Methods and Research in Political Science.** (3 to 5) Political science and the social sciences; methods of research; bibliography of general and special fields. Cook
- 221, 222. **International Government and Organization.** (3 to 5 ea. qtr.) Advanced studies, with emphasis on constitutional organization and administrative procedures. Mander

234. Seminar in Roman Law. (3) Modern research. Readings in Justinian's *Institutes* and *Digest* in English translation. Levy
251. Seminar in Politics and Administration. (3 to 5) Special topics, with emphasis on political procedures and administrative processes. Spellacy
256. Seminar in Government and Public Law. (3 to 5) Special studies in modern problems of government and in present tendencies in public law, especially American. Cole
299. Individual Research. (2 to 5) Staff
- Seminar in Far Eastern Diplomacy. See Far Eastern 225, 226.
- Constitutional Law. See Law 119, 120.
- Administrative Law. See Law 121.
- Propaganda as a Social and Political Force. See Journalism 116.

Not offered in 1946-1947: 74, Power and the State; 100, Postwar Problems in Government and Administration, National and International; 117, Modern Theories of Law; 143, The Authoritarian State; 154, The Public Service.

## PSYCHOLOGY

*Professors Smith, Guthrie, Wilson, Esper\*; Associate Professors Edwards, Gundlach, Horton, Loucks; Assistant Professors Heathers, Hermans, Humphreys*

1. General Psychology. (5) An introduction to the principles of human behavior. Staff
2. Psychology of Adjustment. (5) Applications of psychological principles to the problems of everyday life. Pr., 1.
51. Advanced General Psychology. (5) A survey of the fundamental principles and experimental methods of psychology, with laboratory demonstrations. Pr., 1.
102. The Neural Basis of Behavior. (5) The anatomical and physiological principles underlying the integrative action of the nervous system, and the relation of these principles to the problems of behavior. Pr., 1, Zool. 1-2. Loucks
106. Experimental Psychology. (5) Practice in planning, carrying out, and reporting laboratory research. Pr., 108 and permission. Loucks
108. Statistical Methods. (5) Techniques of measuring relationships. Sampling theory and tests of significance. Pr., 2, 51. Edwards
109. Experimental Design. (5) Planning research problems; formulation of hypotheses; techniques of equating groups; sampling problems; factorial design and analysis of variance; interpretation of data. Pr., 108. Edwards
111. History of Psychology. (3) The experimental and theoretical backgrounds of modern psychology. Pr., 2, 51. Gundlach
112. Systematic Psychology. (2) Analysis of the fundamental conceptions underlying the theory and researches of contemporary psychologists. Pr., 111. Gundlach
116. Animal Behavior. (3) The psychology of animals in the laboratory and under natural conditions. Pr., 2, 51. Horton
118. Social Psychology. (5) Psychology of human institutions. Pr., 1. Guthrie
119. Animal Laboratory. (2) Supervised training in experimental work with animals. Pr., 116. Horton
120. Psychology and the Arts. (2) The bases for appreciation of, and the factors in, creative work, especially in painting and design, music, theatre, and literature. Pr., 1. Gundlach
121. Vocational Psychology. (3) Employment trends; analysis and classification of occupations and of worker characteristics; the principles of selection of personnel and of individual guidance. Pr., 1. Gundlach
123. Industrial Psychology. (2) A survey of the applications of psychological principles and methods of investigation to problems of industrial relations. The measurement of morale and job satisfaction. The use of psychological tests in selection and placement. Interviewing and counseling techniques. Pr. 1. Edwards
124. Psychology of Learning. (3) The making and breaking of habits. Pr., 2, 51. Guthrie
126. Abnormal Psychology. (3) Origin and mechanism of behavior that interferes with proper adjustment; physiological pathology; psychotherapy. Pr., 2, 51. Smith
127. Tests and Measurements. (5) Test construction. Practice in administering group tests. Sources of error. Methods of scoring. Pr., 108. Heathers
128. Psychology of Social Attitudes. (2) Theory and techniques of attitude scale construction. Applications of attitude scales in education, industry, and the social sciences. Determinants of attitudes and experimental studies of attitude change. Pr., 118 and any elementary statistics course. Edwards
129. Individual Testing. (5) Use of the more common tests in clinical diagnosis. Pr., 127. Heathers

\* On leave.



130. **Clinical Psychology.** (3) Techniques of history taking, diagnosis, recommendations, and therapy. Cooperation with schools and social agencies. Pr., 129. **Smith**
131. **Child Psychology.** (5) Individual and social development and their causes, from infancy to adult age. Pr., 1. **Smith**
135. **Counseling and Interviewing.** (3) Ways of securing information concerning an individual's personal problems and ways of helping the individual to clarify these problems in his own mind. Pr., 2, 51. **Heathers**
140. **Conditioning.** (3) Experimental work on conditioning. Significance for the several fields of psychology. Emphasis on specific research techniques. Pr., 2, 51. **Loucks**
141. **Sensory Basis of Behavior.** (3) An account of sensory and perceptual phenomena; sensory equipment; theories of sense-organ function. Pr., 2, 51. **Horton**
145. **Public Opinion Analysis.** (2) Nature and structure of public opinion. Propaganda and shifts in public opinion. Accuracy and validity of modern polling techniques. Construction of questionnaires for opinion surveys. Problems of interviewing and sampling in opinion research. Pr., 1 and any elementary statistics course. **Edwards**
- 151, 152, 153. **Undergraduate Research.** (1 to 3 ea. qtr.) Pr., permission. **Staff**
160. **Motor Skills.** (5) A survey of recent developments in psychomotor tests. Pr., 106. **Loucks**
180. **Apparatus Techniques.** (2) The design and operation of psychological apparatus. **Loucks**
189. **Seminar.** (2) Pr., permission. **Humphreys**
190. **Seminar.** (2) Pr., permission. **Edwards**
192. **Seminar.** (2) Pr., permission. **Gundlach**
193. **Seminar.** (2) Pr., permission. **Guthrie**
194. **Seminar.** (2) Pr., permission. **Hermans**
195. **Seminar.** (2) Pr., permission. **Horton**
196. **Seminar.** (2) Pr., permission. **Loucks**
197. **Seminar.** (2) Pr., permission. **Smith**
198. **Seminar.** (2) Pr., permission. **Wilson**
199. **Seminar.** (2) Pr., permission. **Heathers**

*Courses for Graduates Only*

- 201, 202, 203. **Graduate Research.** (†) Pr., graduate standing and permission. **Staff**
- Not offered in 1946-1947: 122, Language; 191, Seminar.

## ROMANIC LANGUAGES AND LITERATURE

*Professors Umpbrey, Nostrand,\* Frein, Garcia-Prada, Goggio; Professor Emeritus Helmlinge; Associate Professors Cbesex, Simpson, W. Wilson; Assistant Professors David, Whittlesey, C. Wilson; Instructors Creore, Keller; Associates Allison, Esteves*

The prerequisites for courses that follow Elementary 1-2 may normally be satisfied by work done in high school on the basis of one semester in high school for one quarter in the university. Thus, a student with credit for three semesters in high school will register for 4, and so forth. After a lapse of two years or more, a student may take with credit the course immediately preceding the one he would normally take on the basis of the credit he has received in high school or university. Any other exception involving credit must be determined by the executive officer of the department.

In case a foreign language must be taken to satisfy an entrance deficiency of two units, not less than twenty quarter credits, or the equivalent, will be required.

## French

- 1-2, 3. **Elementary.** (5-5, 5) Pr. for 3 is 2 with a grade not less than "C." Students receiving "D" in 2 should take 3R.
- 1-2X. **Elementary.** (5-5) A course designed for the rapid acquisition of a reading knowledge of French. For graduates and specially qualified undergraduates. No auditors.
- 3R. **Elementary Grammar Review.** (5) This refresher course should be taken, instead of 3, by those who have received a grade lower than "C" in French 2. It may also be taken, with credit, by those who have had three or four semesters of French in high school or one year in college if there has been a lapse of two years or more in their study of the language.
- 4, 5, 6. **Intermediate.** (3, 3, 3) Modern texts, composition, functional grammar. Pr. for 4 is 3 or 3R or three semesters in high school or equivalent.

† To be arranged.

\* On leave.

- 10, 11. **Elementary French Conversation.** (2, 2) Pr., 3 or equivalent; 10 or permission pr. for 11. Chessex
- 34, 35, 36, and 134, 135, 136. **Comparative Literature of France, Italy, and Spain in English.** (3, 3, 3) The purpose of this course is to show the influence of each literature upon the other two and their contribution to human thought, and so provide a literary background for the further pursuit of a more detailed study in each. The course may be counted as an elective in either French, Italian, Spanish, or English, but no more than three credits may be applied towards the fulfillment of the minimum required credits in literature for the major or minor in any of the Romanic languages. May be entered any quarter. Lectures and reading. No prerequisites. Goggio
- 37, 38, 39. **Lower-Division Scientific French.** (2, 2, 2) Class reading, with emphasis on constructions and scientific terms. For upper-division scientific French, see 137, 138, 139. Pr., 4 or equivalent. Whittlesy
41. **Phonetics.** (3) Analysis of sounds, intonation, rhythm; training in correct and natural pronunciation. Upper-division credit to upper-division students. Pr., 3 or equivalent. Frein
- 101, 102, 103. **Advanced Composition and Conversation.** (2, 2, 2) The first half of 101 will be given to an intensive review of grammar at the intermediate level. Pr., 6 or equivalent. Chessex, David
- 104, 105, 106. **Survey of French Literature.** (3, 3, 3) Detailed study of masterpieces from the seventeenth century to the present. Lectures, in French as soon as practicable, on French literature and civilization from the beginning. Pr., 6 or equivalent. Simpson
- 107, 108. **Themes.** (2, 2) Writing of original compositions. Pr., 102 or equivalent.. Staff
- 127, 128, 129. **Advanced Conversation.** (2, 2, 2) For majors and others admitted by the instructor. Pr., 101 or equivalent. Chessex, David
- 137, 138, 139. **Upper-Division Scientific French.** (2, 2, 2) Individual conferences. Students read material in their own fields. Pr., 37 or 38 or 39 with grade "B," or permission. Whittlesy
- 141, 142, 143. **The French Drama.** (3, 3, 3) 141: Middle Ages, Renaissance, Classicism; 142: Eighteenth-century Romanticism to 1850; 143: Realism, Symbolism, and contemporary theater. Lectures in French. Pr., 6 or equivalent. Chessex
- 154, 155, 156. **Contemporary French Literature.** (2, 2, 2) 154: Symbolist movement—1880's to 1900; 155: to 1918; 156: to the present. Representative writings, artistic evolution, social history. Lectures in English. Pr., 6 or permission. Chessex
- 158, 159. **Advanced Syntax.** (2, 2) From the teacher's standpoint. Should precede the teachers' course. Pr., 103 or 107 or 108. Frein
- 161, 162, 163. **Eighteenth-century Literature.** (2, 2, 2) 161: Criticism of social and literary canons—Fénelon, Bayle, Fontenelle, Montesquieu; 162: Encyclopedists and rise of middle-class liberalism—Voltaire, Diderot; 163: Jacobin spirit and ideologues—d'Holbach, Helvétius, de Tracy. Lectures in French and English. An essay each quarter. Pr., 6 or equivalent. David
- 190, 191, 192. **Supervised Study.** (†) Staff
- Teachers' Course in French. (See Educ. 75K.) Simpson

*Courses for Graduates Only*

- 221, 222, 223. **Old French Reading.** (3, 3, 3) Open to all who have studied French four years. French majors will ordinarily translate into modern French. All who desire may, without prejudice, translate the old French into English. Frein
- 241, 242, 243. **French Historical Grammar.** (3, 3, 3) Lectures in English upon the phonology and morphology of French words. Pr., four years of French. Frein
- 291, 292, 293. **Conferences for Theses and Special Studies.** (3, 3, 3) Staff
- Not offered in 1946-1947: 7, 8, 9, Intermediate Grammar; 118, 119, 120, Survey of French Culture; 121, 122, 123, French Prose Fiction; 131, 132, 133, Lyric Poetry; 151, 152, 153, French Literature of the Nineteenth Century; 171, 172, 173, Seventeenth-century Literature; 201, 202, 203, French Renaissance; 213, French Stylistics; 231, 232, 233, History of Old French Literature; 281, 282, Seminar: Problems and Methods of French Literary History.

**Italian**

- 1-2, 3. **Elementary.** (5-5, 5) Goggio
- 34, 35, 36. **Comparative Literature.** (3, 3, 3) See French 34, 35, 36. Goggio
- 111, 112, 113. **Modern Italian Literature.** (2 or 3 ea. qtr.) Masterpieces of the principal literary types from the eighteenth century to the present. Pr., 2 with a grade of "B," or instructor's permission. Goggio
- 181, 182. **Dante in English.** (2, 2) The thought and expression of the Divine Comedy, against its background of medieval philosophy and art. May be counted as an elective in English major or minor. Goggio
184. **Renaissance Literature of Italy in English.** (2) Lectures and collateral reading. May be counted as an elective in English major or minor. Goggio
190. **Supervised Study.** (†) Goggio
- 291, 292, 293. **Conferences for Theses and Special Studies.** (3, 3, 3) Staff

† To be arranged.

*Courses for Graduates Only*

251, 252, 253. Individual Conference. (2 to 5 each quarter) Pr., consent of the executive officer.  
 Not offered in 1946-1947: 121, 122, 123, The Italian Novel; 221, 222, 223, Italian Literature of the XIIIth to the XVth Centuries; 231, 232, 233, History of Old Italian Literature; 243, Italian Historical Grammar.

*Portuguese*

- 1-2, 3. Elementary. (5-5, 5) Esteves  
 4, 5, 6. Intermediate. (2, 2, 2) Modern texts, composition, functional grammar. Pr., 3 or permission. Esteves  
 154, 155, 156. Contemporary Brazilian Literature. (3, 3, 3) Lectures in English. Pr., 6 or permission. C. Wilson  
 190. Supervised Study. (†)

*Provençal*

234. Old Provençal. (3) Simpson

*Spanish*

- 1-2, 3. Elementary. (5-5, 5) Pr. for 3 is 2 with a grade not less than "C." Students receiving "D" in 2 should take 3R.  
 3R. Elementary Grammar Review. (5) This refresher course should be taken, instead of 3, by those who have received a grade lower than "C" in Spanish 2. It may also be taken, with credit, by those who have had three or four semesters of Spanish in high school or one year in college if there has been a lapse of two years or more in their study of the language.  
 4, 5, 6. Intermediate. (3, 3, 3) Modern texts, composition, functional grammar. Pr. for 4 is Spanish 3 or 3R or three semesters in high school or equivalent.  
 10, 11. Elementary Spanish Conversation. (2, 2) Pr. 3 or 3R or equivalent; 10 or permission pr. for 11. W. Wilson  
 34, 35, 36. Comparative Literature. (3, 3, 3) See French 34, 35, 36. Goggio  
 101, 102, 103. Advanced Composition and Conversation. (3, 3, 3) Pr., 6 or equivalent Garcia-Prada, W. Wilson  
 104, 105, 106. Survey of Spanish Literature. (3, 3, 3) From early times to the present. Pr., 6 or equivalent. W. Wilson  
 115, 116, 117. Latin-American Literature and Culture (in English). (2, 2, 2) 115: The pre-Hispanic and Colonial periods; 116: the 19th century; 117: the contemporary period. Garcia-Prada  
 127, 128, 129. Advanced Conversation. (2, 2, 2) Pr., 102 or permission. Garcia-Prada  
 141, 142, 143. Spanish Drama. (3, 3, 3) Pr., 6 or equivalent. Garcia-Prada  
 151, 152, 153. Spanish Literature since 1700. (2, 2, 2) Pr., 6 or equivalent. W. Wilson  
 158, 159. Advanced Syntax. (2, 2) Elementary principles of philology and their application to teaching; difficulties of Spanish grammar from the teacher's point of view. Pr., 102 or equivalent. Umphrey  
 183. Spanish-American Literature. (3) General survey, to twentieth century. Pr., 6 or equivalent. Umphrey  
 184. Spanish-American Literature. (3) Mexico, Central America, the Caribbean area. Pr., 6 or equivalent. Umphrey  
 185. Spanish-American Literature. (3) Social and cultural life of Colombia and Venezuela. Pr., 6 or equivalent. Garcia-Prada  
 190. Supervised Study. (†) Staff  
 Teachers' Course in Spanish. (See Education 75Y.) Simpson

*Courses for Graduates Only*

221. Old Spanish Literature. (5) Study of the origins and early development of various types of literature. Umphrey  
 231. Epic Poetry. (5) The epic material in Old Spanish literature and its later treatment in poetry and drama. Special investigations and reports. Umphrey  
 241. Spanish Historical Grammar. (5) Umphrey  
 291, 292, 293. Conferences for Theses and Special Studies. (†) Staff  
 Not offered in 1946-1947: 118, 119, 120, Survey of Spanish Culture; 121, 122, 123, Spanish Prose Fiction; 131, Lyric Poetry; 171, 172, 173, Seventeenth-century Literature; 181, 182, 186, 187, Spanish-American Literature; 201, Spanish Renaissance; 252, 253, Graduate Spanish Studies.

† To be arranged.

# SCANDINAVIAN LANGUAGES AND LITERATURE

*Professor Vickner; Assistant Professor Arestad; Acting Instructor Thomle*

- 1-2, 3. Elementary Swedish. (3-3, 3) May be taken with 4-5, 6, making five-credit courses; 1, 2, 3 are hyphenated if 4-5 are not taken. Vickner
- 4-5, 6. Swedish Reading Course for Beginners. (2-2, 2) Supplementary to courses 1-2, 3, but may also be taken separately. No previous knowledge of Swedish necessary. Arestad
- 10-11, 12. Elementary Norwegian or Danish. (3-3, 3) May be taken with 13-14, 15, making five-credit courses; 10, 11, 12 are hyphenated if 13-14 are not taken. Arestad
- 13-14, 15. Norwegian or Danish Reading Course for Beginners. (2-2, 2) Supplementary to 10-11, 12, but may also be taken separately. No previous knowledge of Norwegian or Danish necessary. Vickner
- 20, 21, 22. Norwegian or Danish Literature. (2, 2, 2) Pr., ability to read easy Norwegian or Danish. Arestad
- 23, 24, 25. Swedish Literature. (2, 2, 2) Pr., ability to read easy Swedish. Vickner
- 103, 104, 105. Recent Swedish Writers. (2 or 3 each quarter; 4 by perm.) Pr., fair reading knowledge of Swedish. Vickner
- 106, 107, 108. Recent Norwegian or Danish Writers. (2 or 3 each quarter; 4 by perm.) Pr., fair reading knowledge of Norwegian or Danish. Vickner, Arestad

## Courses in English

98. Early Scandinavian Literature in English Translation. (1) Upper-division credit to upper-division students. Vickner
99. Outline of Modern Scandinavian Culture. (1) Upper-division credit to upper-division students. Vickner, Arestad
- 109, 110, 111. Modern Scandinavian Authors in English Translation. (1 ea. qtr.) Arestad
- 180, 181, 182. Recent Scandinavian Literature in English Translation. (2 ea. qtr.) Vickner

## Comparative Philology

- 190-191. Introduction to the Science of Language with Special Reference to English. (2-2) Pr., some knowledge of one of the classical languages or of one modern foreign language. Vickner
192. Life of Words. (2) Etymology and semasiology; growth of vocabulary; word values. Pr., same as for 190-191. Vickner

## Courses for Graduates Only

- 205-206. Scandinavian Literature in the Nineteenth Century. (2 to 4 each quarter) Vickner
- Not offered in 1946-1947: 201-202, Old Icelandic; 208, Scandinavian Lyric Poetry.

# SOCIAL WORK, GRADUATE SCHOOL OF

*Professors Ferguson, Witte\*; Assistant Professors Belzer, Jones, McCullough; Lecturers Barnett, Hoedemaker\*, Kaufman, Meyer, Murphy, Orr; Field Work Supervisor Macdonald*

Permission of School of Social Work Required Before Registration

## Preprofessional Undergraduate Courses

190. Objectives of Social Work. (3) Pr., permission.
192. Field of Social Work. (3) Pr., permission.
193. Introduction to Public Welfare. (3) Pr., permission.
195. Problems of Child Welfare. (3) Pr., permission.
- 196, 197, 198. Practicum in Social Work. (3, 3, 3) Pr., permission.

## Professional Graduate Curriculum

### First Year

- 200, 201, 202. Social Case Work. (3, 3, 3) Basic principles and methods of the case work process developed through discussion of case material. Professional students only. Belzer
- 203, 204, 205. Growth and Development of the Individual. (4, 2, 2) Medical and psychiatric information and knowledge of behavior as basic to social case work. Pr., 200. Ferguson, Orr, and Lecturers
206. Introduction to Public Welfare. (3) Development of public responsibility for dependent, handicapped delinquents in England and the United States. Pr., permission. McCullough

† To be arranged.  
\* On leave.

207. *Statistics in Social Work.* (3) Administrative studies in public social services; introduction to the statistical method. Pr., permission. McCullough
208. *The Child and the State.* (3) Development of the responsibility of the state for the care of children and of services for their care and protection. Pr., 200. Murphy
209. *Social Group Work.* (3) The place of group experience in socialization of individuals. Pr., permission.
210. *Administration of Social Insurances.* (3) The interrelationship of insurances and public assistance programs, including health insurance. Pr., 206. McCullough
212. *Social Welfare Organization.* (3) Pr., permission. Jones
214. *Community Organization for Social Welfare.* (3) Pr., permission. Jones
- 215, 216, 217, 218. *Field Work: Family Social Case Work.* (4, 4, 4, 4) Pr., permission. Belzer, Staff

## Second Year

220. *Family Case Work.* (3) Pr., 202. Belzer
- 222, 223, 224. *Seminar: Family Social Work.* (2-3 ea. qtr.) Pr., permission. Belzer
- 226, 227, 228, 229. *Field Work: Family Social Work.* (4, 4, 4, 4) Belzer, Staff
232. *Social Case Work with Children.* (3) Pr., 203. Meyer
- 234, 235, 236. *Seminar: Social Work with Children.* (2 or 3 ea. qtr.) Meyer
- 238, 239, 240, 241. *Field Work: Social Work with Children.* (4, 4, 4, 4) Staff
244. *Medical Social Case Work.* (3) Case work in the medical setting. Pr., 202, 205. Ferguson
- 246, 247, 248. *Seminar: Medical Social Work.* (2-3 ea. qtr.) Pr., 244. Ferguson
- 250, 251, 252, 253. *Field Work: Medical Social Work.* (4, 4, 4, 4) Pr., 244. Ferguson, Staff
258. *Psychiatric Social Case Work.* (2-3) Pr., 202, 205. Meyer
- 260, 261, 262. *Seminar: Psychiatric Social Work.* (2-3 ea. qtr.) Pr., 258. Meyer, Staff
- 264, 265, 266, 267. *Field Work: Psychiatric Social Work.* (4, 4, 4, 4) Pr., 258. Kaufman, Staff
270. *Public Welfare Administration.* (3) Pr., 206. McCullough
- 272, 273, 274. *Seminar: Public Welfare Administration.* (2-3 ea. qtr.) Pr., 270. McCullough
- 276, 277, 278, 279. *Field Work: Public Welfare Administration.* (4, 4, 4, 4) Pr., 270. McCullough, Staff
280. *Social Welfare Administration.* (3) Pr., 214. Jones
- 282, 283, 284. *Seminar: Community Organization for Social Welfare.* (2-3 ea. qtr.) Pr., 280. Jones
- 286, 287, 288, 289. *Field Work: Community Organization for Social Welfare.* (4, 4, 4, 4) Jones, Staff
300. *Social Work Research.* (3) Pr., 207, or equivalent. McCullough
305. *Administration of Social Agencies.* (3) Pr., permission. Staff
308. *Seminar: Supervision.* (2-3) Pr., permission. Belzer, Staff
- 310, 311, 312, 313. *Field Work: Supervision.* (4, 4, 4, 4) Pr., 308. Belzer, Staff
- 320, 321, 322, 323. *Readings in Social Work.* (2-3 ea. qtr.) Pr., permission. Staff
- 326, 327, 328, 329. *Thesis Research.* (†) Pr., 300. Staff
334. *Seminar: History of Social Work.* (2-3) Pr., permission. Staff
340. *Seminar: Social Work as a Profession.* (2-3) Pr., permission. Ferguson

## SOCIOLOGY

*Professors Lundberg, Hayner, Schmid, Steiner, Woolston; Assistant Professors Bowerman, Cohen, Miyamoto, O'Brien, Nettler; Acting Instructor Jabn; Associate Schrag*

1. *Survey of Sociology.* (5) Basic principles for understanding social relationships. (Juniors and seniors are advised to take 100 rather than 1.) O'Brien and Staff
27. *Survey of Contemporary Social Problems.* (5) Suicide, crime, population, unemployment, mental deficiency, mental diseases, family disorganization, etc. Pr., 1. Schmid
31. *Social Statistics.* (5) Methods and sources for quantitative investigation as applied to sociology and related fields. Pr., 1. Miyamoto, Cohen
55. *Human Ecology.* (5) Factors and forces which determine the distribution of people and institutions. Pr., 1. Schmid

† To be arranged.

60. **Collective Behavior.** (5) Study of social norms and their operation in interactional situations. Pr., 1, Psych. 1. Nettler
100. **General Sociology.** (5) Major concepts of sociology and the scientific point of view in dealing with social phenomena. (Juniors and seniors are advised to take this course in place of 1, if possible. Credit cannot be received for both 1 and 100.) Bowerman
112. **The Family.** (5) The changing home; family and marriage customs, family interaction and organization; domestic discord. Pr., 1. Hayner, Bowerman
114. **Social Factors in Marriage.** (3) Marital problems and their adjustment. Pr., 1, 112. Hayner
116. **American Housing Problems.** (3) Pr., 1. Cohen
120. **Criminology.** (5) Individual and social factors in delinquency; history and methods of criminal justice. Field trips to local penal institutions. Pr., 1. Hayner, Cohen
121. **Penology.** (3) Social treatment of adult offenders. Pr., 120 or approved equivalent. Hayner
122. **Juvenile Delinquency.** (5) Family and community backgrounds; institutional treatment; juvenile court and probation; programs for prevention. Pr., 1, and 120 or approved equivalent. Hayner
131. **Advanced Social Statistics.** (5) The application of statistical methods to the analysis of sociological data. Pr., 31. Jahn
132. **Methods of Social Research.** (5) Investigation of communities, institutions, and social conditions. Field and laboratory work. Pr., 31 or approved equivalent. Schmid
135. **Graphic Methods in Sociology.** (3) Theory and practice of constructing maps and graphs used in sociological research and exhibits. Schmid
142. **Race Relations.** (3) Study of interracial contacts and conflicts. Pr., 10 credits in social science. Steiner
143. **American Negro Community.** (3) Internal structure, class and caste patterns; resultant personality and institutional development. Pr., 1. O'Brien
144. **Rural Community.** (5) Social and economic problems. Pr., 1. Steiner
145. **Urban Community.** (5) Pr., 1. Steiner
149. **Latin-American Social Institutions.** (3) Social gradients and changing institutional patterns in representative Latin-American communities. Pr., 1. Hayner
151. **Human Migration.** (5) Determining factors and problems arising therefrom. Pr., 5 credits in sociology or economics. Steiner
155. **Human Ecology.** (5) Factors and forces which determine the distribution of people and institutions. Pr., 1. Schmid
160. **Social Action.** (3) Structure and function of human groups—crowds, publics, parties, etc. Pr., 20 credits in social science. Woolston
161. **Social Attitudes.** (3) How persons develop and manifest dispositions to act in certain ways toward their fellows—prejudice, favoritism, etc. Pr., 20 credits in social science. Woolston
162. **Public Opinion.** (3) Character and operation of beliefs formed by discussion—propaganda, criticism, education. Pr., 20 credits in social science. Woolston
171. **Social Control.** (5) Analysis of the technique and process by which changes in individual and collective actions are affected. Pr., 1. Miyamoto
172. **Social Change.** (3) Analysis of factors involved. Pr., 15 credits in social science. Nettler
173. **Social Stratification.** (3) Analysis of societal divisions; class, race, caste. Pr., 15 credits in social science. Nettler
178. **Sociological Theory.** (5) Modern scientific theory applied to social behavior. Sociology as a natural science. Pr., 20 credits of social science. Lundberg

*Courses for Graduates Only*

220. **Correctional Institutions.** (3) Prisons and juvenile reformatories as communities. Pr., 156 or approved equivalent. Hayner
221. **Probation and Parole.** (3) Sociological contributions to the treatment of juvenile and adult probationers and parolees. Pr., 156 or approved equivalent. Hayner
222. **Basic Crime Prevention.** (3) Critical consideration of programs for delinquency prevention. Pr., 156 or approved equivalent. Hayner
- 232, 233. **Seminar in Methods of Sociological Research.** (3, 3) Pr., 31, 132, and 178 or approved equivalents. Lundberg
242. **World Survey of Race Relations.** (3) Pr., 25 credits in social science. Steiner
250. **Demography.** (3) Population and vital statistics. Pr., 140 and 15 credits in social science. Schmid
251. **World Migration.** (2) Population movements in Eastern Asia with special emphasis upon Oriental migration to North and South America. Pr., 25 credits in social science. Steiner

255. **Advanced Human Ecology.** (2) Pr., 155 and 15 credits in social science. Steiner
- 260, 261, 262. **Social Criticism.** (3 ea. qtr.) Examination of conservative, liberal, and radical programs of social action. Pr., 25 credits in social science. Woolston
- 281, 282, 283. **Reading in Selected Fields.** (2 to 5 ea.) Open to qualified graduate students by consent of instructor only. Staff
- 291, 292, 293. **Field Studies in Sociology.** (2 to 5 ea.) Original field projects, carefully planned and adequately reported. Open only to qualified graduate students by consent of instructor. Staff
- Not offered in 1946-1947: 147, Chinese Social Institutions and Social Change; 148, Japanese Social Institutions; 150, Population Problems; 174, Contemporary Social Theory; 200, 201, 202, Departmental Seminar; 210, 211, 212, Marriage and Family; 235, Methodology: Quantitative Techniques in Sociology; 236, Methodology: Case Studies and Interviews.

### SPEECH

*Professors Orr, Rahskopf; Associate Professors Franzke, Carrell; Assistant Professors Bird,\* Pellegrini; Instructors Baissler,\* Burmeister, McCrery, Nelson, Redding; Associates Enquist, Kniseley, Pence,\* Wagner*

- A. **Speech Clinic.** (No credit) For students having speech defects. Sec. A, Articulation Problems; Sec. B, Foreign Dialect; Sec. C, Stuttering; Sec. D, Voice Problems. Carrell in Charge
- 1-2. **Basic Speech Improvement.** (2-2) Student orientation and adjustment; orderly thinking and listening; distinctness in utterance; effective oral use of language. Orr in charge
38. **Essentials of Argumentation.** (5) Bibliographies, briefs, and oral arguments. Upper-division credit for upper-division students.
40. **Essentials of Speaking.** (5) Franzke in Charge
41. **Advanced Speaking.** (5) Problems of organization and delivery. Upper-division credit for upper-division students. Pr., 40. Franzke
43. **The Speaking Voice.** (5) Removal of voice faults and development of voice modulations. Upper-division credit for upper-division students. Orr in Charge
44. **Voice and Articulation.** (5) Special attention to the sound system of English and to practice on problems of articulation and pronunciation. Upper-division credit for upper-division students. Pr., 43. Rahskopf
50. **Elementary Lip Reading.** (3) Fundamental principles; sense training for speed and accuracy.
60. **Introduction to Radio.** (3) Brief history of broadcasting in the United States, organization and policies of the industry, governmental regulations and control, social responsibilities of radio, public service programs, etc. Bird
61. **Radio Speech.** (3) Basic microphone techniques, reading of script, announcing, interviews, and talks. Special attention to voice and diction.
62. **Advanced Radio Speech.** (3) Analysis of audience situations, group discussions, and audience-participation programs.
79. **Oral Interpretation.** (4) Techniques of analysis and of reading aloud of printed material, both prose and poetry. Required of students seeking a secondary certificate in English. Upper-division credit for upper-division students. Orr, Rahskopf, Burmeister
101. **Varsity Debate.** (3) For members of the Varsity debate squad only. No more than 3 credits can be earned in one year and the total cannot exceed 12 credits. Orr, Franzke, Kniseley
103. **Extempore Speaking.** (3) For students in engineering and law. Not open to College of Arts and Sciences students nor to students who have credit for 40. Franzke
139. **Forms of Public Address.** (5) Study of the structure and style of the various forms of public address based on modern speeches. Pr., 40. Rahskopf
140. **Discussion Techniques Applied to Current Problems.** (3) Redding
141. **The Public Lecture.** (3) Pr., 40 or permission. Franzke
- 150, 151, 152. **Undergraduate Research in Speech Correction.** (2-5 ea. qtr.) Carrell
161. **Radio Speech.** (3) Announcer's copy, talks, dialogue, interviews, group discussion, etc. Pr., 43 and 79.
162. **Radio Production Methods.** (3) Sound effects, music in broadcasts, microphone placement, studio set-up, timing, cutting of scripts. Pr., 43 and 79.
163. **Radio Program Building.** (3) Adaptation of literary, informational, and persuasive material for radio. Pr., 43 and 79.
179. **Advanced Oral Interpretation of Literature.** (5) Pr., 79 or permission. Orr
186. **Backgrounds in Speech.** (5) Biological, acoustic, psychological, and social aspects. Speech as a field of study and the correlation of its various phases. Rahskopf
187. **Voice Science.** (5) Anatomy, physiology, physics, psychology of voice production. Pr., 43 or permission. Carrell

\* On leave.

188. **Advanced Problems in Speaking.** (5) Audience analysis, thought organization, and delivery. Pr., 40. Orr
190. **Speech Correction.** (5) Nature, etiology, diagnosis of disorders of speech. Carrell
191. **Methods of Speech Correction.** (5) Carrell
- 193, 195, 196. **Clinical Training in Speech Correction.** (2 to 5 ea. qtr.) May be repeated for total not to exceed 15 credits. Pr., 190, 191, permission. Carrell
194. **Basic Methods of Teaching Lip-reading.** (5) Pr., normal hearing.
198. **Senior Seminar in Speech.** (1) Rahskopf
- Teachers' Course in Speech.** (See Education 75X.)

*Courses for Graduates Only*

201. **Introduction to Graduate Study in Speech.** (2) Required of all graduate students in speech. Rahskopf
  211. **Historical Principles of Public Address.** (5) Critical evaluation of the principles of public address based on a study of their development from ancient to modern times. Rahskopf
  212. **Research in Rhetoric and Public Address.** (5) Rahskopf
  214. **Research in Voice.** (5) Orr
  215. **Research in Theory of Interpretation.** (5) Orr
  216. **Research in Speech Pathology.** (5) Carrell
  220. **Thesis Research.** (†) Staff
- Not offered in 1946-1947: 51, **Advanced Problems in Lip Reading**; 138, **Methods in Debate and Public Discussion**.

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†To be arranged.



# SUMMARY OF DEGREES, DIPLOMAS, AND CERTIFICATES GRANTED, 1944-1945

## Bachelor's Degrees

B.A. (College of Arts and Sciences).....	323	B.S. in Commercial Engineering .....	1
B.A. (College of Education).....	25	B.S. in Electrical Engineering .....	41
B.A. in Economics and Business .....	56	B.S. in Elec. Engineering & Naval Science .....	4
B.A. in Education .....	5	B.S. in Fisheries .....	2
B.A. in Home Economics .....	4	B.S. in Food Technology .....	1
B.A. in Librarianship .....	15	B.S. in Forestry .....	3
B.A. in Music .....	7	B.S. in Home Economics .....	18
Bachelor of Architecture .....	4	B.S. in Law .....	4
Bachelor of Laws .....	11	B.S. in Mathematics .....	2
B.S. (College of Arts and Sciences).....	142	B.S. in Mechanical Engineering .....	50
B.S. (College of Education).....	2	B.S. in Metallurgical Engineering .....	3
B.S. in Aeronautical Engineering .....	15	B.S. in Mining Engineering .....	3
B.S. in Anatomy .....	1	B.S. in Mining & Metallurgical Engineering .....	1
B.S. in Bacteriology .....	10	B.S. in Nursing .....	47
B.S. in Chemical Engineering .....	26	B.S. in Pharmacy .....	23
B.S. in Chemistry .....	9	B.S. in Zoology .....	2
B.S. in Civil Engineering .....	25		
B.S. in Civil Engineering & Naval Science .....	4	Total .....	889

## Advanced and Professional Degrees

Master of Arts .....	24	Master of Science in Civil Engineering .....	1
Master of Arts in Music .....	1	Master of Science in Pharmacy .....	1
Master of Education .....	2	Master of Science in Physical Education .....	1
Master of Nursing .....	3	Professional Degree, Civil Engineer .....	2
Master of Social Work .....	3	Doctor of Philosophy .....	16
Master of Science .....	10		
Master of Science in Chemical Engineering .....	2	Total .....	66

## Diplomas and Certificates

Certificate in Nursing Supervision .....	8	Three-Year Secondary Certificate .....	26
Certificate in Public Health Nursing .....	21	Total .....	55

## SUMMARY OF ENROLLMENT — TOTALS

### EXTENSION STUDENTS

Classes .....	1837
Men .....	359
Women .....	1478
Home Study .....	3228
Men .....	2484
Women .....	744
Total .....	5065

### CIVILIAN ENROLLMENT

Academic Year (Quarter) .....	543
Academic Year (Semester) .....	6336
Summer Quarter .....	318
Summer Session A .....	1154
Summer Session B .....	1319
Deduct summer duplicates .....	1193
(Summer Quarter 75 Summer Sessions 1118)	
Total (Academic year and summer) .....	8477

### SERVICE ENROLLMENT

	Summer Session B	1st Sem.	2nd Sem.
Navy V-12 .....			
College of Engr. ....	823	580	486
College of E&B .....	120	118	88
College of A&S .....	255	120	40
School of Law .....	8	1	
College of Educ. ....	3	1	
College of Mines .....	4	2	3
College of Forestry ..	6	2	
College of Pharmacy ..	1		
Totals .....	1220	824	617

### TOTAL STUDENTS IN RESIDENCE

Navy V-12 .....	1440
Civilians .....	8477
Total .....	9917

**SUMMARY OF CIVILIAN ENROLLMENT BY SCHOOLS AND COLLEGES, UNIVERSITY OF WASHINGTON, YEAR 1944-1945**  
**QUARTER SYSTEM** **SEMESTER SYSTEM**

COLLEGE	Summer	Autumn	Winter	Spring	Total Individuals† Quarter System	Summer Session "A"	Summer Session "B"	First Semester	Second Semester	Total Individuals Semester System	Total Individuals Academic Year
Arts & Sciences...					453	661	887	4187	3807	4697	5150
Men.....		1	2		3	63	288	664	604	821	824
Women.....	263	306	276	287	450	598	599	3523	3203	3876	4326
Econ. & Business.						51	94	473	478	555	555
Men.....						19	47	159	182	210	210
Women.....						32	47	314	296	345	345
Education.....						119	11	72	74	78	78
Men.....						13	5	16	16	20	20
Women.....						106	6	56	58	58	58
Engineering.....						1	194	313	257	373	373
Men.....						1	183	289	240	347	347
Women.....						..	11	24	17	26	26
Forestry.....							6	33	34	42	42
Men.....							..	31	31	40	40
Women.....							..	2	3	2	2
Graduate School..					14	307	113	391	379	489	*503
Men.....	..	..	..	..	..	105	62	173	170	220	220
Women.....	6	13	5	9	14	202	51	218	209	269	283
Law.....					76						76
Men.....	39	49	52	42	56						56
Women.....	10	16	18	27	20						20
Mines.....						1	3	8	4	9	9
Men.....						..	..	..	..	..	..
Women.....											
Pharmacy.....						14	11	81	82	93	93
Men.....						6	5	30	34	37	37
Women.....						8	6	51	48	56	56
TOTALS.....	39	318	385	353	365	543	1154	1319	5558	5115	6879
Men.....	279	50	54	42	59	208	599	1370	1281	1704	1763
Women.....	279	335	299	323	484	946	720	4188	3834	4632	5116

†The totals are based upon the classification of the Autumn Quarter, to which is added the number of new students entering the same classification for the first time for the Winter and Spring Quarters. In this column, students who have changed their classification during the year are counted as of their first classification.

\*To this number should be added 44 students who were enrolled as graduate students and are included in the Law School total.

# SUMMARY OF CIVILIAN ENROLLMENT BY CLASSES, UNIVERSITY OF WASHINGTON, YEAR 1944-1945

## QUARTER SYSTEM

## SEMESTER SYSTEM

CLASSES	Summer	Autumn	Winter	Spring	Total Individuals Quarter System	Summer Session "A"	Summer Session "B"	First Semester	Second Semester	Total Individuals Semester System	Total Individuals Academic Year
	1	2	3	4	5	1	2	3	4	5	6
Freshmen.....	28	32	7	12	49	106	559	2586	2113	3024	3073
Men.....	28	32	7	12	49	20	299	709	541	913	913
Women.....						86	260	1877	1572	2111	2160
Sophomores.....	22	39	23	4	43	142	264	1225	1226	1334	1377
Men.....	22	39	23	4	43	20	87	206	255	237	237
Women.....						122	177	1019	971	1097	1140
Juniors.....	67	105	91	103	108	175	203	757	745	823	931
Men.....	5	10	8	8	11	23	72	144	157	170	181
Women.....	62	95	83	95	97	152	131	613	588	653	750
Seniors.....	91	95	102	55	100	181	167	545	610	591	691
Men.....	5	10	11	5	11	21	72	115	137	131	142
Women.....	86	85	91	50	89	160	95	430	473	460	549
Graduates.....	38	49	44	50	58	307	113	391	379	489	547
Men.....	25	28	30	27	33	105	62	173	170	220	253
Women.....	13	21	14	23	25	202	51	218	209	269	294
Specials.....	59	65	86	141	185	20	13	54	42	75	260
Men.....	1	2	5	2	4	1	7	23	21	33	37
Women.....	58	63	81	139	181	19	6	31	21	42	223
Transients.....	13					223					
Men.....	3					18					
Women.....	10					205					
TOTALS.....	318	385	353	365	543	1154	1319	5558	5115	6336	6879
Men.....	39	50	54	42	59	208	599	1370	1281	1704	1763
Women.....	279	335	299	323	484	946	720	4188	3834	4632	5116

NOTE: The number of individuals in Column 5 (Quarter) is based upon the classification of the Autumn Quarter, to which is added the number of new students entering the same classification for the first time for the Winter and Spring Quarters. In this column, students who have changed their classification during the year are counted as of their first classification.

NOTE: The total of individuals in Column 5 (Semester) is based upon the classification of the First Semester, to which is added the number of new students entering the same classification for the first time for the Second Semester. In this column, students who have changed their classification during the year are counted as of their first classification.

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