

## SPECIAL ANNOUNCEMENT

The University (except the Law School and the Hospital Division of the School of Nursing Education) has changed temporarily from the quarter to the semester system in order to meet the needs of the Navy program. This change was made after the catalogue was already in type.

The calendar, page 6, gives the dates for the opening and closing of the semesters. The first semester, beginning November 1, is considered the opening term of the school year.

Civilian students will be admitted to most classes which are offered in the session beginning July 1 and freshmen, in particular, will have a wide variety of classes from which to choose.

*Requirements for graduation.* Departmental, college, and university requirements for graduation are expressed in terms of *quarter* credits throughout the catalogue; in satisfying these requirements semester credits will be translated into quarter credits, one semester credit normally being the equivalent of one and one-half quarter credits.

*Announcement of courses.* In the announcement of courses, pages 141 to 197, the *quarter* credit is given unless otherwise indicated. This section will be useful chiefly in giving some idea of the courses which will be offered and of the subject matter of a particular course, but it will be necessary for the student to register for a given semester from the Room Assignment Schedule (available only at the adviser's office at time of registration) which will give course numbers, class hours, and credits on the *semester* basis. The course numbers in the adviser's Room Assignment Schedule will correspond as nearly as possible to the course numbers in the catalogue.

*Refund of fees—first and second semesters.* 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 forty-five 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.

## EXPENSES

Notice: The right is reserved to change any or all fees without notice to present or future students. Consult the calendar, page 6, for fee payment dates. See page 57 regarding late registration fines.

### Examples of First and Second Semester Fees for Various Types of Registration

(For fees not listed here, see pages 54-58. Such fees as are stated on a quarterly basis, if applicable to the semester system, will be increased approximately on a prorata basis.)

#### Resident Students<sup>1</sup>

Types of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. Fee		Total Fees	
				First Semester	Second Semester	First Semester	Second Semester
Undergraduate.....	\$22.50	\$18.75	....	\$6.00	\$3.00	\$47.25	\$44.25
Fresh. and New Soph.....	22.50	18.75	(\$25.00)†	6.00	3.00	72.25	44.25
Graduate.....	22.50	18.75	....	*	*	41.25	41.25
Auditors.....	18.00	....	....	*	*	18.00	18.00
Ex-service Men or Women of World War I.....	....	18.75	....	6.00	3.00	24.75	21.75
Part time (max. 6 cr. hrs. exclusive of R.O.T.C.).....	22.50	3.75	....	*	*	26.25	26.25
Nursery School**.....	22.50	3.75	....	....	....	....	....

#### Non-resident Students<sup>2</sup>

Undergraduate.....	75.00	18.75	....	6.00	3.00	99.75	96.75
Fresh. and New Soph.....	75.00	18.75	( 25.00)†	6.00	3.00	124.75	96.75
Graduate.....	75.00	18.75	....	*	*	93.75	93.75
Auditors.....	18.00	....	....	*	*	18.00	18.00
Ex-service Men or Women of World War I.....	37.50	18.75	....	6.00	3.00	62.25	59.25
Part time (max. 6 cr. hrs. exclusive of R.O.T.C.).....	75.00	3.75	....	*	*	78.75	78.75
Nursery School**.....	75.00	3.75	....	....	....	....	....

<sup>1</sup> A resident student 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 non-resident 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 non-resident office (203 Condon Hall) for change of classification to resident status.

<sup>2</sup> A non-resident 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:

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

\* Optional.

\*\* The fees for *children* in the Nursery School are as follows:

March 6-June 9—\$30 for 3 hr. per day attendance; \$45 for 6 hr. per day attendance.

September 18-February 24—\$50 for 3 hr. per day attendance; \$70 for 6 hr. per day attendance.

† Men only; uniform deposits refunded in full upon return of U. S. Army issued property.

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

**BULLETIN**  
**UNIVERSITY OF WASHINGTON**

**CATALOGUE**  
**1944-1945**



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**GENERAL SERIES**

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### SUMMER SESSION "A" 1944

Registration dates.....June 15 to July 1, 12 m.

*All fees must be paid in advance of registration*

Instruction begins.....Monday, July 3, 8 a.m.

Last day to register with late fee and add a course.....Wednesday, July 5, 4:30 p.m.

Last day to withdraw and receive a "W" without grade (civilian).....Saturday, July 29, 12 m.

Instruction ends.....Friday, August 25, 6 p.m.

### SUMMER SESSION "B" 1944

Registration dates:

Navy V-12 enrollees.....June 12 to June 24, 12 m.

Civilians .....June 15 to July 1, 12 m.

*Civilians must pay fees in advance of registration*

Instruction begins.....Monday, July 3, 8 a.m.

Last day to register with late fee, and to add a course (civilian).....Saturday, July 8, 12 m.

Last day to withdraw and receive a "W" without grade (civilian).....Saturday, August 26, 12 m.

Instruction ends.....Saturday, October 21, 6 p.m.

### FIRST SEMESTER, 1944-45

Registration dates:

Navy V-12 enrollees.....October 9 to October 21, 12 m.

Civilians.....October 12 to October 31, 4:30 p.m.

*Civilians must pay fees in advance of registration*

Special instruction for new freshmen.....Begins Monday, October 30, 9 a.m., ends October 31

Instruction begins.....Wednesday, November 1, 8 a.m.

The President's Convocation.....Wednesday, November 1, 11 a.m.

Last day to register with late fee and to add a course (civilian)...Tuesday, November 7, 4:30 p.m.

Armistice and Admission Day (civilian holiday).....Saturday, November 11

President's Reception to the parents of new freshmen.....Tuesday, December 12, 7:30 p.m.

Last day to withdraw and receive a "W" without grade (civilian)...Saturday, December 23, 12 m.

Christmas recess begins.....Saturday, December 23, 6 p.m.

Christmas recess ends.....Monday, January 1, 8 a.m.

Instruction ends.....Saturday, February 24, 6 p.m.

### SECOND SEMESTER, 1944-45

Registration dates:

Navy V-12 enrollees.....February 5 to February 24, 12 m.

Civilians.....February 8 to March 3, 12 m.

*Civilians must pay fees in advance of registration*

Instruction begins.....Monday, March 5, 8 a.m.

Last day to register with late fee and to add a course (civilian).....Saturday, March 10, 12 m.

Last day to withdraw and receive a "W" without grade (civilian).....Saturday, April 28, 12 m.

Honors Convocation.....Wednesday, May 16, 10 a.m.

Baccalaureate Sunday.....Sunday, June 17

Commencement.....Saturday, June 23

Instruction ends.....Saturday, June 23, 6 p.m.

## HOSPITAL DIVISION OF THE SCHOOL OF NURSING EDUCATION

### Summer Quarter, 1944

Instruction begins.....Monday, June 12  
Instruction ends.....Friday, August 23

### Autumn Quarter, 1944

Instruction begins.....Monday, September 25  
Instruction ends.....Wednesday, December 13

### Winter Quarter, 1945

Instruction begins.....Tuesday, January 2  
Instruction ends.....Friday, March 16

### Spring Quarter, 1945

Instruction begins.....Monday, March 26  
Instruction ends.....Friday, June 8

## LAW SCHOOL

### Summer Quarter, 1944

Registration dates.....June 21 to July 1, 12 m.

*All fees must be paid in advance of registration*

Instruction begins.....Monday, July 3, 8 a.m.  
Instruction ends.....Friday, September 15, 6 p.m.

### Autumn Quarter, 1944

Registration dates.....September 20 to September 30, 12 m.

*All fees must be paid in advance of registration*

Instruction begins.....Monday, October 2, 8 a.m.  
Instruction ends.....Friday, December 22, 6 p.m.

### Winter Quarter, 1945

Registration dates.....December 13 to December 30, 12 m.

*All fees must be paid in advance of registration*

Instruction begins.....Tuesday, January 2, 8 a.m.  
Instruction ends.....Friday, March 16, 6 p.m.

### Spring Quarter, 1945

Registration dates.....March 14 to March 24, 12 m.

*All fees must be paid in advance of registration*

Instruction begins.....Monday, March 26, 8 a.m.  
Instruction ends.....Friday, June 8, 6 p.m.

## SCHEDULE OF UNIVERSITY SENATE AND EXECUTIVE COMMITTEE MEETINGS FOR THE YEAR 1944-1945

### Summer Session "B" 1944

Executive Committee.....Tuesday, July 24

### First Semester 1944-1945

Senate (Election of Executive Committee).....Thursday, November 9

Executive Committee (Appointment of all Faculty Committees).....Tuesday, November 14

Senate.....Thursday, November 23

Executive Committee.....Tuesday, January 9

Senate.....Thursday, January 18

### Second Semester 1944-1945

Executive Committee.....Tuesday, April 3

Senate.....Thursday, April 12

Executive Committee.....Tuesday, May 8

Senate.....Thursday, May 17

Executive Committee.....Tuesday, June 12

## BOARD OF REGENTS

1943-1944

PHILIP D. MACBRIDE, <i>President</i> .....	Seattle
Term ends March, 1944	
ALFRED SHEMANSKI, <i>Vice-President</i> .....	Seattle
Term ends March, 1944	
EVA ANDERSON .....	Chelan
Term ends March, 1946	
THOMAS BALMER.....	Seattle
Term ends March, 1947	
WINLOCK W. MILLER .....	Seattle
Term ends March, 1947	
WERNER A. RUPP.....	Aberdeen
Term ends March, 1945	
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Term ends March, 1946	

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Executive.....	Macbride, Balmer, Miller, Shemanski
Finance.....	Shemanski, Balmer, White
University Lands.....	Rupp, Anderson, Miller
University Welfare.....	Balmer, Anderson, Rupp

### University of Washington Alumni Association

President.....	George G. Rogge, B.S.F., 1922
Vice-President.....	Edith C. Korres, B.A. in Journalism, 1923
Vice-President.....	Armand Marion, Jr., B.A., 1925
Treasurer.....	Harold C. Philbrick, B.A., 1930
Secretary.....	R. Bronsdon Harris, B.S.F., 1931

## OFFICERS OF ADMINISTRATION

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LEETA S. WILLIS, Ph.D.....Assistant to the Dean of the College of Arts and Sciences

\* On leave.

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Todd, J. Ronald, B.A., B.S. (L.S.)	Senior Librarian, Reference Division
Tucker, Lena Lucile, B.A., B.S. (L.S.), M.A.	Senior Librarian, Catalog Division
White, Kathleen, B.A., B.S. in L.S.	Junior Librarian, Circulation Division

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Hoard, Mary, B.A., LL.B., LL.M., B.S. (L.S.)	Catalog Librarian

## UNITED STATES ARMY RESERVE OFFICERS' TRAINING CORPS AND ARMY SPECIALIZED TRAINING UNIT

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Dawson, James R., B.S.	Captain, C.A.C.
Harwick, Paul M., B.S. in B.A., M.S. in B.A.	Captain, Q.M.C.
Hilsenberg, Ernest B., B.A.	First Lieutenant, Infantry
Harrison, Thomas L.	Technical Sergeant, D.E.M.L. (C.A.C.)
Stevens, Orval L.	Sergeant, D.E.M.L. (Infantry)
Lustig, George M.	Sergeant, D.E.M.L. (C.A.C.)
Forrest, Allan J.	Sergeant, D.E.M.L. (C.A.C.)



## UNITED STATES NAVAL RESERVE OFFICERS' TRAINING CORPS

Barr, Eric L., B.S., Ph.D.	Captain, U.S. Navy
Taffinder, Sherwoode A., B.S.	Rear Admiral, U.S. Navy
Keeler, Frederic S., B.S.	Commander, U.S. Navy
Willis, Park Weed, Jr., A.B., M.D.	Commander (MC), U.S.N.R.
Ramsey, Walter P., B.S.	Lieutenant Commander, U.S. Navy
McGarvey, David F., M.D.	Lieutenant Commander (MC), U.S.N.R.
Thomas, John W., B.A.	Lieutenant, U.S.N.R.
Shearer, Allen E., B.A., M.S., Ph.D.	Lieutenant, U.S.N.R.
Putnam, Rufus A., B.S., M.S.	Lieutenant, U.S.N.R.
Moore, Paul, Jr., A.B.	Captain, U.S.M.C.R.
Martin, William P., A.B., LL.B.	Lieutenant, U.S.N.R.
Abel, Theodore T., B.S., M.Ed.	Lieutenant (jg), U.S.N.R.
Moulthrop, Henry K., B.A.	Lieutenant (jg), U.S.N.R.
Fuller, Max E., A.B., M.A.	Lieutenant (jg), U.S.N.R.
Sheehan, Norman J., D.M.D.	Lieutenant (jg) (DC), U.S.N.R.
Chalmers, George B., B.S.	Lieutenant (jg) U.S.N.R.
Weiss, Bertram D., A.B.	Ensign, U.S.N.R.
Cedarleaf, June F., B.S.	Ensign W-V(S), U.S.N.R.
Harmony, Rufus A.	Chief Boatswain, U.S. Navy
Hamilton, Malcolm	Chief Gunner, U.S. Navy
Turner, Joseph F.	Warrant Officer, U.S.M.C.

## THE GRADUATE SCHOOL OF SOCIAL WORK

### Lecturers and Supervisors

Ferguson, Grace B., M.A.	Acting Director
King County Medical Society	Lecturers in Medical Information
American Red Cross	Jamieson, Ann Norrell, Supervisor of Field Work
Catholic Charities	Weber, Irene, " " " "
Family Society of Seattle	{ Hartson, Margaret, " " " "
	{ Kirry, Agnes, " " " "
	{ Liddick, Dorothy, " " " "
King County Hospital	{ Adams, Blanche, " " " "
	{ Laughrige, Katherine, " " " "
King County Juvenile Court	* " " " "
King County Welfare Department	Macdonald, Catherine, " " " "
Ryther Child Center	{ Burns, Lillian, " " " "
	{ Germain, Marie, " " " "
Seattle Children's Home	* " " " "
Washington Children's Home Society	Weinzirl, Elizabeth, " " " "

## OFFICE OF THE REGISTRAR

Toner, Ethelyn, B.A.	Acting Registrar
Sanders, Anne	Secretary
Willard, Frances, B.A.	Credentials
Brugger, Minnie Kraus, B.A.	Graduation
Saunders, Virginia, B.A.	Recording
Pape, Eva Gene	Registration
Mohrman, Coral	Room Assignments
Tate, Frances E.	Transcripts

## THE MUSEUM

Gunther, Erna, Ph.D.	Director
Rathbun, Samuel F.	Honorary Curator of Birds
Flahaut, Martha Reekie, B.A., B.S. (L.S.)	Museum Assistant
Ivey, Margaret	Docent

\* To be appointed.

## THE HENRY GALLERY

Isaacs, Walter F., B.S. (F.A.).....*Director*  
 Savery, Halley.....*Curator*

## ENGINEERING EXPERIMENT STATION

Loew, Edgar Allan, B.S., E.E.....*Director*  
 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*

## OCEANOGRAPHIC LABORATORIES

\*Thompson, Thomas Gordon, Ph.D.....*Director*  
 Utterback, Clinton Louis, Ph.D.....*Acting Director*

## OFFICE OF STATE CHEMIST

Goodrich, Forest Jackson, Ph.C., Ph.D.....*Director*  
 Arrigoni, Louis, 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.....*Assistant Chemical Engineer*  
 Geer, M. R., M.S. in Min.E.....*Assistant Mining Engineer*  
 Zane, R. E., M.S. in Met.E.....*Junior Chemical Engineer*  
 \*Davies, Ben, M.S. in Cer.E.....*Junior Engineer*  
 Ehlers, Forrest A., B.A., B.S.....*Junior Chemist*  
 Fatzinger, Robert W., M.S. in Min.E.....*Assistant Metallurgical Engineer*  
 Parenteau, Louis S., B. of Chem.E.....*Assistant Chemical Engineer*  
 Crummet, Duane O.....*Junior Chemist*  
 Crawford, Clyde L., B.S.....*Junior Chemist*  
 Keating, Henry T.....*Principal Clerk*  
 Bly, Doris L.....*Clerk*  
 Lance, William E.....*Mill Mechanic*

## UNIVERSITY HEALTH SERVICE

Hall, David Connolly, M.D.....*University Health Officer*  
 Lester, Charles N., M.D.....*Assistant Health Officer*  
 Lovewell, C. H., Major.....*Assistant Health Officer*

\* On leave.

## BOARDS AND COMMITTEES\*

1943-1944

### Administrative

*Admissions*—Dean of the College or School concerned, and Registrar.

*Board of Deans*—Lauer, Condon, Falknor, Goodrich, Guthrie, Loew, Newhouse, Powers, Preston, Roberts, Thomson, Ward, Winkenwerder, and Registrar.

*General Publications Board*—Chairman, Guthrie; Burd, Eastman, Lauer, Vail, Winger, the Comptroller, the Registrar, the University Editor.

*Traffic Judge*—Richards.

### Executive Committee of University Senate

L. J. Ayer, B. Grondal, J. B. Harrison, M. M. Rader, R. M. Winger, C. P. Wood; Registrar, secretary.

### Committees of the Faculty

*Athletics*—Chairman, Nottelmann; Corbally, H. Foster, Griffith, Lauer, Mackenzie, May, Powell, Savage; Director of Student Affairs, ex officio; Manager of Athletics, ex officio.

*Budget*—Chairman, Tartar; W. E. Cox, Steiner, Tymstra, Winger, Wood; Comptroller, ex officio.

*Building Needs*—Chairman, McMinn; Carlson, Cooper, Goodspeed, Isaacs, Lawrence, H. H. Martin, Olschewsky; 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.

*Grades*—Chairman, Birnbaum; G. H. Cady, Gates, Edwin Guthrie, Lindblom, Loew, Powers, W. C. E. Wilson; Registrar, ex officio.

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

*Honors*—Chairman, Densmore; Brakel, F. S. Eastman, Hatch, H. C. Meyer, Pries, R. L. Taylor; Registrar, ex officio.

*Library*—Chairman, C. W. Smith; Beardsley, Benham, Carpenter, Guthrie, Hayner, Marckworth, Preston, Rising, Thomson, Wilcox, Williams.

*Public Exercises*—Chairman, Daniels; Corbally, Franzke, Hanley, W. R. Hill, Jr., Jerbert, Lawrence, Lindblom, A. L. Miller, Powell.

*Public Lectures and Concerts*—Chairman, Wood; K. C. Cole, Gunther, Harrison, Hutchinson, Isaacs, McKay, Nostrand, Quainton, Rader, Savery; Director of Student Affairs, ex officio.

*Public Relations*—Chairman, Burd; H. K. Benson, T. R. Cole, Mander, Phillips, Vail; Comptroller, ex officio; Director, University News Service, ex officio; Director, Extension Service, ex officio; Secretary, Alumni Association, ex officio.

*Radio*—Chairman, Loew; Denny, Hoff, Hughes, Pauline Johnson, Lauer, Normann, Chas. Padelford, H. E. Smith; Director, University News Service, ex officio.

*Relations with Secondary Schools and Colleges*—Chairman, T. R. Cole; Beaumont, O. E. Draper, Gates, Hitchcock, Ingalls, Powers, Sperlin, Turner, Utterback, Vail, Warner; Registrar, ex officio.

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

*Rules*—Chairman, O'Bryan; Demmery, Hayner, Lawson, E. B. Stevens, Thomson; Registrar, ex officio.

*Schedule and Registration*—Chairman, Griffith; Ballantine, Demmery, Hennes, Irvine, Powell, Van Horn; Registrar, ex officio; Assistant to Dean of College of Arts and Sciences, ex officio.

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

- Special Committee on Scholarship*—Chairman, A. W. Martin; Densmore, Harrison, McKay, McMinn, Mander, Mund, Newhouse, Nostrand, Powell, Rader, Ray, Schmid, Curtis Williams.
- Student Campus Organizations*—Chairman, A. L. Miller; E. H. Adams, Bash, Blankenship, Corey, Hansberry, Kelly, F. C. Smith, Starr, Zillman.
- Student Discipline*—Chairman, Schmid; Edna Benson, Stephen Brown, Cross, Verne Ray, E. R. Wilcox, William R. Wilson.
- Student Welfare*—Chairman, Marckworth; Engel, Viola Garfield, Hansberry, Leahy, Newhouse, Nostrand, Walters, Ruth Wilson; Registrar, ex officio.
- Tenure and Academic Freedom*—Chairman, Steiner; H. K. Benson, Falknor, Goodspeed, Mund, Pearce, Rex Robinson, Rowntree, C. T. Williams, G. S. Wilson, Winther.

#### Graduate School Committees

- Graduate Publications*—Guthrie, Carpenter, K. C. Cole, Goodspeed, Griffith, Gundlach, Gunther, Ordal, Rigg, C. W. Smith; the University Editor, ex officio.
- University Research*—Carpenter, Guthrie, Lauer, Preston, Weaver.

### UNIVERSITY SENATE FOR 1943-1944

#### A. Humanities

- I. LETTERS. *Terms expire spring, 1946:* Dudley D. Griffith, *English*; Horace G. Rahskopf, *Speech*; William M. Read, *Classics*; Lawrence Zillman, *English*. *Terms expire spring, 1945:* Harvey B. Densmore, *Classics*; Joseph B. Harrison, *English*; Howard L. Nostrand, *Romanic Languages*; Curtis C. D. Vail, *German*. *Terms expire spring, 1944:* Allen R. Benham, *English*; Jean C. Chessex, *Romanic Languages*; Edward G. Cox, *English*; Sophus K. Winther, *English*.
- II. ART. *Terms expire spring, 1946:* Edna Benson, *Art*; Kathleen Munro, *Music*. *Terms expire spring, 1945:* Walter F. Isaacs, *Art*; Carl P. Wood, *Music*. *Terms expire spring, 1944:* Helen Hall, *Music*; Charles W. Lawrence, *Music*.

#### B. Science

- III. GENERAL. *Terms expire spring, 1946:* C. Leo Hitchcock, *Botany*; Herman V. Tartar, *Chemistry*. *Terms expire spring, 1945:* Roy Winger, *Mathematics*; Clinton Utterback, *Physics*. *Terms expire spring, 1944:* Howard Coombs, *Geology*; Erling J. Ordal, *Bacteriology*.
- IV. TECHNOLOGY. *Terms expire spring, 1946:* W. L. Beuschlein, *Chem. Engr.*; Austin V. Eastman, *Elect. Engr.*; Robert G. Hennes, *Civil Engr.*; Elgin R. Wilcox, *General Engr.*. *Terms expire spring, 1945:* Clarence R. Corey, *Mines*; Everett O. Eastwood, *Mech. Engr.*; L. Wait Rising, *Pharmacy*; Robert B. Van Horn, *Hyd. Engr.*. *Terms expire spring, 1944:* Bror Grondal, *Forestry*; Roy Lindblom, *Elect. Engr.*; S. R. Tymstra, *Mech. Engr.*; Frank Warner, *Gen. Engr.*

#### C. Social Studies

- V. GENERAL. *Terms expire spring, 1946:* Linder A. Mander, *Pol. Sci.*; Melvin M. Rader, *Philosophy*. *Terms expire spring, 1945:* Herbert J. Phillips, *Philosophy*; C. Eden Quainton, *History*. *Terms expire spring, 1944:* Kenneth Cole, *Pol. Sci.*; Jesse F. Steiner, *Sociology*.
- VI. APPLIED. *Terms expire spring, 1946:* Arthur S. Beardsley, *Law*; John E. Corbally, *Education*; Joseph Denmery, *E. & B.*; Effie I. Raitt, *Home Econ.*. *Terms expire spring, 1945:* Leslie J. Ayer, *Law*; Henry A. Burd, *E. & B.*; Thomas R. Cole, *Education*; Elizabeth Soule, *Nursing*. *Terms expire spring, 1944:* William E. Cox, *E. & B.*; Mary G. Hutchinson, *P. E.*; Vernon Mund, *E. & B.*; Curtis Williams, *Education*.

## FACULTY MEMBERS ON LEAVE

Anderson, Julia M., 1940. .... *Instructor in Nursing Education*  
 Bacon, Elizabeth Emaline, 1942. .... *Instructor in Far Eastern Studies*  
 Baisler, Perry E., 1937 (1941) .... *Instructor in Speech*  
 Barksdale, Julian D., 1936 (1943) .... *Associate Professor of Geology*  
 Bartels, Robert D. W., 1938 (1941) .... *Assistant Professor of Marketing*  
 Belshaw, Roland E., 1930 (1943) .... *Professor of Physical Education*  
 Benson, Merritt E., 1931 (1937) .... *Associate Professor of Journalism*  
 Bird, Winfred W., 1928 (1940) .... *Assistant Professor of Speech*  
 Bostetter, Edward E., 1940. .... *Assistant Professor of English*  
 Braker, Thelma, 1940. .... *Instructor in Nursing Education*  
 Buckley, Robert William, 1942. .... *Associate in Physical Education*  
 Burns, Harry H., 1934 (1943) .... *Assistant Professor of English*  
 Byers, Jean, 1939. .... *Instructor in Nursing Education*  
 Cady, Willoughby Miller, 1941. .... *Assistant Professor of Physics*  
 Chertkov, Morris, 1934 (1937) .... *Assistant Professor of Business Law*  
 Christian, Byron Hunter, 1926 (1936) .... *Associate Professor of Journalism*  
 Church, Phil E., 1935 (1943) .... *Associate Professor of Geography and Meteorology*  
 Cohen, Joseph, 1932 (1941) .... *Assistant Professor of Sociology*  
 Cook, Thomas I., 1939. .... *Associate Professor of Political Science*  
 Cornu, Donald, 1928 (1943) .... *Associate Professor of English*  
 Costigan, Giovanni, 1934 (1942) .... *Associate Professor of History*  
 Crain, Richard W., 1936. .... *Instructor in Mechanical Engineering*  
 Creore, Alvin Emerson, 1940. .... *Instructor in Romanic Languages*  
 Crescitelli, Frederick, 1940. .... *Instructor in Physiology*  
 Cross, Harriet, 1932 (1941) .... *Assistant Professor of Nursing Education*  
 Crounse, Dorothy, 1937  
*Ass't Prof. of Social Work; Superv'r of Field Work, Graduate School of Social Work*  
 Dille, James M., 1936 (1941) .... *Professor of Pharmacology*  
 Dorman, Helen Thompson, 1933 (1942)  
*Ass't Prof. of Social Work; Superv'r of Field Work, Graduate School of Social Work*  
 Dvorak, August, 1923 (1937) .... *Professor of Educational Research and Statistics*  
 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*  
 Fordon, John Vivian, 1935 (1936) .... *Instructor in Accounting*  
 Gowen, Lance E., 1924 (1937) .... *Professor of Architecture*  
 Gray, Robert Simpson, 1939. .... *Associate in Drama*  
 Gundlach, Ralph H., 1927 (1937) .... *Associate Professor of Psychology*  
 Haendler, Helmut Max, 1939 (1940) .... *Instructor in Chemistry*  
 Hage, Robert Evans, 1940. .... *Instructor in Aeronautical Engineering*  
 Hall, James Kendall, 1930 (1934) .... *Professor of Public Utilities and Public Finance*  
 Hansen, Thomas Louis, 1941. .... *Lecturer in Architecture*  
 Henry, Bernard S., 1931 (1941)  
*Professor of Bacteriology; Executive Officer of the Department of Bacteriology*  
 Holt, William Stull, 1940  
*Professor of American History; Executive Officer of the Department of History*  
 Horton, George P., 1934 (1939) .... *Assistant Professor of Psychology*  
 Huber, John Richard, 1939 (1942) .... *Associate Professor of Economics*  
 Hudson, Alfred Emmons, 1940. .... *Associate in Anthropology*  
 Johnson, Sylvia G., 1939. .... *Instructor in Nursing Education*

Katz, Solomon, 1936 (1943).....*Associate Professor of History*  
 Keith, Wendell Paisley, 1939.....*Instructor in Ceramic Engineering*  
 Kenworthy, Ray W., 1929 (1939).....*Assistant Professor of Physics*  
 Kocher, Paul Harold, 1938 (1942).....*Assistant Professor of English*  
 Kunde, Norman Frederick, 1930 (1937)..*Assistant Professor of Physical Education*  
 Lockling, William Bruce, 1939.....*Assistant Professor of Economics*  
 Loucks, Roger B., 1936 (1939).....*Assistant Professor of Psychology*  
 McDuffee, Alice Ella, 1941.....*Instructor in Nursing Education*  
 McGownd, Jane, 1924 (1928).....*Assistant Professor of Physical Education*  
 McKenzie, Vernon, 1928

*Professor of Journalism; Director of the School of Journalism*

Maki, John McGilvrey, 1939.....*Associate in Oriental Studies*  
 Mansfield, Robert S., 1932 (1937).....*Assistant Professor of Journalism*  
 Mikesell, Raymond, 1937 (1941).....*Assistant Professor of Economics and Business*  
 Miller, Mary Annice, 1941.....*Instructor in Nursing Education*  
 Moser, Louise, 1940.....*Instructor in Nursing Education*  
 Nelson, Everett J., 1930 (1941).....*Professor of Philosophy*  
 Norris, Albert R., 1940 (1941).....*Instructor in Anatomy*  
 Peek, Clifford, 1938.....*Assistant Professor of Physical Education*  
 Pence, Orville Leon, 1941.....*Associate in Speech*  
 Pratt, Dudley, 1925 (1941).....*Associate Professor of Sculpture*  
 Rhodes, Fred H., Jr., 1927 (1943).....*Associate Professor of Civil Engineering*  
 Richards, John W., 1931 (1937).....*Professor of Law*  
 Roman, Herschel, 1942.....*Instructor in Botany*  
 Rowlands, Thomas McKie, 1928 (1943)..*Associate Professor of General Engineering*  
 Schrader, O. H., Jr., 1936 (1941).....*Assistant Professor of Forestry*  
 Schultheis, Frederic D., 1938 (1942)

*Associate Professor of Chinese Language and History*

Shattuck, Warren L., 1935 (1941).....*Professor of Law*  
 Sheldon, Charles S., II, 1940.....*Instructor in Transportation*  
 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*  
 Tatsumi, Henry S., 1935 (1939).....*Assistant Professor of Japanese*  
 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*  
 Thompson, Thomas Gordon, 1919 (1929)

*Professor of Chemistry; Director of Oceanographic Laboratories*

Torney, John A., Jr., 1930 (1937).....*Assistant Professor of Physical Education*  
 Uehling, Edwin A., 1936 (1943).....*Associate Professor of Physics*  
 Wangaard, Frederick, 1936 (1939).....*Assistant Professor of Forestry*  
 Webster, Donald H., 1939.....*Associate Professor of*

*Political Science; Executive Secretary, Bureau of Governmental Research*

Witte, Ernest F., 1939

*Professor of Social Work; Director of the Graduate School of Social Work*

Wood, Ralph F., Rear Admiral, U.S.N., 1940.....*Lecturer in Naval Science*  
 Youngken, Heber Wilkinson, Jr., 1942.....*Instructor in Pharmacy*  
 Zumwalt, Eugene V., 1936 (1940).....*Assistant Professor of Forestry*  
 Zwermann, Carl Henry, 1939.....*Assistant Professor of Ceramics*

# ALPHABETICAL LIST OF THE UNIVERSITY FACULTY

1944-1945†

- †Lee Paul Sieg, 1934.....President of the University  
B.S., 1900, M.S., 1901, Ph.D., 1910, Iowa; LL.D., 1934, Pittsburgh, 1941, Iowa
- Abel, Theodore T., Lt. (jg) D-V(S), U.S.N.R.  
Instructor in Naval Science and Tactics  
B.S., 1933, Springfield; M. Ed., 1937, Pittsburgh
- Adams, Blanche, 1943.....Lecturer in Social Work  
A.B., 1936, Hanover; M.A., 1942, Iowa
- Adams, Edward, 1943.....Instructor in the Far Eastern Department  
B.A., 1918, Wooster; B.D., 1921, McCormick Theological Seminary; M.A., 1928, Northwestern
- Adams, Edwin Hubbard, 1939 (1942).....Instructor in English  
B.A., 1927, M.A., 1931, Washington State
- Ahnquist, Gerhard, M.D., 1942.....Lecturer in Nursing Education  
B.S., 1926, Washington State; M.D., 1933, New York University
- Airth, Jane Leslie, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1943, Washington
- Alexander, Robert Percival, 1943.....Instructor in the Far Eastern Department  
B.A., 1930, Alberta, Canada
- Alfonso, Marie, 1922 (1936).....Associate Professor of Librarianship  
B.A., 1913, Nebraska; B.S.(L.S.), 1921, Washington
- Anderson, Earl Willard, C. Sp., U.S.N.R., 1943  
Associate in Naval Science and Tactics  
B.A., 1940, Minnesota
- Anderson, Elam D., M.D., 1940.....Lecturer in Nursing Education  
A.B., 1928, Utah; M.D., 1932, Northwestern
- 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, Siri, 1930 (1937).....Assistant Professor of Librarianship  
B.S.(L.S.), 1930, Washington
- Ankele, Felice Charlotte, 1929 (1936).....Instructor in German  
B.A., 1925, M.A., 1926, Ph.D., 1936, Washington
- Arestad, Sverre, 1937 (1940).....Instructor in Scandinavian Languages and Literature  
B.A., 1929, Ph.D., 1938, Washington
- Arrigoni, Louis, 1943.....Acting Instructor in Pharmacy  
B.S., 1938, M.S., 1940, Washington
- Ashlin, Evelyn Diva Adeline, 1943.....Associate in Romanic Languages  
B.A., 1941, Brazil
- Astel, George B., 1943.....Associate in Journalism  
B.A., 1923, Washington
- Auernheimer, August A., 1928 (1937).....Assistant Professor of Physical Education  
B.P.E., Normal College; M.A., 1932, Columbia
- Ayer, Leslie James, 1916.....Professor of Law  
B.S., 1899, Upper Iowa; J.D., 1906, Chicago

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 January 1, 1944.

† Member of Graduate School faculty.

- †Bailey, Alan James, 1939 (1942)  
Associate Professor and Director of Lignin and Cellulose Research  
B.S.F., 1933, M.S.F., 1934, Ph.D., 1936, Washington
- †Ballantine, John Perry, 1926 (1937).....Professor of Mathematics  
A.B., 1918, Harvard; Ph.D., 1923, Chicago
- Ballard, Arthur C., 1929.....Research Associate in Anthropology  
B.A., 1899, Washington
- Barnaby, Joseph Thomas, 1934.....Lecturer in Fisheries  
B.S., 1929, Washington; M.S., 1932, Stanford
- Barnett, Arthur Gordon, 1944.....Lecturer in Social Work  
LL.B., 1932, Washington
- Barr, Eric L., Captain, U.S.N., 1936 (1938)  
Prof. Naval Science and Tactics; Exec. Officer, Dept. Naval Science and Tactics  
Graduate, 1911, U.S. Naval Academy; Ph.D., 1938, Washington
- Bartlett, Laile Eubank, 1942.....Associate in Sociology  
B.A., 1936, Cincinnati; M.A., 1940, American University
- Bash, Mary Iola, 1925.....Counselor for Women  
B.A., 1914, Washington
- Batie, Harriett Virginia, 1941.....Associate in Education  
B.S., 1935, Hastings College
- Beal, Maud L., 1933 (1941).....Instructor in English  
B.A., 1926, M.A., 1929, Washington
- Beardsley, Arthur Sydney, 1926 (1937).....Law Librarian; Professor of Law  
LL.B., 1918, B.S. (L.S.), 1924, M.A., 1925, Ph.D., 1928, Washington
- †Beaumont, Ross A., 1940.....Instructor in Mathematics  
A.B., 1936, M.S., 1937, Michigan; Ph.D., 1940, Illinois
- Beaver, Helen I., 1943.....Acting Instructor in Home Economics  
B.S., 1930, M.S., 1937, Tennessee
- Beck, Eleanor N., 1932.....Associate in Music  
Pupil of Marcel Grandjany, Harpist, American School, Fontainebleau, Paris
- Bell, F. Heward, 1931.....Lecturer in Fisheries  
B.A., 1924, British Columbia
- Bell, Milo C., 1940.....Lecturer in Fisheries  
B.S. in M.E., 1930, Washington
- 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
- Berry, James Alexander, 1938.....Lecturer in Bacteriology  
M.S., 1917, Michigan State
- †Buschlein, Warren Lord, 1922 (1937).....Professor of Chemical Engineering  
B.S., 1920, California Institute of Technology; M.S., 1925, Ch.E., 1930, Washington

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† Member of Graduate School faculty.



- Birnbaum, William Zygmunt, 1939.....Assistant Professor of Mathematics  
LL.M., 1925, Ph.D., 1929, University of Lwow
- Black, Charlotte Scott, 1941.....Instructor in Home Economics  
B.S., 1925, Manitoba; M.S., 1939, Teachers College, Columbia
- Blackman, Helen Marie, 1943.....Instructor in Nursing Education  
R.N., 1929, St. Luke's, Iowa; B.S. in Nursing, 1942, Washington
- Blanchard, Emil Arthur, 1st Lieutenant, Ordnance Dept., Reserve, 1943  
Instructor in Military Science and Tactics  
B.A., 1936, Howard Payne College; M.A., 1937, Texas Christian
- 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.....Instructor in 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
- Bonham, Kelshaw, 1942.....Research Associate in Oceanography  
B.S., 1931, M.S., 1935, Ph.D., 1937, Washington
- Bostwick, Irene Neilson, 1930 (1942).....Assistant Professor of Music  
B.M., 1922, Washington
- Boyer, Harvey K., 1943.....Instructor in Mathematics  
B.A., 1902, Wheaton
- †Brakel, Henry Louis, 1905 (1936)  
Prof. of Engineering Physics; Executive Officer of the Dept. of Physics  
B.S., 1902, Olivet College; M.A., 1905, Washington; Ph.D., 1912, Cornell
- Braley, Grace Emma, 1943.....Associate in the Far Eastern Department  
B.S., 1931, Bethany
- Britell, Lorilla Eileen, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1940, Washington
- Bronson, Beulah, 1944.....Instructor in Nursing Education  
B.S., 1938, Washington
- Brown, Iola Helene, 1943.....Associate in Speech  
B.A., 1941, Washington
- Brown, Robert Eldon, 1943.....Instructor in History  
B.A., 1938, Washington
- 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 Education  
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 Education  
B.S., 1925, M.D., 1929, Minnesota

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† Member of Graduate School faculty.

- Buechel, Henry Theodore, 1941.....Lecturer in Economics and Business  
B.A., 1929, M.A., 1937, Washington State
- †Burd, Henry Alfred, 1924 (1927)  
Professor of Marketing; Director of the Summer Quarter  
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 Education  
B.S., 1930, Akron Municipal University; M.A., 1941, Western Reserve
- Burrus, Mary E., 1943.....Lecturer in Business Law  
LL.B., 1937, Washington
- Bushnell, Eleanore, 1943.....Associate in Political Science  
B.A., 1935, Washington
- Butler, Ralph H. R., 1942.....Associate in Physics  
B.S., 1940, 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, Alex D., M.D., 1940.....Lecturer in Nursing Education  
B.A., 1930, Whitman; M.D., 1938, Johns Hopkins
- Carlson, William Hugh, 1942.....Lecturer in Librarianship; Associate Librarian  
A.B., 1924, Nebraska; M.A. in Librarianship, 1937, California
- †Carpenter, Allen Fuller, 1909 (1926)  
Prof. 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
- †Carrell, James Aubrey, 1939 (1941).....Associate Professor of Speech  
A.B., 1927, Nebraska Wesleyan; M.A., 1929, Ph.D., 1936, Northwestern
- Carter, James Marion, 1943.....Acting Associate in Anatomy  
B.S., 1943, Washington
- Cates, Vernon Arnold, 1943.....Associate in Anatomy  
B.S., 1943, Washington
- Chalmers, George B., Lieutenant (j.g.) U.S.N., 1944  
Instructor in Naval Science and Tactics  
B.S., 1932, New York
- Champreux, Alfred J., 1943.....Instructor in General Engineering  
B.S., 1904, California
- Chang, Calvin C., 1943.....Associate in the Far Eastern Department  
B.A., 1933, Lingnan, Canton, China; M.A., 1935, Michigan
- Chapman, Hal H., C. Sp., U.S.N.R., 1943...Associate in Naval Science and Tactics  
B.A., 1934, Pacific College
- Ch'eh, Tsu-ying, 1943.....Associate in Far Eastern Studies  
Baccalaureate, 1936, Central Political Institute of China, Nanking
- Ch'en, KeiYon, 1943.....Associate in the Far Eastern Department  
B.S., Peking National University, China
- Cheng, Ch'eng-k'un, 1942 (1943).....Instructor in Sociology  
B.A., 1931, Yenching University (Peiping); M.A., 1937, Washington

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† Member of Graduate School faculty.

- †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
- Clark, Earl F., 1935..... Associate in Physical Education
- Clark, Lois, 1940..... Research Associate in Botany  
B.A., 1907, M.A., 1910, Washington; Ph.D., 1919, Minnesota
- Clark, Stephen Cutter, III, 1943..... Acting Instructor in Physics  
B.A., 1941, Washington
- Clarke, Lena Qualls, 1943..... Acting Associate in English  
B.A., 1937, Montana; M.A., 1939, Washington State
- 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 Education  
A.B., 1904, M.D., 1906, Michigan
- Coffman, Grace, 1939..... Instructor in Nursing Education  
B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago)
- Coggeshall, Beatrice Amorette, 1943..... Instructor in Nursing Education  
B.S. in Nursing Education, 1935, Washington
- †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, DeFauw; LL.D., 1931, Upper Iowa
- Collier, Ira Leonard, 1919..... Assistant Professor of Civil Engineering  
B.S. in C.E., 1913, C.E., 1917, 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
- †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
- †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, Clarence Raymond, 1907 (1929)  
Associate Professor of Mining Engineering and Metallurgy  
E.M., Montana State School of Mines; M.A., 1915, Columbia
- Cornell, Kenneth Hall, 1943..... Associate in the Far Eastern Department  
B.S., 1926, U.S. Naval Academy; M.S. in Educ., 1941, St. Bonaventure
- Cornu, Elizabeth W., 1943..... Acting Associate in English  
B.A., 1922, 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
- †Cox, Edward Godfrey, 1911 (1926)..... Professor of English  
B.A., 1899, Wabash College; M.A., 1901, Ph.D., 1906, Cornell

† Member of Graduate School faculty.

- 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
- †Cramlet, Clyde Myron, 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.....Assistant Professor of Law  
B.A., 1936, Washington State; LL.B., 1940, Washington
- Curtis, Elizabeth, 1930 (1943).....Instructor in Art  
B.F.A., 1929, M.F.A., 1933, Washington
- 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
- Dawson, James R., Captain, C.A.C., 1941 (1943)  
Assistant Professor in the Army Specialized Training Unit  
B.S., 1940, Washington
- †Dehn, William Maurice, 1907 (1919).....Professor of Organic Chemistry  
A.B., 1893, A.M., 1896, Hope; Ph.D., 1903, Illinois
- †Demmery, Joseph, 1928 (1934).....Professor of Business Fluctuations and Real Estate  
Ph.B., 1920, M.A., 1924, Chicago
- †Denny, Grace Goldena, 1913 (1934).....Professor of Home Economics  
A.B., 1907, Nebraska; M.A., 1919, Columbia
- †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
- 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 (1939).....Assistant 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.....Instructor in General Engineering  
B.S. in C.E., 1927, Washington State
- Douglass, Frank H., M.D., 1940.....Lecturer in Nursing Education  
P.H.G., 1919, Washington State; M.D., 1925, Oregon

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† Member of Graduate School faculty.

- Dowler, Charlotte Crompton, 1943..... Assistant Professor of Nursing Education  
B.S. in Nursing, 1934, Washington; M.B.A., 1941, Chicago
- †Draper, Edgar Marion, 1925 (1936)  
Professor of Secondary Education and Curriculum  
B.A., 1916, M.A., 1925, Ph.D., 1927, Washington
- Draper, Oscar Eldridge, 1920 (1923)..... Lecturer in Accounting  
M.Acct., 1902, Vories Business College
- †Dresslar, Martha Estella, 1918 (1937).... Associate Professor of Home Economics  
A.B., 1913, Southern California; B.S., 1917, Washington; M.S., 1918, Columbia
- Drucker, Adolph Bertram, 1943..... Lecturer in Economics and Business  
Dr. jur. et pol. sc., 1899, Vienna
- Duchow, Esther, 1940..... Associate in Bacteriology  
B.S., 1934, Washington
- Duggins, George Herbert, 1942..... Associate in Physical Education  
B.P.A., 1935, M.P.A., 1942, Purdue
- Duncan, Robert Leon, 2nd Lieutenant, A.G.D., 1944  
Instructor in Military Science and Tactics  
A.B., 1935, DePauw; M.S., 1940, Butler
- Dunlop, Henry A., 1931..... Lecturer in Fisheries  
B.A., 1919, M.A., 1922, British Columbia
- Dutton, Harry H., M.D., 1938..... Lecturer in Nursing Education  
M.D., 1914, Vermont
- Dwinnell, James Herbert, 1941..... Instructor in 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 Department of Electrical Engineering  
B.S. in E.E., 1922, M.S., 1929, Washington
- Eastman, Floreen Glover, 1943..... Acting Instructor 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
- †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
- Eggers, Rolf van Kerval, M.D., 1942..... Lecturer in Nursing Education  
B.A., B.S., 1930, North Dakota; M.D., 1933, Chicago
- Eichinger, Walter A., 1936 (1939)..... Instructor in Music  
M.M., 1933, Northwestern
- Elwell, Albert R., 1943..... Acting Instructor in Physics  
B.A., 1928, Phillips; M.A., 1933, Wyoming

† Member of Graduate School faculty.

- 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 the Bureau of Business Research  
B.A., 1925, M.A., 1926, Washington; Ph.D., 1929, Michigan
- Erbe, Ellen R. B., 1943.....Instructor in Nursing Education  
B.S., G.N., 1940, Iowa; M.S., 1943, Chicago
- †Esper, Erwin Allen, 1927 (1934).....Professor of Psychology  
B.A., 1917, M.A., 1920, Ph.D., 1923, Ohio State
- Everest, Harold P., 1940 (1943).....Associate Professor 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  
B.S. in M.E., 1923, M.E., 1927, Washington
- Felder, Clarence Bates, Captain, Infantry, 1942 (1943)  
Assistant Professor of Military Science and Tactics  
B.S., 1936, Wofford College
- Felton, Virginia Ellen, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1942, Washington
- Ferguson, Evelyn Violet, 1943.....Associate in Physical Education  
B.S., 1927, Washington
- †Ferguson, Grace Beals, 1941 (1943).....Associate Professor of Medical Social Work;  
Acting Director, Graduate School of Social Work  
A.B., 1917, Minnesota; M.A., 1930, Indiana
- Ferrall, Michael, 1938 (1941).....Instructor in Drama  
B.D.A., 1935, Goodman Theatre Art Institute, Chicago
- †Fischer, Louis, 1935 (1941).....Associate Professor of Pharmaceutical Chemistry  
B.S., Ph.C., 1926, M.S., 1928, Ph.D., 1933, Washington
- Fish, Frederic F., 1934.....Lecturer in Fisheries  
B.S., 1928, Cornell; Sc.D., 1931, Johns Hopkins
- Fish, Harriet L. Ulrich, 1943.....Acting Associate in General Engineering
- Flory, Clarence Matthew, C. Sp., U.S.N.R., 1943  
Associate in Naval Science and Tactics  
B.A., 1929, Texas A. & M.; M.A., 1937, Texas University
- Flothow, Paul G., M.D., 1940.....Lecturer in Nursing Education  
M.D., 1923, Pennsylvania; M.S. in Surgery, 1927, Minnesota
- Foote, Hope Lucille, 1923 (1937).....Associate Professor of Interior Design  
A.B., 1920, Iowa State; M.A., 1923, Columbia
- Forman, Marie L., 1935.....Instructor in Nursing Education  
R.N., Methodist State Hospital, South Dakota; B.S., 1935, Washington
- 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
- Francis, Byron F., M.D., 1940.....Lecturer in Nursing Education  
B.A., 1922, Washington; M.D., 1926, Washington University (St. Louis)

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† Member of Graduate School faculty.

- Franzke, Albert L., 1936 (1939) ..... Associate Professor of Speech  
B.A., 1916, M.A., 1933, Lawrence
- Fredericks, Ervin Zara, 1st Lieutenant, C.A.C., 1943  
Instructor in Military Science and Tactics
- Freeman, George William, M.D., 1942. .... Lecturer in Nursing Education  
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
- Friedlaender, Hermann, 1943. .... Instructor in General Engineering  
B.S. in C.E., 1935, Washington; M.S. in C.E., 1936, M.I.T.
- Froistad, Wilmer M., 1942 (1943) ..... Acting Assistant Professor of Social Work  
B.A., 1930, Washington
- Frizzel, Harriet Exline, 1943. .... Instructor in Zoology  
B.A., 1930, Reed; M.S., 1932, Ph.D., 1936, Washington
- †Frye, Theodore Christian, 1903. .... Professor of Botany  
B.S., 1894, Illinois; Ph.D., 1902, Chicago
- Fuller, Max E., Lieutenant (jg), D-V(S), U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
A.B., 1934, Battle Creek; M.A., 1935, Michigan
- †Fuller, Richard E., 1930 (1940) ..... Research Professor of Geology  
B.S., 1924, M.S., 1925, Ph.D., 1930, Washington
- Fusia, Victor H., Ensign D-V(S), U.S.N.R., 1943  
Instructor in Naval Science and Tactics  
B.S., 1930, Manhattan
- Futterman, Samuel, M.D., 1943. .... Lecturer in Social Work  
B.S., 1930, College of the City of New York; M.D., 1935, Geneva
- Gall, Elizabeth Kathleen, 1943. .... Acting Associate in Art  
B.A., 1942, 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 (1943) ..... Instructor in 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
- Gershevsky, Noah David, 1943. .... Instructor in Far Eastern Studies  
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
- Gillette, Alletta Maria, 1912 (1931) ..... Instructor in English  
B.S., 1907, Smith; M.A., 1911, Washington
- 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 Education  
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

† Member of Graduate School faculty.

- †Goodspeed, George Edward, 1919 (1934)  
Professor of Geology; Executive Officer of the Department of Geology  
B.S.(Min.E.), 1910, Massachusetts Institute of Technology
- Goranflo, Robert E., C. Sp., U.S.N.R., 1943..Associate in Naval Science and Tactics  
B.S., 1935, Western Kentucky State Teachers' College
- Gowen, Herbert Henry, 1909 (1914).....Professor Emeritus of Oriental Studies  
St. Augustine's College (Canterbury); D.D., 1912, Whitman College
- 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, William H., Jr., 1st Lieutenant, Infantry, 1943  
Instructor in Military Science and Tactics
- Green, Anna Matilda, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1936, Washington
- †Gregory, Homer Ewart, 1920 (1933)....Professor of Management and Accounting  
A.B., 1914, Washington State; M.A., 1917, Chicago
- Griffin, Eldon, 1944.....Special Research Professor in Foreign Trade  
A.B., 1916, Harvard; Ph.D., 1937, Yale
- †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
- Groth, Miriam Terry, 1930 (1937).....Assistant Professor of Music  
B.M., 1926, 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
- †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
- Guthrie, Giles F., Captain Q.M.C., 1943..Instructor in Military Science and Tactics  
B.S. in Education, 1932, Kent State University
- Hall, Amy Violet, 1924 (1940).....Assistant Professor of English  
B.A., 1920, M.A., 1923, Ph.D., 1940, Washington
- Hall, David Connolly, M.D., 1908..Professor of Hygiene; University Health Officer  
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, Robert T., Lt. D-V(S), U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
B.S., 1924, Princeton; M.A., 1928, M. Ed., 1936, Harvard

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† Member of Graduate School faculty.



- Hsu, W. Siang, 1944.....Instructor in Botany, Zoology, and the Far Eastern Dept.  
B.S., 1922, Illinois; M.S., 1924, D.Sc., 1928, Harvard
- †Hughes, Glenn, 1919 (1930)  
Professor of English; Director of the School of Drama  
B.A., 1916, Stanford; M.A., 1921, Washington
- †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
- Hynes, Kyran Emmett, M.D., 1942.....Lecturer in Nursing Education  
B.S., 1933, Creighton; B.M., 1935, M.D., 1935, Louisiana Medical Center
- Ingalls, Ida, 1936 (1941).....Associate Professor of Home Economics  
B.A., 1920, Iowa; M.A., 1924, Columbia
- †Irvine, Demar B., 1937 (1938).....Assistant Professor of Music  
B.A., 1929, M.A., 1931, California; Ph.D., 1937, Harvard
- †Isaacs, Walter F., 1922 (1929)  
Professor of Fine Arts; Director of the School of Art  
B.S.(F.A.), 1909, James Millikin
- Jackson, Mary Keen, 1943.....Acting Instructor in Home Economics  
B.S., 1939, Texas State College for Women
- †Jacobs, Melville, 1928 (1937).....Assistant Professor of Anthropology  
A.B., 1922, New York; A.M., Ph.D., 1931, Columbia
- Jacobsen, Berne Selvig, 1943.....Associate in Journalism  
B.A., 1931, Washington
- 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
- James, Audrey Kittel, 1943.....Associate in Sociology  
A.B., 1936, M.A., 1938, Missouri
- Jamieson, Ann Norrell, 1943  
Supervisor of Field Work, Graduate School of Social Work  
B.S. in Education, 1926, Minnesota
- Jensen, Alfred, 1930 (1939).....Assistant Professor of General Engineering  
B.S. in C.E., 1925, M.S. in C.E., 1937, Washington
- †Jensen, Merrill Monroe, 1935 (1942).....Associate Professor of History  
B.A., 1929, M.A., 1931, Washington; Ph.D., 1934, Wisconsin
- †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.....Assistant Professor of Art  
B.A., 1929, Washington; M.A., 1936, Columbia
- Johnson, Carl Gustaf, 1943.....Instructor in Physics  
B.S., 1926, Washington
- †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

- Jones, Robert William, 1920 (1934).....Professor of Journalism  
B.A., 1906, LL.B., 1913, Missouri; M.A., 1918, South Dakota
- Jonquet, Eugene Maurice, 1940 (1943).....Lecturer in Social Work  
B.A., 1932, James Millikin; M.A., 1933, M.S., 1938, Washington University (St. Louis)
- Joseph, Henry Burton, Lieutenant Colonel, C.A.C., 1941 (1943)  
Professor of Military Science and Tactics;  
Commandant, A.S.T.U.; A.S.T., R.O.T.C.  
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.....Associate in the Far Eastern Department  
B.A., 1943, Washington
- Keeler, Frederic Seward, Commander, U.S.N., 1943  
Associate Professor of Naval Science and Tactics  
B.S., 1929, U. S. Naval Academy
- †Kelly, Edgar Andrew, 1937.....Assistant Professor of Pharmaceutical Chemistry  
Ph.C., 1928, B.S., 1929, M.S., 1930, Ph.D., 1933, Washington
- Kennedy, Fred Washington, 1909 (1938).....Associate Professor of Journalism;  
Director of Journalism Laboratories; Acting Director, School of Journalism
- †Kerr, Clark, 1940 (1943).....Associate Professor of Labor  
A.B., 1932, Swarthmore; A.M., 1933, Stanford; Ph.D., 1939, California
- Kiang-Yi-seng, 1943.....Visiting Professor in the Far Eastern Department  
Grad., 1928, Comparative Law School of China; Doctor of Foreign Service, 1937, Southern California
- Kibble, Doris, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1936, Washington
- 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.....Acting Assistant Professor of Anthropology  
B.A., 1938, Utah
- King, Jean Small, 1943.....Acting Associate in Art  
B.A., 1940, M.A., 1943, Washington
- Kingston, J. Maurice, 1940 (1943).....Instructor in Mathematics  
B.A., 1935, Western Ontario; M.A., 1936, Ph.D., 1939, Toronto
- †Kinsella, 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 Education  
B.S., 1940, Washington
- Kippel, Helen Marie, 1943.....Associate in Physiology  
B.S. in Pharmacy, 1939, M.S. in Pharmacy, 1941, Washington
- Kirchner, George, 1919 (1939).....Assistant Professor of Music  
Leipzig
- Kirkland, Eric Brooks, 1942 (1943).....Instructor in Physical Education  
B.S., 1937, Washington

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† Member of Graduate School faculty.

- †Kirsten, Frederick Kurt, 1915 (1923).....Professor of Aeronautical Engineering  
B.S. in E.E., 1909, E.E., 1914, Washington
- Knight, Robert K., C. Sp., U.S.N.R., 1943...Associate in Naval Science and Tactics  
B.S., 1932, Sam Houston State College; M.A., 1940, Kentucky
- Kniseley, Wade A., 1942.....Associate in Speech  
B.A., 1936, Washington
- Koenig, William A., Jr., First Lieut., S.C., 1942 (1943)  
Assistant Professor of Military Science and Tactics  
B.S. in E.E., 1942, Drexel Institute
- Kohler, Ellen Lucile, 1942.....Acting Associate in Classics  
B.A., 1938, M.A., 1942, Washington
- Kottke, Lawrence C., C. Sp., U.S.N.R., 1943  
Associate in Naval Science and Tactics  
B.S., 1941, Saint Cloud State Teachers' College
- Kuhn, Bertha M., 1940.....Associate in English  
B.A., 1916, M.A., 1917, North Dakota; Ph.D., 1940, Washington
- Lamberty, Elizabeth Regina, 1941.....Instructor in Nursing Education  
R.N., 1934, B.S., 1938, Minnesota
- Larson, T. Elida, 1941.....Instructor in Pharmacy  
B.S., 1931, Iowa; M.S., 1941, Washington
- Laube, Frank Joseph, 1943.....Lecturer in Political Science  
A.B., 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
- Laughrige, Katherine, 1943  
Supervisor of Field Work, Graduate School of Social Work  
B.A., 1933, Oregon
- Lawrence, Charles Wilson, 1926 (1934).....Associate Professor of Music  
B.M., 1918, Oberlin; M.A.(Music), 1930, 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 Education;  
Director of Public Health Nursing Field Work  
R.N., Stanford Hospital; A.B., 1926, Oregon; M.S., 1932, Washington
- Lee, Albert Francis, M.D., 1943.....Lecturer in Nursing Education  
B.S., 1935, College of Puget Sound; M.D., 1937, Duke
- Lee, Kyung Sun, 1943.....Associate in the Far Eastern Department  
B.S., Pyeng Yang Agricultural; B.Th., Seoul Seminary; M.A., Aoyama
- Lee, William Kyung, 1943.....Associate in the Far Eastern Department
- †Levy, Ernst, 1937.....Professor of History, Law, and Political Science  
D.J.U., 1906, Berlin
- Lindblom, Anna Mathilda, 1943.....Instructor in Nursing Education  
B.A., 1941, Colorado State College of Education
- Lindblom, Roy Eric, 1924 (1937)....Associate Professor of Electrical Engineering  
B.S. in E.E., 1922, M.S. in E.E., 1929, Washington
- Lingafelter, Edward Clay, 1939 (1941).....Instructor in Physical Chemistry  
B.S., 1935, Ph.D., 1939, California

† Member of Graduate School faculty.

- Lingafelter, Roberta Kneedler, 1943.....Associate in Mathematics  
A.B., 1935, M.A., 1936, California
- Lipscomb, Roy S., 1943.....Acting Instructor in Physics  
B.A., 1912, Washington
- †Loew, Edgar Allan, 1909 (1923).....Professor of Electrical Engineering; Dean of  
the College of Engineering; Director of the Engineering Experiment Station  
B.S.(E.E.), 1906, E.E., 1922, Wisconsin
- Long, Eva Ansted, 1943.....Acting Associate in Speech  
B.A., 1938, Seattle Pacific; M.A., 1941, 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
- †Loughridge, Donald H., 1931 (1942).....Professor of Physics  
B.S., 1923, Ph.D., 1927, California Institute of Technology
- Louie, James Hong-Ming, 1943.....Associate in Physics  
Graduate, 1939, Curtiss Wright Technical Institute for Aeronautics
- †Lucas, Henry Stephen, 1921 (1934).....Professor of History  
A.B., 1913, Olivet; A.M., 1915, Indiana; Ph.D., 1921, Michigan
- †Lynch, James E., 1931 (1943).....Professor of Fisheries  
B.A., 1917, M.A., 1921, Nebraska; Ph.D., 1929, California
- McAdams, Laura Elizabeth, 1941.....Instructor in 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
- McClay, Mary Bear, 1943.....Associate in Mathematics  
B. Ed., 1937, Eastern Illinois State Teachers College; M.A., 1941, Illinois
- McConahey, James M., 1921.....Lecturer in Accounting  
B.S., 1896, M.S., 1899, Washington and Jefferson; LL.B., 1899, Northwestern; C.P.A., 1914
- McCrery, Lester Lyle, 1943.....Instructor in Speech  
B.A., 1933, M.A., 1940, Washington
- McCullough, William Hayworth, 1943.....Assistant Professor of Social Work  
A.B., 1932, DePauw; A.M., 1940, Chicago
- McDermott, Thomas M., C. Sp. (S), 1943...Associate in Naval Science and Tactics
- †McFarlan, Lee Horace, 1927 (1934).....Associate Professor of Mathematics  
B.S., 1917, Kansas State Teachers' College; A.M., 1921, Ph.D., 1924, Missouri
- McGarvey, David Franklin, Lt. Comdr., MC-V(S), U.S.N.R., 1943  
Lecturer in Naval Science and Tactics  
M.D., 1921, Hahnemann
- 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.....Associate in English  
B.A., 1908, Lombard College; M.A., 1931, Washington
- McLellan, Helen, 1937 (1941).....Assistant 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

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† Member of Graduate School faculty.

- †McMahon, Theresa Schmid, 1911 (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
- Mackenzie, Donald H., 1929 (1940)  
Associate Professor of Management and Accounting  
B.B.A., M.B.A., 1925, Washington; C.P.A.
- †Mackin, J. Hoover, 1934 (1940).....Associate Professor of Geology  
B.S., 1930, New York; M.A., 1932, Ph.D., 1937, Columbia
- MacLean, Dorothy, 1936 (1943).....Assistant Professor of Physical Education  
B.S., 1933, Oregon; M.S., 1938, Washington
- MacNeal, James Neal, 1943.....Instructor in Physics  
B.S., 1939, St. Joseph's
- Madden, Milton Bolivar, 1943.....Associate in the Far Eastern Department  
A.B., 1895, A.M., 1897, Bethany
- Magnusson, Harrison Willard, 1942.....Lecturer in Fisheries  
M.A., 1939, Wyoming
- Maguire, Anne E., Ensign W-V(S), 1943...Associate in Naval Science and Tactics  
B.A., 1940, Marietta College
- Mahoney, Viola P. Ogden, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1943, Washington
- †Mander, Linden A., 1928 (1937).....Professor of Political Science  
M.A., 1921, Adelaide (Australia)
- Mansfield, Norma Bicknell, 1943.....Acting Instructor in Journalism  
B.A., 1926, Michigan
- †Marckworth, Gordon Dotter, 1939.....Professor of Forest Management  
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, Catherine M., 1943.....Acting Instructor in Home Economics  
B.S., 1937, Cornell
- †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
- Martin, William P., Lieutenant, D-V(G), U.S.N.R., 1944  
Lecturer in Naval Science and Tactics  
A.B., 1936, LL.B., 1939, California
- Mason, Mary Lucile, 1943.....Acting Associate in English  
B.A., 1923, Grinnell

† Member of Graduate School faculty.

- 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
- †Meyer, Herman Carl H., 1934 (1942)...Associate Professor of Germanic Languages  
B.A., 1924, Capital University (Ohio); Ph.D., 1936, Chicago
- Meyer, Margaret, 1944.....Acting Assistant Professor of Physical Education  
B.A., 1925, Ohio; M.S., 1927, Wellesley; Ph.D., 1943, Wisconsin
- Michael, Franz Henry, 1942 (1943)...Associate Professor of Far Eastern History;  
Acting Executive Officer of the Far Eastern Department  
D.J.U., 1933, Freiburg
- Michel, Marion Jane, 1943.....Instructor in Nursing Education  
B.S., 1942, Washington
- †Miller, Alfred Lawrence, 1923 (1937).....Professor of Mechanics and Structures  
B.S. in C.E., 1920, C.E., 1926, Washington
- †Miller, Charles John, 1927 (1936).....Associate Professor of Marketing  
B.B.A., 1922, M.B.A., 1927, Washington
- Mills, Caswell Albert, 1942 (1943).....Instructor in Physical Education  
B.A., 1935, Minot Teachers College
- Monroe, Day, 1943.....Acting Professor of Home Economics  
A.B., 1908, Washburn; A.M., 1916, Teachers College, Columbia; Ph.D., 1930, Chicago
- Moore, Paul, Jr., Captain U.S.M.C.R., 1943  
Assistant Professor of Naval Science and Tactics  
A.B., 1941, Yale
- †More, Charles Church, 1900 (1912).....Professor of Structural Engineering  
C.E., 1898, Lafayette; M.C.E., 1899, Cornell; M.S., 1901, Lafayette
- Morello, Ted, 1943.....Associate in Journalism  
B.A., 1943, Washington
- Moritz, Harold Kennedy, 1928 (1939).....Associate Professor of Civil Engineering  
B.S.(M.E.), 1921, Massachusetts Institute of Technology
- Morris, Glenn E., C. Sp. U.S.N.R., 1943.....Associate in Naval Science and Tactics  
B.S., 1935, Colorado State
- Morris, Harold Kenneth, 1st Lieutenant, SC, 1943  
Instructor in Military Science and Tactics
- Mossey, Robert Georges Jean, 1942  
Special Research Professor in Economics and Business  
Docteur en Droit, 1929, Lyons; Agrégé des Facultés de Droit, 1938, Paris
- Moulthrop, Henry Kenneth, Lieutenant (jg) U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
B.A., 1934, Pennsylvania State College
- Moulton, Ralph Wells, 1941.....Assistant Professor of Chemical Engineering  
B.S. in Chem.E., 1932, M.S. in Chem.E., 1934, Ph.D., 1938, Washington
- Mount, James N., 1943.....Instructor in Physics  
B.Ed., 1920, M.A., 1922, Washington
- Muggli, Ethel C., 1943.....Associate in Mathematics  
B.S., 1929, Minnesota; M.A., 1933, North Dakota
- Muhlenberg, Henry Clinton Kress, 1943  
Instructor in Mathematics and General Engineering  
B.S., 1908, U.S. Military Academy

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† Member of Graduate School faculty.

- Mullemeister, Hermance, 1918 (1928).....Assistant 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 (1936).....Associate Professor of Music  
B.M., 1924, Washington; M.A., 1929, Columbia; Ph.D., 1937, Washington
- Murton, Clarence Charles, 1943.....Associate in Journalism  
B.A., 1924, Washington
- Newhouse, Dean Scholfield, 1934.....Director of Student Affairs  
B.A., 1930, Washington
- Newsom, Bryan, M.D., 1935.....Lecturer in Nursing Education  
M.D., 1930, Northwestern; C.P.H., 1934, Johns Hopkins
- Nichols, Henry Chester, Major, Inf., 1943  
Assistant Professor of Military Science and Tactics
- Nicholson, Donald A., M.D., 1935.....Lecturer in Nursing Education  
M.D., 1897, Minnesota
- Nix, Martha J., 1928 (1941).....Instructor in English  
B.A., 1922, M.A., 1925, Washington
- Norlin, Agnes, 1934.....Associate in English  
B.A., 1927, Colorado; M.A., 1931, Washington
- Normann, Theodore F., 1940.....Associate Professor of Music  
B.A., 1925, Macalester College; M.A., 1928, Columbia
- 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
- Northrup, Mary W., 1931.....Instructor in Nursing Education  
A.B., 1920, Vassar; M.S., 1923, Columbia
- †Nostrand, Howard Lee, 1939.....Professor of Romanic Languages; Executive  
Officer of the Department of Romanic Languages  
B.A., 1932, Amherst; A.M., 1933, Harvard; Dr. of Univ. of Paris, 1934
- Notkin, Natalie Brodskaya, 1943...Acting Associate in the Far Eastern Department  
B.A., 1924, B.S. in L.S., 1927, Washington
- †Nottelmann, Rudolph H., 1927.....Professor of Law  
A.B., 1912, Monmouth; M.A., 1913, Illinois; LL.B., 1922, Yale
- Nygreen, Glen T., 1942 (1943).....Instructor in Physics; Counselor for Men  
B.S., Chem., 1939, Washington
- O'Brien, Robert William, 1939 (1941).....Instructor in Sociology  
A.B., 1929, Pomona; A.M., 1931, Oberlin
- O'Bryan, Joseph Grattan, 1914 (1927).....Professor of Law  
B.A., Jesuit College (Denver); LL.D., 1928, Regis College
- Olcott, Virginia, 1931 (1939).....Assistant Professor of Nursing Education  
R.N., Peter Bent Brigham Hospital; B.S., 1927, M.S., 1931, Washington
- Olschewsky, Henry, 1931 (1939).....Assistant Professor of Architecture  
B.Arch., 1931, Washington
- †Ordal, Erling J., 1937 (1943).....Associate Professor of Bacteriology  
A.B., 1927, Luther; Ph.D., 1936, Minnesota

† Member of Graduate School faculty.

- †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
- Palmer, Beatrice Rice, 1942. .Field Work Supervisor, Graduate School of Social Work  
B.S., 1921, Oregon State College
- Palmer, Vinson Le Roy, 1943. .... Acting Instructor in Electrical Engineering  
B.S. in E.E., 1940, Washington
- Partner, James, 1944. .... Associate in Economics and Business  
B.A., 1942, M.B.A., 1943, Washington
- †Patterson, Ambrose, 1919 (1939). .... Professor of Painting  
Melbourne National Gallery, Victoria, Australia; Julien, Colorossi and Delocluse Academies, Europe
- Pauly, Jean, 1935. .... Associate in Music  
Brussels Conservatory of Music
- †Payne, Blanche, 1927 (1942). .... Professor of Home Economics  
B.S., 1916, Kansas State Teachers College; M.A., 1924, Columbia
- Peacock, Alexander H., M.D., 1935. .... Lecturer in Nursing Education  
M.D., 1903, Pennsylvania
- †Pearce, John Kenneth, 1921 (1943). .... Professor of Forestry  
B.S.F., 1921, Washington
- Pellegrini, Angelo M., 1930 (1940). .... Instructor in Speech  
B.A., 1927, Ph.D., 1942, Washington
- Penington, Ruth, 1928 (1943). .... Associate Professor of Design  
B.F.A., 1927, M.F.A., 1929, Washington
- Perks, Lilian Charlotte, 1942. .... Associate in Mathematics  
M.A., B.S., 1906, University of St. Andrews, Edinburgh, Scotland
- Person, Henry, 1937 (1941). .... Instructor in English  
B.A., 1927, Ph.D., 1942, Washington
- †Phillips, Herbert Joseph, 1920 (1934). .... Assistant Professor of Philosophy  
B.A., 1920, Ph.D., 1933, Washington
- Phillips, Ronald, 1935. .... Associate in Music
- Pierson, William H., 1937 (1943). .... Assistant Professor of Geography  
B.A., 1925, Texas; M.S., 1934, Washington
- Pinckney, John Earle, First Lieutenant, Inf., 1943  
Instructor in Military Science and Tactics
- Platt, Virginia Provine, 1943. .... Instructor in Physics
- Plein, Elmer M., 1938 (1943). .... Assistant Professor of Pharmacy  
Ph.C., B.S., 1929, M.S., 1931, Ph.D., 1936, Colorado
- Posell, Edward A., M.D., 1938. .... Lecturer in Nursing Education  
B.S., 1923, City of New York; M.D., 1927, Boston
- †Powell, Sargent, 1919 (1943). .... Professor of Chemistry  
B.S., 1913, M.S., 1916, Washington; Ph.D., 1919, Illinois
- †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

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† Member of Graduate School faculty.



- †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
- †Pritchard, Clyde Summerfield, 1941 (1943).....Assistant Professor of Social Work  
B.A., 1932, Washington; M.A., 1939, Chicago
- Putnam, Rufus A., Lieutenant D-V(X), U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
B.S., 1928, Evansville; M.S., 1935, Indiana
- †Quainton, Cecil Eden, 1924 (1936).....Associate Professor of History; Acting  
Executive Officer of the Department of History  
A.B., 1918, Manitoba; B.A., 1924, Cambridge
- †Rader, Melvin Miller, 1930.....Assistant Professor of Philosophy  
B.A., 1925, M.A., 1927, Ph.D., 1929, Washington
- Radford, Ethel Sanderson, 1919.....Associate in Chemistry  
B.A., 1895, McGill
- Radzuil, Joseph V., 1st Lieutenant, SC, 1944  
Instructor in Military Science and Tactics
- †Rahskopf, Horace G., 1928 (1936).....Associate Professor of Speech  
B.A., 1920, Willamette; M.A., 1927, Ph.D., 1935, Iowa
- †Raitt, Effie Isabel, 1912 (1914)  
Professor of Home Economics; Director of the School of Home Economics  
B.S., 1912, M.A., 1919, Columbia
- Ramsey, Walter P., Lieutenant-Commander, U.S.N., 1940  
Assistant Professor of Naval Science and Tactics  
B.S., 1921, U. S. Naval Academy
- †Ray, Verne F., 1933 (1940).....Assistant Professor of Anthropology  
B.A., 1931, M.A., 1933, Washington; Ph.D., 1937, Yale
- Read, Mary Jo, 1943.....Assistant Professor of Geography  
B.A., 1931, Iowa State Teachers College; M.S., 1932, Chicago; Ph.D., 1942, Wisconsin
- †Read, William Merritt, 1927 (1936)  
Associate 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
- Reeves, George Spencer, 1935 (1939).....Assistant Professor of Physical Education  
B.S., 1933, M.S., 1938, Oregon
- †Rigg, George Burton, 1909 (1928).....Professor of Botany  
B.S., 1896, Iowa; A.M., 1909, Washington; Ph.D., 1914, Chicago
- †Rising, Louis Wait, 1934 (1936).....Professor of Pharmacy  
Ph.G., B.S., 1924, Oregon State; M.S., 1926, Ph.C., Ph.D., 1929, Washington
- Riste, Kenneth Kieth, 2nd Lieutenant, Q.M.C., 1943  
Instructor in Military Science and Tactics
- †Roberts, Milnor, 1901  
Professor of Mining and Metallurgy; Dean of the College of Mines  
B.A., 1899, Stanford
- †Robinson, Rex J., 1929 (1937).....Associate Professor of Chemistry  
B.A., 1925, DePauw; M.A., 1927, Ph.D., 1929, Wisconsin

† Member of Graduate School faculty.

- Rosen, Moritz, 1909 (1928).....Professor of Music  
Graduate, Warsaw Conservatory, Russia
- Ross, Marjorie, 1943. ....Acting Instructor in Physics  
B.A., 1937, DePauw; B.S. in L.S., 1938, Illinois
- †Rowntree, Jennie Irene, 1925 (1932).....Professor of Home Economics  
B.S., 1918, Wisconsin; M.S., 1924, Chicago; Ph.D., 1929, Iowa
- Ruch, Helen Josephine, 1942.....Instructor in Nursing Education  
R.N., 1931, Michael Reese Nursing School; B.S., 1940, Bradley Polytechnic Institute
- Rulifson, Leone Helmich, 1926 (1943)....Associate Professor of Physical Education  
B.S., 1922, M.A., 1935, Washington
- Rushing, John R., 1943.....Instructor in Physics  
B.S., 1929, Howard
- Rutherford, Frederick Warner, M.D., 1942.....Lecturer in Nursing Education  
A.B., 1930, Illinois; M.D., 1935, Harvard Medical School
- Ryberg, Violet Elizabeth, 1943.....Acting Instructor in Geography  
B.S., 1933, M.A., 1942, Washington
- 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 (1936).....Instructor in Physics  
B.S., 1923, Linfield; M.S., 1931, Ph.D., 1943, Washington
- †Savage, George Milton, Jr., 1935 (1942).....Assistant Professor of English  
B.A., 1928, M.A., 1928, Ph.D., 1935, Washington
- †Savery, William, 1902  
Professor of Philosophy; Executive Officer of the Department of Philosophy  
A.B., 1896, Brown; A.M., 1897, Ph.D., 1899, Harvard
- Schaller, Gilbert Simon, 1922 (1937).....Professor of Mechanical Engineering  
B.S., 1916, Illinois; M.B.A., 1925, Washington
- Scheer, Alfred E., 1943.....Acting Instructor in Physics  
Ph.B., 1911, Hamline; M.S., 1917, Washington
- Scheffer, Victor B., 1938.....Lecturer in Oceanography  
B.S., 1930, M.S., 1932, Ph.D., 1936, Washington
- Schertel, Max, 1931 (1938).....Instructor in German  
B.A., 1923, M.A., 1928, Ph.D., 1938, Washington
- †Schmid, Calvin F., 1937 (1941).....Professor of Sociology  
B.A., 1925, Washington; Ph.D., 1930, Pittsburgh
- Scott, David Brown, 1943.....Instructor in Physics  
B.S., 1938, Seattle Pacific College; B.S., 1940, Washington
- Schram, Lloyd W., 1940.....Acting Executive Secretary and Research  
Associate of the Bureau of Governmental Research  
B.A., 1934, LL.B., 1937, Washington; LL.M., 1938, Harvard
- Selfridge, Jannette Marie, 1943.....Instructor in Nursing Education  
B.S., 1925, Teachers College, Columbia
- Sergev, Sergius, 1923 (1939).....Associate Professor of Civil Engineering  
B.S. in M.E., 1923, M.E., 1931, Washington
- Shapiro, Leon, 2nd Lieutenant, 1943..Instructor in the Army Specialized Training Unit
- Shattuck, Evelyn Rennie, 1941.....Instructor in Nursing Education  
R.N., 1936, Good Samaritan Hospital, Oregon; B.S., 1940, Washington

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† Member of Graduate School faculty.

- Shearer, Allen E., Lt. D-V(S), U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
B.A., 1924, Lincoln Memorial; Ph.D., 1927, George Peabody College for Teachers; M.S., 1928, Mercer
- Sheehan, Norman J., Lieutenant (jg), U.S.N.R., 1943  
Lecturer in Naval Science and Tactics  
D.M.D., 1934, North Pacific Dental College
- Shefelman, S. Harold, 1930.....Lecturer in Law  
Ph.B., 1920, Brown; LL.B., 1925, Yale
- Sherman, John Clinton, 1942 (1943).....Instructor in Geography  
A.B., 1937, Michigan; M.A., 1942, Clark
- Sholley, John Burrill, 1932 (1939).....Professor of Law  
LL.B., 1932, Washington; J.S.D., 1937, Chicago
- Short, Marian M., 1943.....Acting Instructor in Home Economics  
B.S., 1938, DePauw
- Shuck, Gordon Russell, 1918 (1937).....Professor of Electrical Engineering  
E.E., 1906, Minnesota
- Sidey, Thomas Kay, 1903 (1927).....Professor Emeritus of Latin and Greek  
A.B., 1891, Toronto; Ph.D., 1900, Chicago
- Simpson, Floyd Robert, 1943..Acting Assistant Professor of Economics and Business  
B.A., 1933, M.A., 1938, Ph.D., 1943, Minnesota
- Simpson, Lurline Violet, 1924 (1934).....Assistant 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
- †Skinner, Macy Millmore, 1916 (1928).....Professor of Foreign Trade  
A.B., A.M., Ph.D., 1897, Harvard
- Smid, Caroline G., 1943.....Acting Associate in Speech  
B.A., 1935, Washington
- †Smith, Charles Wesley, 1905 (1926).....Librarian; Professor of Librarianship  
B.A., 1903, B.L.S., 1905, Illinois
- 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 (1929)  
Professor of Insurance; Director of Extension Service  
A.B., 1906, DePauw; Ph.D., 1912, Cornell
- Smith, Jane Kinney, 1943.....Instructor in Nursing Education  
B.S. in Nursing, 1943, Washington
- Smith, Louis E., Jr., 1943.....Instructor in Physics  
A.B., 1938, San Diego State College
- Smith, Richard T., 1940.....Lecturer in Fisheries  
B.S., 1932, M.S., 1937, Washington
- Smith, Robert Philip, M.D., 1942.....Lecturer in Nursing Education  
A.B., 1930, B.S., 1932, M.D., 1934, Kansas
- †Smith, Stevenson, 1911 (1916).....Professor of Psychology; Executive Officer,  
Department of Psychology; Director of the Gatzert Foundation  
A.B., 1904, Ph.D., 1909, Pennsylvania

† Member of Graduate School faculty.

- Snively, Cleda H., 1944.....Instructor in Nursing Education  
B.S., 1935, Washington
- 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 Education  
M.D., 1931, Nebraska
- Somers, Raymond H., M.D., 1935.....Lecturer in Nursing Education  
B.S., 1921, M.D., 1921, Northwestern
- †Soule, Elizabeth, 1920 (1934)  
Professor of Nursing Education; Director of the School of Nursing Education  
R.N., Malden Hospital, Massachusetts; B.A., 1926, M.A., 1930, Washington
- 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
- Sperlin, Ottis Bedney, 1921 (1923).....Lecturer in English  
A.B., 1903, Indiana; Ph.M., 1908, Chicago
- Stansby, Maurice E., 1938.....Lecturer in Fisheries  
B.S., 1930, M.S., 1933, Minnesota
- †Steiner, Jesse Frederick, 1931.....Professor of Sociology and Social Work;  
Executive Officer of the Department of Sociology  
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
- Stevenson, Margaret Whyte, 1941 (1943).....Instructor in Speech  
B.A., 1929, Boston; M.A., 1935, Washington
- Stirling, Brents, 1932 (1943).....Associate Professor of English  
LL.B., 1926, Ph.D., 1934, Washington
- †Stone, Edward Noble, 1910 (1940).....Professor of Classical Languages  
A.B., 1891, M.A., 1893, Olivet
- Stoudt, Oscar Mininger, 1943.....Associate in the Far Eastern Department  
B.A., 1917, Franklin and Marshall College
- Storvick, Clara A., 1941.....Assistant Professor of Home Economics  
A.B., 1929, St. Olaf College; M.S., 1933, Iowa State College; Ph.D., 1941, Cornell
- Stubbs, Lucile, 1940.....Associate in English  
B.A., 1922, Colorado
- Stuntz, Daniel Elliot, 1940.....Instructor in Botany  
B.S., 1935, Washington; Ph.D., 1940, Yale
- Sullivan, C. L., 1935.....Instructor in Mechanical Engineering
- Sunoo, Harold Won, 1943.....Instructor in Far Eastern Studies  
A.B., 1942, Pasadena College
- Sunoo, Helen Sonia, 1943.....Acting Associate in the Far Eastern Department  
A.B., 1937, San Francisco State College
- Suomela, Arnie J., 1935.....Lecturer in Fisheries  
B.S., 1924, M.S., 1931, Washington
- †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
- Sylvester, Howard E., 1943.....Acting Associate in English  
B.A., 1937, M.A., 1941, New Mexico
- Swygard, Kline R., 1943.....Associate in Political Science  
B.A., 1935, Washington
- Taffinder, Sherwoode A., Rear Admiral, U.S.N., 1944  
Lecturer in Naval Science and Tactics  
B.A., 1906, U. S. Naval Academy
- †Tartar, Herman Vance, 1917 (1927)  
Professor of Chemistry; Director of Chemical Laboratories  
B.S., 1902, Oregon State; Ph.D., 1920, Chicago
- †Taylor, Edward Ayres, 1929.....Professor of English  
B.A., 1909, Denver; M.A., 1918, Ph.D., 1925, Chicago
- Taylor, Robert Lincoln, 1941.....Associate Professor of Law  
B.A., 1927, Yale; J.D., 1930, Northwestern
- Tennant, Harold E., 1944.....Associate in the Far Eastern Department  
B.A., 1933, M.A., 1937, Washington
- †Terrell, Margaret Elma, 1928 (1943).....Associate Professor of Home Economics;  
Director of Commons; Business Director of Dining Halls  
B.A., 1923, Penn College; M.A., 1927, Chicago
- Thomas, Harlan, 1926  
Professor of Architecture; Director Emeritus of the School of Architecture  
B.S., 1894, Colorado State College
- Thomas, John White, Lieutenant, D-V (S) U.S.N.R., 1943  
Assistant Professor of Naval Science and Tactics  
A.B., 1918, Bowdoin
- †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
- Thwaites, Francis W., 1943.....Acting Instructor in General Engineering  
B.S. in M.E., 1913, Washington State
- Thwing, William Harold, 1942.....Instructor in General Engineering  
B.S., 1941, Washington
- Truax, Arthur, 1924.....Lecturer in Finance
- Tschudin, Mary Stickels, 1942.....Acting Assistant Professor of Nursing Education  
B.S. in Nursing, 1935, M.S., 1939, Washington
- Tuell, Joseph Irving, M.D., 1942.....Lecturer in Nursing Education  
B.S., M.D., 1932, Oregon
- Turner, Joseph F., Mar. Gun., U.S.M.C., 1943..Instructor in Naval Science and Tactics
- Turner, Mabel Alexandra, 1941.....Instructor in Librarianship  
A.B., 1926, Oregon; B.S. in L.S., 1931, Columbia
- Tustin, Whitney, 1935.....Associate in Music

† Member of Graduate School faculty.

- Tweddell, Colin Ellidge, 1943.....Acting Associate in Far Eastern Studies
- Twelker, Neil Henry, 1942.....Instructor in General Engineering  
B.S. in C.E., 1942, Washington
- †Tyler, Richard G., 1929.....Professor of Sanitary Engineering  
C.E., 1898, Texas; B.S. in C.E., 1910, Massachusetts Institute of Technology
- Tymstra, Sybren Ruurd, 1929 (1939)..Associate Professor of Mechanical Engineering  
M.E., 1905, Zwickau
- Ulbrickson, Alvin M., 1927  
Associate in Physical Education; Acting Manager of Athletics  
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; Acting Director of  
Oceanographic Laboratories; 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; Execu-  
tive Officer of the Department of Germanic Languages and Literature;  
Acting Director of Adult Education  
A.B., 1924, Hamilton; M.A., 1929, Ph.D., 1936, Columbia
- Van Arkel, G. Harvey, 1943.....Instructor in Physics  
B.S., 1930, M.S., 1934, Washington
- †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
- Vant Hull, Fred Nels, C. Sp., U.S.N.R.....Associate in Naval Science and Tactics
- 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
- Voeks, Virginia Wilna, 1943.....Associate in Psychology  
B.S., 1943, Washington
- 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
- Wallace, John Randall, Jr., 1941 (1942).....Instructor in General Engineering  
B.S. in C.E., 1941, Washington
- Walters, Alexander John, 1943.....Acting Instructor in General Engineering  
B.S. in C.E., 1921, Valparaiso
- Walters, Margaret C., 1929 (1940).....Instructor in English  
B.A., 1917, Mills; M.A., 1919, Yale

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† Member of Graduate School faculty.

- Ward, May Dunn, 1918.....Counselor for Women  
B.S., 1917, Washington; M.A., 1921, Columbia
- Warner, Frank Melville, 1913 (1937).....Professor of Engineering Drawing  
B.S.(M.E.), 1907, Wisconsin
- Warning, Margaret Cynthia, 1943.....Acting Instructor in Home Economics  
B.A., 1936, Morningside College
- Waterhouse, Robert William, 1943.....Acting Instructor in General Engineering  
B.S. in C.E., 1943, Washington
- Waters, Ellen H., 1944.....Acting Assistant Professor of Physical Education  
B.A., 1927, Washington; M.A., 1940, Columbia
- Watson, Marigale Osborne, 1943.....Associate in Mathematics  
B.S., 1936, M.S., 1940, Washington
- Watters, Reginald Eyre, 1941.....Instructor in English  
B.A., 1935, M.A., 1937, Toronto; Ph.D., 1941, Wisconsin
- Watts, Charles E., M.D., 1933.....Lecturer in Nursing Education  
B.S., 1913, Idaho; M.D., 1918, Rush Medical
- †Weaver, Charles Edwin, 1907 (1921).....Professor of Paleontology  
B.S., 1904, Ph.D., 1907, California
- Webb, Mary Louise, 1943.....Associate in Sociology  
B.A., 1941, Barnard; M.A., 1941, Columbia
- †Weiser, Russell S., 1935 (1942).....Associate Professor of Bacteriology; Acting  
Head of the Department of Bacteriology  
B.S., 1930, M.S., 1931, North Dakota State; Ph.D., 1934, Washington
- Weiss, Bertram D., Ensign, D-V (S), U.S.N.R.  
Instructor in Naval Science and Tactics  
B.A., 1942, Michigan
- Welander, Arthur D., 1937 (1943).....Instructor in Zoology  
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.....Associate in German  
A.B., 1915, Chicago; M.A., 1923, Northwestern
- Whiteing, Percy, 1943.....Instructor in the Far Eastern Department
- Whittlesey, Walter Bell, 1909 (1929).....Assistant Professor of French  
B.A., 1907, M.A., 1909, Washington
- Wilcox, Elgin Roscoe, 1920 (1936)....Professor of General Engineering; Executive  
Officer of the Department of General Engineering  
B.S., 1915, Met.E., 1919, Washington
- 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
- Williams, Juanita Day, 1942..Associate and Associate Director of the Nursery School  
B.A., 1933, Colorado; M.A., 1938, Teachers College, Columbia University

† Member of Graduate School faculty.

- Williams, Robert Whitney, C. Sp., U.S.N.R., 1943  
Associate in Naval Science and Tactics  
A.B., 1940, Oklahoma A. & M.
- Willis, Leota Snider, 1943.....Associate in English  
B.A., 1923, California; M.A., 1930, Ph.D., 1931, Pennsylvania; Cert., 1932, La Sorbonne,  
Paris, France
- Willis, Park Weed, Jr., Commander MC-V(S), U.S.N.R., 1940  
Lecturer in Naval Science and Tactics  
B.S., 1916, M.D., 1931, Pennsylvania
- Williston, Frank Goodman, 1943  
Acting Associate Professor in the Far Eastern Department  
A.B., 1922, Ohio Wesleyan; M.A., 1926; Ph.D., 1935, Chicago
- Wilson, Alice Weil, 1943.....Instructor in Physics  
B.A., 1936, Reed
- 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 (1940).....Assistant 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
- †Winger, Roy Martin, 1918 (1925).....Professor of Mathematics  
A.B., 1906, Baker; Ph.D., 1912, Johns Hopkins
- †Winkenwerder, Hugo, 1909 (1912)  
Professor of Forestry; Dean of the College of Forestry  
B.S., 1902, Wisconsin; M.F., 1907, Yale
- Winners, Elsa, 1943.....Lecturer in Social Work  
Ph.D., 1933, Berlin
- †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 (1933).....Assistant 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; Executive Officer of the Department of Anatomy  
M.D., 1900, Birmingham School of Medicine
- Worden, Ruth, 1926 (1937)  
Professor of Librarianship; Director of the School of Librarianship  
B.A., 1911, Wellesley

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† Member of Graduate School faculty.



- Wright, Ethel Belle, 1943  
Acting Assistant Professor in the Nursery School Organization  
B.S., 1933, Columbia; M.A., 1938, Northwestern
- Wright, Florence Pierce, 1943.....Acting Associate in English  
B.S., 1926, M.A., 1938, Minnesota
- Yaggy, Elinor May, 1943.....Acting Associate in English  
B.A., 1929, M.A., 1939, Idaho
- Yang Chao-Chen, 1943.....Associate in the Far Eastern Department  
Graduate, 1928, Hsin-Hua Academy
- Yates, Elmer Howard, 1943.....Instructor in Mathematics  
A.B., 1913, Whitman
- Zeusler, Frederick A., Commander, 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
- Zimmerman, Bruce McClung, M.D., 1942.....Lecturer in Nursing Education  
B.S., 1935, North Dakota; M.D., 1937, Northwestern
- Zuckerman, Helen Copenhagen, 1941.....Associate in Mathematics  
B.S., 1930, M.S., 1935, 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
- Zueff, Nikolai Konstantinovich, 1943.....Associate in the Far Eastern Department
- Zwolsman, Ralph Otto, C. Sp., U.S.N.R.....Associate in Naval Science and Tactics

#### Walker-Ames Professor and Lecturers

- Burgess, Ernest W., 1944 (spring).....Lecturer in Sociology  
Professor of Sociology, University of Chicago
- Craig, Hardin, 1944 (spring).....Professor of English  
Professor of English, University of North Carolina
- DeMeio, Romano, 1944-45.....Lecturer in Physiology  
Institute of Fisiologie, Facultie of Medicine, Rosario de Santa Fe, Rosario, Argentina
- Hicks, John D., 1944 (winter).....Lecturer in American History  
Morrison Professor of American History, University of California

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† Member of Graduate School faculty.

## 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, the average peace-time enrollment.

### Interesting Facts

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

*Library Facilities.* The University Library contains 428,870 bound volumes and receives currently about 8,292 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 inter-library loans and other forms of cooperative library service.

The Law Library, with 97,462 volumes (November, 1943), 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 (16,505 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.

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 Godfrey Cox, Ph.D.), and the *College of Education Record* (editor, John E. Corbally, Ph.D.), 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.

Additional facilities for research are available through a cooperative arrangement with the adjacent Soil Laboratory of the Seattle District, U. S. Engineers.

**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.** The largest aeronautics wind tunnel owned and operated by any educational institution 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.

**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 peace-time the University maintains a Department of Military Science and Tactics and a Department of Naval Science and Tactics. During the present war the University is being used as a training school for both the Navy V-12 program and the Army Specialized Training Program. About 1,600 trainees are included in these two programs, the majority of them in the Navy V-12 unit.

**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 show-boats 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 ultra-modern 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 Journalism
The School of Art	The School of Music
The School of Drama	The School of Nursing Education
The School of Fisheries	The School of Physical Education
The School of Home Economics	General Studies—for students with no major

- B. *The College of Economics and Business.*

- C. *The College of Education.*

- D. *The College of Engineering.*

- E. *The College of Forestry.*

- G. *The School of Law.*

- H. *The College of Mines.*

- I. *The College of Pharmacy.*

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

*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 semi-professional 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 pre-education, pre-law, pre-librarianship, pre-medicine, pre-social work, and food technology.

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

*The Four-Quarter System.* The University is operated on the four-quarter system, each quarter having approximately 12 working weeks. This system has been changed temporarily to a semester system to suit the needs of the Navy V-12 program.

## GENERAL INFORMATION

### ADMISSION TO THE UNIVERSITY

#### When to Enter

In order to make a maximum contribution in this war emergency, the University of Washington has placed instruction on a twelve-month basis; the Summer Quarter has been made an integral part of the school year. Students in most *majors* may begin their work in any quarter—autumn, winter, spring, or summer. With uninterrupted attendance and a fifteen-credit schedule, it is possible to earn a degree in three calendar years. Students with exceptional ability may carry up to twenty credits a quarter and complete their work in as little as two and one-half years.

#### 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. The University cannot guarantee prompt attention to credentials and reply to correspondence, especially if the student fails to heed the above warning.

#### Admission Requirements

(A 2.0 average means a "C" average in terms of the standard grading system of the state of Washington.)

1. *All entering freshmen* are required to:

- a. Submit an official application-for-admission blank (obtainable from any high school principal or from the Registrar). 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 51. 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

\*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.

## 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	Eng- lish	Mathematics	For. Lang.	Lab. Sci. <sup>1</sup>	Soc. Sci.	Other Academ. Subj. <sup>2</sup>	Free Elec- tive
1. Arts and Sciences <sup>3</sup> .....	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	2 of one <sup>3</sup>	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. Geometry)	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>2</sup>The pre-aviation 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>3</sup>Typical academic subjects are: English, foreign language, mathematics, science, history, economics. Some non-academic subjects are: commercial courses, manual training, home economics, band.

<sup>4</sup>Includes also Schools of Art, Architecture, Drama, Fisheries, Home Economics, Journalism, Music, Nursing Education, and Physical Education.

<sup>1a</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.

<sup>\*</sup>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 may be admitted with *provisional standing*.

<sup>\*\*</sup>Pharmacy recommends one unit of a laboratory science. Forestry recommends one unit of physics.

<sup>\*\*\*</sup>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 2.20 or better. A deficiency in foreign language may be removed by substituting 20 credits in language and literature.

requirements (see page 72). First year algebra and plane geometry are offered by the Extension Service (fee, \$12 per course) and do not carry college credit.

- (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 of a first-quarter student or a cumulative 2.0 grade-point average thereafter.
  - (5) A graduate from a *non-accredited* 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.
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 60.
    - 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 58.
    - 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.
  3. *College of Education and School of Law.* See pages 103 and 120.
  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 121 and 138.
  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 for 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.

**\*\*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.



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 page 52.
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.*
  - 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.
  - 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 128. See Senior Year Residence Rule, page 60.

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

### Registration

At the beginning of each quarter, the student arranges 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 the fees are paid and the registration blank has been signed by the proper officers and approved by the Registration Office. See calendar, page 6.

Information regarding mail registration for the Summer Quarter may be obtained from the Summer Quarter Bulletin.

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,

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

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 non-resident, at any time that it is deemed advisable by the Director of the University Health Service, as a condition precedent 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 fall 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 day of school is expected.

## **EXPENSES**

### **Payment of Fees**

*All fees are payable in advance 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 non-resident fee is granted non-resident 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

*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 57 regarding late registration fines.*

RESIDENT STUDENTS<sup>1</sup>

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

Types 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	\$25.00	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 men or women.....		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 student 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 non-resident 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 non-resident 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 Education, the Graduate School, or Nursery School.

¶The fee for children in the Nursery School is \$35.00 per child per quarter. Special audit fee for both residents and non-residents is \$15.

‡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.

NON-RESIDENT STUDENTS<sup>1</sup>

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

Types 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.....	\$50	\$12.50	**	\$5	\$2.50	\$2.50	\$67.50	\$65.00	\$65.00
Fresh. & new soph..	50	12.50	\$25.00	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 men or women.....	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 non-resident 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 and 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 Education, the Graduate School, or the Nursery School.

‡ The fee for children in the Nursery School is \$35.00 per child per quarter. Special audit fee for both residents and non-residents is \$15.

‡ 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.

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 64.

#### **Summer Quarter Fees**

(*Important:* Consult Summer Quarter Bulletin for fees and fee-payment dates.)

#### **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 53.)

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.

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

**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).

**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 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 and Naval Uniforms.** See pages 116 and 117 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, p. 65.)

1. The Students' Cooperative Association provides room and three meals a day for about \$100 per quarter. Membership is open to both men and women upon payment of an initial membership fee of \$15, which may be made in three payments of \$5 per quarter.

2. Boarding-house costs will average from \$105 to \$130 per quarter for double room and two meals, or \$150 for three meals.

3. Living costs in sorority houses, exclusive of dues, average about \$130 per quarter for room and three meals.

4. Single rooms in private homes rent from \$15 to \$25 per month.

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

## SCHOLASTIC REGULATIONS

## I. REQUIREMENTS FOR GRADUATION

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

NOTE: In the prescribed curricula it is taken for granted that first and second year students will register for the required courses in military science and physical education activity courses or in naval science.

## Military Science (See also page 116)

1. Two years of military science are required of all male undergraduate students except the following:
    - a. Men who are twenty-three years of age or over at the time of original entry into the University.
    - b. Men entering as juniors or seniors.
    - c. Special students.
    - d. Men registered for six credits or less.
    - e. Men registered in Naval R.O.T.C.
    - f. Men who are not citizens of the United States.
    - g. Men 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, or members of the Naval or Marine Corps Reserve.
    - h. 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. Complete exemption from the military science requirement will be granted (1) to honorably discharged men who have served six months or more in the Army, Navy, Marine Corps, or Coast Guard; (2) to honorably discharged men who have served one year or more in the Coast and Geodetic Survey; and (3) to those who hold a Certificate of Disability Discharge. The Professor of Military Science and Tactics shall evaluate the credits of all other claimants.
- NOTE: Although credit to meet the requirement in Military Science is allowed as provided above, the student concerned is, by Army regulations, ineligible to enter the Advanced Course of the R.O.T.C. on a contract basis without first attending the two-year basic course as given at a University or its equivalent in a Junior R.O.T.C.
- i. Men who, because of physical condition, are exempted by the University Health Officer.
  - j. Men whose petitions for exemption 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 117)

1. The first two years of naval science normally satisfy the requirement of military science and the requirement of physical education activity courses.
  2. Naval science is a four-year course, but it may be completed in less than four years by attending summer quarter. No students are accepted unless they contemplate completion of the course, are citizens of the United States, have passed a rigorous health examination, and have satisfied the following subject requirements:
    - a. High school: Plane geometry.
    - b. High school or college: Plane trigonometry, college algebra.
- Recommended in high school: Advanced algebra, solid geometry, physics.

**Physical Education Requirements for Men**

1. Six quarters of physical education activity courses are required of all male students except men who are twenty-three years of age or over at the time of original entrance to the University, men entering with junior or senior standing, men registered for six credits or less, special students, or men 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. Five quarters of physical education activity courses are required of all women students except women who are twenty-three years of age or over at the time of original entrance to the University, women entering with junior or senior standing, women registered for six credits or less, or special students.

a. This requirement must normally be completed during the first six quarters of University residence.

b. Students who pass the medical examination may elect activities with the following provisions: one activity from the individual groups (tennis, golf, riding, canoeing, archery, fencing, badminton), one from the rhythmic group (folk, clog, or interpretative dancing), one from swimming (unless student passes test). The remaining credits may be selected from the above and from volley ball, basketball, hockey, baseball, and bowling.

2. A five-credit academic course in health education (P.E. 10) is required of all women students who have not satisfied this requirement in an accredited university or college.

a. Students in the College of Arts and Sciences must complete this course, or equivalent, within the first three quarters of residence. Students in all other colleges must complete the requirement by the end of the sophomore year.

b. A student may be exempted from the health education course by passing a health knowledge test given the first week of each quarter.

**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 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 64.

For rule regarding repetition of courses in which grades of "D" or "E" were obtained, see "Repeating of Course," page 62.

### 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 applications 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 50.

Details concerning issuance of teaching certificates may be obtained from the College of Education section, page 104.

### Additional Regulations

1. *Degrees—Entrance and 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 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 final examination either by permission of his dean or through sickness or other unavoidable cause shall be given a grade of Incomplete (see page 62). 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 must dismiss from the course any student who is found cheating, and the student shall be given a grade of failure in the course.

2. Any offender is to be reported to the Registrar, who will inform the Office of Student Affairs and the dean of the college concerned as to the facts in the case. The student shall automatically be placed on academic probation.

3. A student reported for a second offense is to be sent to the Committee on Student Discipline, which shall suspend the student for the remainder of the quarter or for such longer time as is deemed desirable.

### 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 71-139.

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 62 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, and physical education activities.

*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. LIBRARY RULES

1. Books may be borrowed for a period of two weeks, with the exception of some on supplementary reading lists, which are issued for only three days. Renewals are made if titles are not in demand.

2. Books will be recalled when needed for class use or in an emergency.

3. Books are due on the last date stamped on the date slip inside the back of the cover. A fine of 25 cents per volume will be assessed for books not returned on the date due, increasing to 50 cents per volume on the fourth day and \$1.00 on the ninth day for which they are overdue. (See Rule 8.)

4. Reserve Room books may be borrowed for two-hour periods unless a one-hour limit is stated.

5. During autumn, winter, and spring quarters, Reserve and Social Studies books may be borrowed for overnight use at 9 p.m. to be returned at 8 the next morning, and for week-end use at 12 o'clock on Saturday to be returned at 8 a.m. the following Monday. For summer rules, see summer announcement.

6. The fine on Reserve and Social Studies books is 25 cents the first hour overdue and 5 cents for each additional hour. Fines are payable to the Library cashier at the circulation desk in the main library. (See Rule 8.)

7. Permission to borrow reference material is granted at the discretion of the reference librarian. Borrowers who fail to return such material at the time designated are fined the same as for reserve books. Anyone who takes reference material *without permission* is subject to a fine of 50 cents for the first day and 25 cents for each additional day until the material is returned. (See Rule 8.)

8. Registration, transcripts, and diplomas will be withheld until financial delinquencies are paid.

#### V. 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 55-56. 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, through the Office of Student Affairs and the health service, inspects and approves a wide variety of living accommodations for men and women students. Lists of such places are available at the Office of Student Affairs. All accommodations are off the campus, and consist of boarding and rooming houses, private homes, apartments and housekeeping 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 it is suggested that in all other cases (except apart-

ment houses) 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. (See section on Living Costs, page 58.

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 Association located in Lewis Hall. Women students desiring to earn room and board with some compensation should apply at the Office of Student Affairs, Clark Hall. In all cases a personal interview is required.

### 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.

### 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.

### 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.

### HONOR AWARDS, FELLOWSHIPS, SCHOLARSHIPS, PRIZES AND AWARDS

*(Subject to sufficiency and availability of funds)*

#### 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 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 <sup>2</sup> ...	3	*	any
E. C. Neufelder Scholarship <sup>3</sup> .....	1	*	any
Seattle Branch of Am. Ass. of U. Wom. Scholarship <sup>4</sup> .....	1	\$100	any
Alpha Chi Omega Alumnae Scholarship <sup>4</sup> .....	1	\$100	any
Arthur A. Denny Fellowships <sup>2</sup> <sup>5</sup> .....	6	....	C.E., Ed., Eng., Hist., Mining E., Pharm.
School of Drama Scholarships.....	*	\$91.50	Drama
Agnes Healy Anderson Research Fellowships.....	*	*	Forestry
Research Fellowships.....	4	\$720 Yr. <sup>6</sup>	Mines
Wom. Aux. of Am. Inst. of Min. and Metal. Eng. ....	*	*	Mines
National Research Fellowships.....	*	\$1800 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 <sup>8</sup> .....	..	....	.....

\* Variable.

<sup>1</sup> In addition to exemption from tuition and incidental fees.<sup>2</sup> Not to be awarded in 1944-1945.<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.<sup>8</sup> Not offered during World War II.



## 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
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
Gamma Phi Beta.....	1	\$100	woman major in English
Kappa Alpha Theta Alumnae.....	1	\$100	{woman entering senior year in Home Economics
Sears, Roebuck and Company.....	3	\$200	seniors in Home Econ.
Livingston Wernecke Memorial...	1	varies	student in Mines
Mu Phi Epsilon.....	1	*	woman in Music
Phi Mu Alpha <sup>2</sup> .....	1	*	man in Music
Frances Dickey Memorial.....	1	*	woman in Music
Beecher Keifer Memorial <sup>3</sup> .....	1	..	man violin student
Wealthy Ann Robinson Memorial.	1 or 2	\$100	graduate nurses
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
Kellogg Foundation.....	varies	varies	{students in Nursing Education

<sup>1</sup>From a Washington but not a Seattle high school; apply by April 13.<sup>2</sup>Not offered in 1944-1945.<sup>3</sup>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
A. S. U. W.....	silver cup	one man and one woman in Speech
Alpha Kappa Psi.....	medallion	four years' service on Varsity Discussion Squad
	\$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.
Paul H. Johns, Jr., Memorial <sup>1</sup> ...	\$100 each	sophomore man in College of Econ. and Bus.
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
Philo Sherman Bennett.....	\$15	seniors in Journalism
Vivian M. Carkeek.....	\$50	essay on principles of free government
Western Printing Company.....	\$25	article for <i>Wash. Law Review</i>
Frank W. Baker.....	\$250	service to <i>Wash. Law Review</i>
Nathan Burkan Memorial.....	\$100	essay on Constitution and Supreme Court <sup>2</sup>
W. G. McLaren.....	\$25	essay on Copyright Law by graduating student in law
Delta Phi Mu.....	\$25	solution of problem in legal draftsmanship
Lehn and Fink.....	medal	first or second year student in Music
Rho Chi Society.....	books	graduating senior in Pharmacy
Sebastian Karrer.....	\$50	freshman in Pharmacy
Chi Omega.....	\$25	graduate student in Physics
Howard Brown Woolston.....	\$15 each	graduating senior woman in Sociology
Colonel Mear's Award.....	2nd Lieut. Insignia	two students for research in Sociology
Scabbard and Blade.....	ribbons	graduating senior in Coast Artillery
Honor Basic Student Prizes.....	medal	one to each thirty 1st year students in M. S.
Junior Military Prize.....	cash	one to each twenty 2nd year students in M. S.
Junior Military Medals.....	medal	best basic student in each unit in M. S.
Quartermaster Assoc. Certificate.....	membership	best junior in each unit in M. S.
	1 year	junior honor students in Coast Art. and Inf.
Quartermaster Corps Award.....	cup	best student in Quartermaster Corps Unit
Leadership Prizes.....	officer's saber	student in Quartermaster Corps Unit
		cadet Captain in Coast Artillery and Infantry

<sup>1</sup>Not offered in 1944-1945.<sup>2</sup>Essay shall "counteract the tendency of students to succumb to the specious arguments of advocates of subversive doctrines."

## 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.

*Fellowships, Scholarships, Prizes.* See page 67.

#### 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 50-58. 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 and 2 (10 credits) or the equivalent, after passing the preliminary freshman-English test, are required of all students. English 3 is required of freshmen in a number of curricula. For English 2, journalism students substitute Journalism 51, News Writing. For English 1 and 2, fine arts students may substitute English 4, 5, 6 (9 credits).

English 1 and 2 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 1, 2, and 3; (3) be assigned to English A, a non-credit 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 five-credit *academic* course, or 4, 6, 8, two credits each, 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	Anatomy
Art	Economics	Animal Biology
Classical Languages	Geography	Astronomy
Drama	History	Bacteriology
English	Home Economics	Botany
Far Eastern	Nursing Education	Chemistry
General Literature	Philosophy	Fisheries
Germanic Languages	Physical Education	Geology
Journalism	Political Science	Mathematics
Liberal Arts	Psychology	Oceanography 1
Librarianship	Sociology	Pharmacy 15
Music		Physics
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) non-departmental 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. Non-Departmental 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 82, 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 non-scientific subjects in the curriculum.

*B. Pre-Major.* 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 pre-majors 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 126.

### ANATOMY

JOHN L. WORCESTER, *Executive Officer*, Anatomy Building

(See Biological Sciences, page 77)

### ANIMAL BIOLOGY

ARTHUR SVIHLA, *Executive Officer*, 234 Johnson Hall

DEGREE: Bachelor of Science

(See Biological Sciences, page 77)

#### 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 same courses.

### ANTHROPOLOGY

ERNA GUNTHER, *Executive Officer*, 211 Museum

DEGREE: Bachelor of Arts

A major shall offer 45 credits, including courses 51, 52, 53; 101 or 105 or 107; 111 or 112 or 114; 120, 141, 142, 143, 150, 160, 185, 193-195. 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.

The Latin-American Anthropology major in General Studies should also be consulted.

### ARCHITECTURE

HARLAN THOMAS, *Director Emeritus*, Physiology Hall

ARTHUR P. HERRMAN, *Executive Officer*, 301 Physiology Hall

Member of Association of Collegiate Schools of Architecture

DEGREE: Bachelor 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 180 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 Leading to the Degree of Bachelor of Architecture

FIRST YEAR		SECOND YEAR	
	Credits		Credits
Arch. 1, 2, 3. Appreciation.....	6	Arch. 40, 41, 42. Water Color.....	9
Arch. 4, 5, 6. Design.....	12	Arch. 51, 52. Medieval History.....	4
Arch. 7, 8, 9. Graphics.....	3	Arch. 54, 55, 56. Design Gr. I.....	15
English 4, 5, 6. Composition.....	9	Arch. 167, 168. Materials.....	4
Math. 54, 55, 56. Arch. Math.....	9	G.E. 47, 48. Elem. Bldg. Constr.....	6
Art 32, 33. Freehand Drawing.....	4	Electives.....	7
Art 34. Sculpture.....	2		
THIRD YEAR		FOURTH YEAR	
	Credits		Credits
Arch. 101, 102, 103. Renaissance History..	6	Arch. 151. Modern History.....	2
Arch. 104, 105, 106. Design Gr. II.....	15	Arch. 152, 153. Theory.....	4
Arch. 120, 121, 122. Working Drawings.....	6	Arch. 154, 155, 156. Design Gr. III.....	15
C.E. 116, 117, 118. Struct. Engineer.....	12	Arch. 169. Spec. and Off. Practice.....	2
E.E. 105. Elect. Wiring.....	2	Art 160, 161. Life.....	6
C.E. 151. Plumbing and Sanitation.....	2	Electives.....	16
M.E. 110. Heating and Ventilating.....	2		

### Curriculum in City Planning Leading to the Degree of Bachelor of Architecture in City Planning

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

FOURTH YEAR		FIFTH YEAR	
	Credits		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		

\* Courses with prerequisites which must be adjusted.

## 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 4, 5, 6, or 1, 2. Composition.....	9 or 10
Art 9, 10, 11. Design.....	9	Modern Foreign Language.....	15
		Electives.....	3 or 2

## General Curriculum

<i>Second Year</i>	<i>Credits</i>	<i>Third Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>
Art 12. History of Art.....	5	Art 103, 104, or 157, 158....	6	Art 20. Modern Sculpture....	2
Art 53, 54, 55. Design.....	9	Art 126. Hist. of Painting....	2	Art 101. Elementary	
Art 56, 57, 58. Drawing		Art 160, 161, 162. Life.....	9	Interior Design.....	2
and Painting.....	9	Approved Design.....	3	Art 150. Illustration.....	5
Art 72. Sculpture.....	3	Econ., Pol. Sci., or Soc.....	5	Art 163 or 164. Composition..	5
Electives.....	19	Laboratory Science.....	10	Electives.....	31
		Electives.....	10		

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 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.

<i>First Year</i>	<i>Credits</i>	<i>Second Year</i>	<i>Credits</i>	<i>Third Year</i>	<i>Credits</i>
Art 5, 6, 7. Drawing.....	9	Art 12. History of Art.....	5	Art 103, 104, or 157, 158....	6
Art 9, 10, 11. Design.....	9	Art 53, 54, 55. Design.....	9	Art 105, 106.....	6
English 4, 5, 6. Composition..	9	Art 56, 57, 58. Dr. and Ptg..	9	Art 160 or 161 or 162. Life..	3
Educ. 1. Orientation.....	2	Lab. Science.....	10	Sculpture (3) or Cost. Des.	
Social Science.....	5	Psych. 1. General.....	5	(2) plus Electives.....	12
Electives.....	11	Electives.....	7	Educ. 9, 60, 70, 90.....	13
				Social Science.....	5

  

<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 or 164. Comp.....	5	Educ. 120. Educ. Soc.....	3
Art 101. Elem. Int. Design..	2	Educ. 75A. Methods.....	2	History 164.....	5
Art 102. Book-Making and		Social Science.....	5	Phil. 129. Esthetics.....	5
Book-Binding.....	2	Electives.....	18	Electives.....	24
Art 126. Hist. of Painting...	2				

## 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 107, 150 or 151; 163 or 164; 166; Econ. 57; approved journalism, ten to fifteen credits; Psych. 21; electives, eight to thirteen 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: Art 80, 81, 82, 103, 104, 116, 126, 157, 158; Chemistry, ten credits; Econ., Pol. Sci., or Soc. Sci., five credits; electives, four credits.

Fourth Year: Art 20, 83, 105; 110 or 111 or 112 or 172 or 173 or 174; 129; Econ. 57; General Engineering 1, 2; Mechanical Engineering 53, 54, 55; Psych., five credits; electives fourteen 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; Arch. 101, 102, 103; Home Economics 25 and 41 or 147; electives, thirteen or fifteen credits.

## Painting

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

Third Year: 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; electives twenty-six credits.

## Sculpture

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

Third Year: 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; electives, eighteen 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 12, 20, 100, 101, 102, 103, 104 or 157, 158; 105, 106, 126—a total of twenty-seven 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, 53, 54, 55, 56, 57, 58, 150; 160 or 161 or 162; 163 or 164; Costume Design or Sculpture, two or three credits—a total of fifty-one credits.

The minor for non-majors 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

RUSSELL S. WEISER, *Acting 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.

A grade 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 upon the type of specialization desired.

FIRST YEAR				SECOND YEAR			
	Autumn	Winter	Spring		Autumn	Winter	Spring
Eng.	1	2	...	Chem.	131	132	...
Chem.	1, 21	2, 22	23	Chem.	...	...	111
Zool.	1 or 3	2 or 4	...	Physics	1 or 4	2 or 5	...
Psych.	...	...	1	Bact.	...	...	100
Soc.	...	...	1	Elective	5 cr.	5 cr.	...
							Organic Quant. Anal. General Fundamentals



## 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.

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Bact. 105. Infec. Diseases....	5	Bact. 102. Sanitary and Clinical Methods.....	5		
Anat. 105. Histology.....	6				
<i>Group Option</i>					
(a) Biology elective.....	5	(a) Chem. 140. Physical.....	3	(a) Chem. 141. Physical.....	3
(b) Bact. 103. Pub. Hygiene.	5	Biology elective.....	5	Bact. 104. Serology.....	5
(c) Elective.....	5	Elective.....	2	Bact. 120. Applied.....	5
		(b) Elective.....	5	Elective.....	2
		Anat. 100. Lecture.....	3	(b) Bact. 104. Serology....	5
		Anat. 101. General.....	3	Zool. 107. Parasitology... 5	
		(c) Elective.....	5	Elective.....	5
		Bact. 107. Control of Micro-Organisms.....	5	(c) Bact. 120. Applied.....	5
				Bot. 115. Yeasts & Molds	5
				Elective.....	5

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Bact. 110. Pathology.....	5	Bact. 121. Applied.....	5	Elective.....	5
Elective.....	5	Electives.....	5		
<i>Group Option</i>					
(a) Chem. 161. Physiological	5	(a) Chem. 162. Physiological	5	(a) Electives.....	10
(b) Bact. 120. Applied.....	5	(b) Zool. 121. Microscopic Technique.....	3	(b) Bact. 122. Applied.....	5
(c) Bact. 130. Industrial....	5	Elective.....	2	Elective.....	5
		(c) Bact. 131. Industrial....	5	(c) Bact. 132. Industrial....	5
				Bact. 122. Applied.....	5

## BIOLOGICAL SCIENCES

**Anatomy**—JOHN L. WORCESTER, *Executive Officer*, Anatomy Building

**Animal Biology**—ARTHUR SVIHLA, *Executive Officer*, 234 Johnson Hall

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

**DEGREE:** Bachelor of Science in Anatomy, Botany, or Zoology, depending upon which science is selected.

In this curriculum the student must select a major in Anatomy, Botany, or Zoology. An adviser from his major department will plan a special curriculum for the student, fitting him for his chosen work. The major requires 40 credits approved by the department.

Two and one-half years of mathematics are required, which may be taken in high school or University.

## BOTANY

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

(See Biological Sciences, above.)

Students who wish to specialize in botany may choose between the group requirements on page 72 which lead to the degree of bachelor of science and Curriculum in Biological Sciences described above which leads to the degree of bachelor of science in botany. The elective major requires 40 credits including courses 1, 3, 101; 24 or 25; 105 or 106 or 107; 108.

## Teaching Major or Minor in the College of Education

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

**CHEMISTRY**

**H. K. BENSON, *Executive Officer*, 103 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.

Second Year: Chem. 109, 110, 111; 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; Chem. 190.

All electives must be approved by the department.

**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, General Economics; E.B. 60, Statistical Analysis; E.B. 105, Economics of Labor; E.B. 185, Advanced Economics; E.B. 187, Development 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 and 2 may not be counted for a major or minor.

A major in English requires 50 credits including courses 151, 170; 168 or 144; 177, 174, or 162; and thirty 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 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.

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\* 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.

## FAR EASTERN

FRANZ H. MICHAEL, *Acting Executive Officer*, 230 Denny Hall

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 language 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 72, 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.....	5	English 2. Composition.....	5	Elective.....	5
Zoology 1. Animal Biology.....	5	Zoology 2. General Zool.....	5	Zoology 5. 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

## 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 optional courses should be chosen: (A) General Fisheries Biology; (B) Life History and Conservation, Vertebrates or Invertebrates; (C) Hatchery Biology, the Propagation and Rearing of Fish. Under each option five hours of fisheries are required each quarter and in addition the Seminar meetings, Fisheries 195, 196, 197, are required in the fourth year. The elective credit hours under all options must be chosen from subjects recommended by the School of Fisheries.

All options require Fish. 101, 102, 103, 105, 106, and 107.

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. 157, 158, or 125, 126; 16 credits of mathematics beyond those specified in the second year are required.

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

**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, *Acting Chairman*, 402 Johnson Hall; W. L. BEUSCHLEIN, E. R. NORRIS, E. J. ORDAL, E. I. RAITT, 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. General.....	5	Chem. 2. General.....	5	Chem. 23. Qual. Analysis....	5
English 1. Composition....	5	English 2. Composition....	5	Physics 3. General.....	5
Physics 1. General.....	5	Physics 2. General.....	5	Math. 1 or 4.....	5
				P.E. 15 or P.E. 10, or exemption exam.....	2-5

### 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			
Bot. 1. Elementary.....	5	Bot. 2. Elementary.....	5		
<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 and 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>		
(a) Chem. 121. Industrial... 5	(a) Chem. 122. Industrial... 5	(a) Elective..... 6
(b) Bact. 105. Infect. Dis... 5	(b) Elective..... 5	Chem. 123. Industrial... 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 technic, 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, Oriental, 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 departmental 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, Executive Secretary, Home Relations, the less specialized aspects of Industrial Management, 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 (H. L. Nostrand, chairman). It normally includes the following courses, totaling 63 credits: 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 128 (Foreign Relations, U. S. and Americas); Spanish 101, 102, 103 (Composition and Conversation); 104, 105, 106 (Survey) and 12 elective credits in Latin-American literature.

## GEOGRAPHY

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

DEGREE: Bachelor of Arts

### Major in Geography

A major requires 45 credits including Geography 1-101 or 7, 2 or 121, 11-111, 102, 155 and 170; electives should be approved by the department.

### Major in Meteorology

A major requires 45 credits including Geography 1, 11, 112, 121, 152-3-4, 192 and geography electives. Required supporting courses are Physics 1, 2 and 3; Mathematics 4, 5 and 6.

### 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 140 replace 2 or 121.

A first minor requires 26 credits including courses 1-101 or 7, 102, 110, 140, 170.

A second minor requires 19 credits including courses 1-101 or 7, 102, 110, 125, 140.

## GEOLOGY

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

A grade-point average of at least 2.5 shall be required for geology 5 or 105, 6 or 106, 7 or 107 for admission to any courses in geology with a number above 100.

### Elective Curriculum

DEGREE: Bachelor of Science

Majors in geology not taking the "set" professional course must, unless given special permission by the department, complete the following geology courses: 5 or 105, 6 or 106, 7 or 107, 101, 112 or 113, 121, 123, 124, 131, 132, 142—a total of 53 credits. A grade-point average of 2.5 in all courses in geology shall be required of geology majors for graduation.

### 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.....	5
G.E. 1. Engin. Drawing.....	3	G.E. 2. Engin. Drawing.....	3	G.E. 21. Plane Surveying....	3
P.E. 4 (women);		P.E. 6, 8. (Women).....	4	G.E. 3. Drafting Problems... 3	
Elective (men).....	2	P.E. 15 (Men).....	2		

#### SECOND YEAR

Geol. 5. Rocks and Minerals. 5	Geol. 6. Elem. Physiography. 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..... 5

## THIRD YEAR

Geol. 123. Optical Mineralogy..... 5  
 Pol. Sci., Soc., Geog., or other Group 2 electives... 5  
 Foreign Language..... 5

Geol. 124. Petrography and Petrology..... 5  
 Geol. 130. Paleontology..... 5  
 Foreign Language..... 5

Geol. 125. Petrography and Petrology..... 5  
 Geol. 132. Invertebrate Paleontology..... 5  
 Foreign Language..... 5

## FOURTH YEAR

Geol. 101. History of Geol... 3  
 Geol. 126. Sedimentary Petrography..... 5  
 Pol. Sci., Soc., Geog., or other Group 2 electives... 5  
 \*Professional electives..... 3

Geol. 127. Ore Deposits.... 5  
 Geol. 142. Structural Geol... 5  
 \*Professional electives..... 5

Geol. 144. Field Methods.... 5  
 Geol. 190. Thesis..... 5  
 \*Professional electives..... 5

\* Depending on field of interest. A fifth year may be necessary for the completion of the above schedule 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 upper-division courses must be "B" or above.

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

## HISTORY

C. EDEN QUAINTON, *Acting 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 1-2 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 1-2, 5-6, 7 or 21-22, 72-73, and 164. The remaining credits are to be taken in American History.

For the teaching minor, a minimum of 30 credits in history is required, including History 1-2, 7 or 21-22, 164 (required by state law). The remaining credits are to be grouped as follows: ten credits of upper-division European history, including English; or 72-73; or ten credits of upper-division American history.

### HOME ECONOMICS

EFFIE I. RAITT, *Director*, 201 Home Economics Hall

#### Non-Professional Curricula

Two majors are offered: a *General Major*, for the degree of bachelor of science, and a *Textiles, Clothing and Art Major*, for the degree of bachelor of arts. These require a total of 180 credits plus 5 quarters of physical education. The minimum requirements for the first two years are those established in the College of Arts and Sciences in curricula involving majors.

*General Major.* Required home economics courses are the following: H.E. 12, 15, 25, 107-108, 141, 144, 147, 181, 190, and their prerequisites.

*Textiles, Clothing and Art Major.* Required home economics courses are: H.E. 12, 25, 112, 113, 114, 133, 144, 145, 147, 181, and at least 9 credits from the following: H.E. 101, 102, 188, 189, 198. In addition, 30 credits in art are required. If the major interest is merchandising instead of designing, substitution of courses in economics and business for equivalent art requirements must be approved by the director.

Students who have not been accepted for a professional curriculum must have the permission of the instructor to enroll in the following courses: Educ. 75NA, 75NB, H.E. 123, 124, 160, 161, 175, 191.

#### Professional Curricula

A minimum of 20 credits of language, English, or history is required for graduation in all professional curricula. Application for admission to these curricula is permitted after completion of 75 credits.

### TEACHER TRAINING

The degree of Bachelor of Science in Home Economics is awarded if the major and two minors are completed; Bachelor of Science if the major only is completed.

The degree will be awarded upon the completion of 180 credits plus 5 credits of physical education as scheduled in the first four years in the Teacher-Training curriculum.

This curriculum requires the completion of 225 credits plus five quarters of physical education; it will satisfy the requirements for a teaching major and minor in the College of Education.

*Foods and Nutrition Major.* First year: H.E. 7, Arch. 3; Second year: H.E. 15, 115, Physics 89, Bact. 101; Third year: H.E. 107-108, 116, 141, 144, 181; Fourth year: H.E. 145, 147, 190, Nursery School 105; Fifth year: H.E. 148, 195; and their prerequisites; other courses must be approved by the School of Home Economics.

*Textiles and Clothing Minor.* First year: H.E. 12; Second year: H.E. 25; Third year: H.E. 112, 113, 114; Fourth year: H.E. 147; and their prerequisites.

*Housing and Management Minor.* Second year: H.E. 25; Third year: H.E. 141, 144, 181; Fourth year: H.E. 145, 147.

The major may be Foods and Nutrition and the first minor may be Textiles and Clothing but the second minor must be elected in another department.

Home Economics minor for students who do not major in the School of Home Economics: H.E. 15, 24, 41, 103, 109, 117, 119, 145, 190; Nursery School 105.

FIFTH YEAR: Education 71N-72N, Cadet Teaching; H.E. 195, Research, and 148, Home Management House, must be taken concurrently as a unit, in either autumn, winter or spring quarter.

### HOME ECONOMICS AND SOCIAL WORK

#### DEGREE: Bachelor of Science in Home Economics

This curriculum requires 180 credits.

First year: H.E. 7, 12, Arch. 3; Second year: H.E. 15, 25, 115, Physics 89, 90, Bact. 101; Third year: H.E. 107-108, 112, 113, 114, 141, 144, 181; Fourth year: H.E. 145, 147, 190, Nur. Ed. 5, Nur. School 105; and their prerequisites. Also courses in Sociology and Social Work recommended by the Graduate School of Social Work. Other courses must be approved by the School of Home Economics. Completion of this curriculum should be followed by a year in the Graduate School of Social Work.

### INSTITUTIONAL ADMINISTRATION

#### DEGREE: Bachelor of Science in Home Economics

This curriculum requires the completion of 195 credits (180 will be accepted for the duration of the war).

First year: H.E. 7, 15, Arch. 3; Second year: H.E. 115, 131, Physics 89; Third year: H.E. 26, 107-108, 120, 141, 181, 190, Nursery School 105, Bact. 101; Fourth year: H.E. 121, 122, 123, 124, 144, 145, 147, 191, Econ. 62, Ed. 75NB; and their prerequisites. Other courses must be approved by the School of Home Economics.

To become a member of 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 interne courses.

### TEXTILES, CLOTHING AND ART

#### DEGREE: Bachelor of Science in Home Economics

This curriculum requires the completion of 180 credits.

First year: H.E. 7, 25; Second year: H.E. 12, 147; Third year: H.E. 112, 113, 114, 144, 181; Fourth year: H.E. 133, 145, 160, 161, 188, 198, Hist. 114; and their prerequisites. Other courses must be approved by the School of Home Economics.

### HOME ECONOMICS AND JOURNALISM

#### DEGREE: Bachelor of Science in Home Economics

This curriculum requires 195 credits.

First year: H.E. 7; Second year: H.E. 141; Third year: H.E. 144, 145, 181. Also, option a—First year: H.E. 15; Second year: H.E. 24 or 25; Third year: H.E. 41 or 147, 107-108, 115, 116, 131, 190, Journ. 51. Option b—Second year: H.E. 12, 25; Third year: H.E. 112, 113, 114, 147; Fourth year: Journ. 147-148, 149-150-151, 152-153-154; and their prerequisites. Other courses must be approved by the School of Home Economics.

## JOURNALISM

FRED W. KENNEDY, *Acting Director*, 214 Lewis Hall

DEGREE: Bachelor of Arts

*Admission.* Students, to qualify as third-year majors in journalism, must complete 90 scholastic credits, including the lower-division requirements of the college, plus the required six quarters in military science and physical education, or 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 cannot 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 seven credits of specified pre-journalism; 45 credits of additional journalism; 15 credits of English; 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, 2, 51, 84; Eng. 1; Geog. 70; Psych. 1; Pol. Sci. 1; E. B. 1-2; Hist. 2; Speech 38 or 40.

*Third Year—non-elective.* The required courses are: Journ. 147, 148, 149, 150, 151, 152, 153, 154, and 199.

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.

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.* One quarter of Journalism 199 is required. The major and his adviser will determine the schedule of courses.

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

Major students in education who have had Journ. 1, 2, and 51, 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 by education majors taking journalism.

Students wishing to minor in Journalism, regardless of major, must include the following courses in their minor: Journ. 1, 2, 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, 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, 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 72), 15 each.

For the degree of Bachelor of Arts in Mathematics, the same as above 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, 6, 107, 108, 109, and fifteen credits in approved electives.

For a teaching minor, courses 4, 5, 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**

**DEGREES:** Bachelor of Arts in Music  
Bachelor of Arts

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 for credit or participated in as activities.

The equivalent of the first two years of the state course of study for high school credits in piano, or Music 9AX, is required of all music majors. Freshmen deficient in piano may be accepted as majors 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 is offered in groups 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 of 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 students entering with advanced standing.

#### Classification of Courses

I. Music Materials and Composition: 14, 15, 16, Fundamentals; 51, 53, 101, Harmony; 52, Score Reading; 109, 163, Counterpoint; 112, Form; 143, Orchestration; 157, 158, 159, 177, 178, 179, Composition.

II. Music Literature and History: 4, Freshman Major Course; 21, 22, 23, 24, 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.

III. Music Education: 40, 41, 42, Orchestral Instruments; 98, 128, Choral Music; 113, 116, 155, Educ. 75R, School Music; 165, 166, 167, Piano Teaching.

IV. Choral Ensembles: 10, 11, 12, University Chorus; 65, 66, 67, Glee Clubs; 80, 81, 82, A Cappella Choir; 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. Conducting: 136, 195, Choral; 180, Orchestral.

VII. 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; 60, 62, Orchestral Classes; 160, Song Interpretation; 199, Senior Recital.

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

Both prescribed and elective curricula are offered. In addition to the specific requirements listed below, all music majors must satisfy the general requirements of the University (see pages 59-61) and the group requirements of the College of Arts and Sciences (see page 72). Students intending to apply for secondary certificates should refer to the requirements on page 104.

Freshmen intending to major in music will register provisionally for Music 14, Fundamentals, until a placement test determines the capabilities and needs of each individual.

#### Elective Curriculum

##### DEGREE: Bachelor of Arts

Fifty-two credits in music are required, consisting of: eighteen in History and Literature (see Classification of Courses above); sixteen in Materials and Composition; six in Ensembles; twelve in approved electives.

#### Prescribed Curricula

##### DEGREE: Bachelor of Arts in Music

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

Eighteen credits must be earned in ensemble courses, not less than six being in choral groups and six in instrumental groups. An ensemble course or sequence may be repeated once with credit.

Eighteen to thirty-six credits must be earned in vocal or instrumental music (individual or class lessons), according to the major chosen.

The following courses are required in all three majors: Music 14, 15, 16, Fundamentals, according to placement test; 51, 53, 101, Harmony; 4, 54 or 55, 132, 193, History and Literature; 52, Score Reading, or exemption; 98, Choral Music; 109, Counterpoint; 112, Form; six credits in upper-division music electives; Physics 50, Sound.

In addition the following courses are required for the respective majors:

### I. MAJOR IN VOCAL OR INSTRUMENTAL MUSIC

A. Piano: Music 40 or 41, and 42, *Orchestral Instruments*; 138, *Accompanying*; 139, *Piano Ensemble*; 143, *Orchestration*; 157, *Composition*; 165, 166, 167, *Piano Teaching*; 199, *Senior Recital*; *Philosophy* 129, *Esthetics*; thirty credits in piano beginning with 48A and six in another instrument or in voice.

B. Violin: Music 40 or 41, and 42, *Orchestral Instruments*; 124, 125, 126, *Chamber Music*; 143, *Orchestration*; 157, *Composition*; 199, *Senior Recital*; *Philosophy* 129, *Esthetics*; thirty credits in violin beginning with 48B and six in another instrument.

C. Voice: Music 160, *Song Interpretation*; 199, *Senior Recital*; *English* 57; ten credits in German and ten in either French or Italian; *Philosophy* 129, *Esthetics*; thirty credits in voice beginning with 48C and six in instrumental music.

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*; *Philosophy* 129, *Esthetics*; 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 quarters; eighteen credits in vocal and instrumental music; *Philosophy* 129, *Esthetics*.

### III. MAJOR IN MUSIC EDUCATION

*Psychology* 1; *Education* 1, *Orientation*; 9, *Secondary Education*; 70, *High School Procedure*; 75R, *Senior High School Music*; Music 40 or 41, and 42, *Orchestral Instruments*; 128, *Choral Music*; 113, 116, *Elementary and Junior High School Music*; 136, 180, *Conducting*; eighteen credits in vocal and instrumental music.

#### 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 101, 112, 193, and the six credits in upper-division music electives, totalling 21 credits, may be either omitted or counted as one of the teaching minors. In the fifth year Music 155, *Supervision*, and six additional credits in vocal or instrumental music must be included, making a minimum total of 93 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 32 credits.

B. Vocal Music: Courses 51, *Harmony*; 98, 128, *Choral Music*; 136, 196, *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 24 credits.

## NURSING EDUCATION

ELIZABETH S. SOULE, *Director*, Nursing Education Building

### Admission Requirements

Students must meet the admission requirements of the College of Arts and Sciences.

Students in basic nursing curriculum "A" must meet the entrance requirements of the hospital division. A limited number of basic students will be admitted to the Harborview division in any one quarter.

The school is participating in the United States Cadet Nurse Corps program. Entrance to this corps is voluntary. Group I, Curriculum "A" is followed.

Entrance requirements for the one-year preliminary hospital course, curriculum "B", are high school graduation and recommendation of the hospital superintendent of nurses.

Students in post-graduate nursing curricula must be graduates of approved schools of nursing, with services in the four major fields: obstetrics, medicine, surgery, and pediatrics. Deficiencies in one of these services must be made up.

*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 affiliating 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 affiliating hospital for students in residence. Hospitalization is given only in emergency and is 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

*Student Expenses.* The student in the School of Nursing Education 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, text-books, and special supplies.

Scholarship and loan funds are available for basic and post-graduate nursing students.

Basic students receive no salary for nursing service but their university tuition is paid through the hospital division student education funds. 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 Education may take up curricula in one of three 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 nursing supervision.
- III. Courses leading to the degree of master of science or master of nursing.

NOTE: The candidate for the degree of bachelor of science in nursing must present at least 90 credits in non-technical, non-professional courses.

## Group I. Basic Courses

## Curriculum A

## Campus Division

1st Quarter	Credits	2nd Quarter	Credits	3rd Quarter	Credits	4th Quarter	Credits
English 4.....	3	English 5.....	3	Chem. 137.....	5	Home Econ. 9.....	5
Chem. 1 or 21.....	5	Chem. 2 or 22.....	5	Physiol. 53.....	5	Physiol. 54.....	5
N. Ed. 1.....	3	Soc. 1.....	5	Anat. 101.....	3	Psych. 1.....	5
Elective.....	5	Anat. 100.....	3	Elective.....	3		

## Hospital Division

5th Quarter	Credits	6th Quarter	Credits	7th Quarter	Credits	8th Quarter	Credits
Home Econ. 105.....	5	Bact. 102.....	5	Anat. 105.....	3	N. Ed. 125.....	5
Bact. 101.....	5	N. Ed. 120.....	5	Pharm. 61.....	3	N. Ed. 130.....	4
Physics 70.....	5	Pharm. 51.....	2	N. Ed. 121.....	3	N. Ed. 128.....	6
		Elective.....	3	N. Ed. 122.....	3		
				N. Ed. 124.....	5		

9th Quarter	Credits	10th Quarter	Credits	11th Quarter	Credits	12th Quarter	Credits
N. Ed. 137.....	2	Elective.....	5	N. Ed. 141.....	5	N. Ed. 139.....	5
N. Ed. 129.....	2	N. Ed. 134.....	6	N. Ed. 133.....	6	N. Ed. 142.....	6
*Soc. 128.....	3						
N. Ed. 132.....	6						

13th Quarter	Credits	14th Quarter	Credits	15th Quarter	Credits	16th Quarter	Credits
N. Ed. 138.....	2	N. Ed. 147.....	5	N. Ed. 145.....	3	Elective.....	5
N. Ed. 140.....	6	N. Ed. 148.....	6	N. Ed. 146.....	3	N. Ed. 144.....	6
Elective.....	2						

Five credits in physical activity and twenty elective credits approved by the department must be taken.

## Curriculum B

A selected course not meeting the complete curriculum requirements for the degree of bachelor of science in nursing is offered for students of hospital schools wishing the cooperation of the University in a one-year preliminary nursing course. On completion of this preliminary course and the hospital course, which grants lump credits, the student receives junior standing in the University toward the degree of bachelor of science in nursing under curriculum A in Group II.

## Group II. Curricula for Graduate Nurses

## Curriculum A

This course enables the graduate nurse to broaden her scientific and cultural background and prepare for advanced professional work. It allows the student a choice of her electives in the fields of public health nursing, nursing administration, or nursing education, and grants the degree of bachelor of science in nursing. The degree curriculum covers a period of nine or ten quarters, depending upon the amount of credit granted for the nursing school record. For a major in public health nursing, N. Ed. 104, 150, 167, 162, 163, 164, 168, 169, are required. For a major in teaching and administration, N. Ed. 150, 151 or 153, 152, 154 are required. In addition, prescribed courses in chemistry, bacteriology, physiology, and nutrition are required. A total of 180 quarter credits is necessary for the degree.

## Curriculum B

## Certificate in Public Health Nursing

This course includes three quarters of academic work on the campus and one quarter of field work. Required courses are N. Ed. 167, 168, 169, 104, 150, 162, 163, 164; Soc. 1, 128; Social Work 175; Bact. 103; Psych. 1. A total of 60 quarter credits is required.

\* Preferred elective.



### Curriculum C

#### Certificate in Institutional Nursing Supervision

This program combines eight to fifteen credits of academic and professional work each quarter with 6 months to 1 year of professional practice in a major, or one major and one or two minor nursing services, depending upon the preparation of the applicant. These may be elected from the fields of obstetrics, pediatrics, medicine, surgery, operating room, psychiatry, emergency and neuro-surgery, tuberculosis, and diet therapy.

Credit in professional practice: Six credits per quarter may be obtained by the graduate nurse for services not included in her undergraduate program, such as pediatric, out-patient, and psychiatric nursing. Three credits are given for post-graduate professional practice in other major or minor services. Psych. 1, Soc. 1, and Home Ec. 105 are required for Hospital admission, N.E. 150, 152, 151 or 153, 154, and advanced Hospital practice make up the 43 minimum required credits.

### PHILOSOPHY •

WILLIAM SAVERY, *Executive Officer*, 264 Philosophy Hall

DEGREE: Bachelor of Arts

A major must offer Psychology 1 plus 36 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

MARY GROSS HUTCHINSON, *Executive Officer*,  
105 Women's Physical Education Building

HENRY M. FOSTER, *Executive Officer*, 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, Anatomy 100, Physiology 50, Home Economics 104, English 1-2, Sociology 1, Psychology 1, Speech 40.

*Additional for Women:* Physical Education 4, 6, 11, 12, 13, 51, 52, 53.

*Additional for Men:* Liberal Arts 1, Physical Education 5, 7, 8, 9, 10, 11.

#### Major and Minor Requirements

##### A: Physical Education Major (Non-Professional):

*Required:* Physical Education 102-103, 115, 145, 163, 164, 165.

*Additional for Women:* Physical Education 110, 111, 112, 118, 128, 156, 162.

*Additional for Men:* Physical Education 107, 109, 116, 150, 153, 158, 161.

##### B: Recreational Leadership Major (Professional):

*Required:* Physical Education 102-103, 115, 124, 125, 126, 145, 163, 164, 165.

*Required Related Courses:* 10 credits from Art 100, Drama 106, 107, 108, 109, Forestry 6, 65, Librarianship 180, Music 22, 23, 24, Psychology 118; also Sociology, 13 credits.

*Additional for Women:* Physical Education 101, 110, 111, 112, 118, 128, 156, 162.

*Additional for Men:* Physical Education 109, 116, 158, 161, and 6 credits from 170, 171, 172, 173.

**C: Physical Education Major (Professional):***Required:* Physical Education 102-103, 115, 122, 145, 150, 153, 163, 164, 165.*Required Related Course:* Nursing Education 104.*Additional for Women:* Physical Education 101, 110, 111, 112, 118, 128, 156, 162, and 3 credits in Physical Education electives.*Additional for Men:* Physical Education 107, 109, 116, 127, 135, 158, 161, and 6 credits from 170, 171, 172, 173.**D: Health Education Major (Professional):***Required:* Physical Education 6, 115, 145, 153, 165.*Required Related Courses:* Psychology 2, 131, Nursing Education 104, 169.*Additional for Women:* Physical Education 4, 110.*Additional for Men:* Physical Education 107, 116.**E: Physical Education Minor (Professional):***Required:* Physical Education 145, 163, 165.*Required Related Course:* Physiology 50.*Additional for Women:* Physical Education 51, 52, 112, 150, 153, 162, and 3 credits from Physical Education electives.*Additional for Men:* Physical Education 107, 109, 116, 158, 161.**F: Health Education Minor (Professional):***Required:* Physical Education 145, 153, 165.*Required Related Courses:* Zoology 17, Physiology 50, Nursing Education 104, 169, Home Economics 104, Psychology 2.*Additional for Women:* Physical Education 4, 6, 110.*Additional for Men:* Physical Education 107, 116.**PHYSICS****HENRY L. BRAKEL, 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, 105-196, 160-161.

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

	Autumn	Winter	Spring	
	Qtr.	Qtr.	Qtr.	
English.....	1	2	..	Composition
Mathematics..	4	5	6	{ Trig., Alg.,
				{ An. Geom.
Physics.....	1	2	3	General
Speech.....	..	..	40	Essentials

**SECOND YEAR**

	Autumn	Winter	Spring	
	Qtr.	Qtr.	Qtr.	
Chemistry....	1, 21	2, 22	23	General
Mathematics..	107	108	109	Calculus
Physics.....	101	102	..	Int. Mod. Phys.
Physics.....	..	..	150	Heat
Physics.....	105	106	..	Elec. & Mag.
Electives.....	..	..	x	

**THIRD YEAR**

Mathematics..	114	115	116	Diff. Equa.
Chemistry....	111	131	132	Quant., Organic
Physics.....	160	161	..	Optics
Physics.....	..	..	154	High Freq.
Physics.....	..	140	..	Sound
Mech. Engin..	..	55	..	Shop °
Electives.....	x	..	x	

**FOURTH YEAR**

Physics.....	191	192	..	Theo. Mech.
Physics.....	..	195	196	Exper. Atomic
Physics.....	180	..	..	Hist. Phys.
Chemistry....	181	182	183	Physical
Electives.....	x	x	x	

x Electives should include French or German, Physical Education 15 for men, and Physical Education 4, 6, 8, or 10 for women.

**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: 45 credits, including Political Science 1, 10 additional lower-division and 30 upper-division credits. Twenty credits must be chosen from one of the following groups, and 10 from each of the other two:

- I. Political Theory and Jurisprudence.
- II. International Relations.
- III. Politics and Administration.

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

A major must earn 40 credits including courses 1, 60, 101, 112, 127, and 163.

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

**PRE-EDUCATION**

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

(See College of Education, page 103, for detailed information.)

*Pre-Education Students.* During the freshman year, students who expect to teach register as pre-Education 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.

**PRE-LAW**

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

*General.* The minimum requirements for admission to the Law School appear on page 120. A student planning to meet those requirements in the College of Arts and Sciences will register under the supervision of the Pre-Law 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 naval science, and that he satisfy the regular requirements of the College. See pages 71-72. 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 2.50, 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 Pre-Law 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.

### PRE-LIBRARIANSHIP

**RUTH WORDEN, Director, 112 Library**

Students planning to enter the School of Librarianship should consult the director of the school at least once a year. For admission requirements of the school, see page 121.

### PRE-MEDICINE, PRE-DENTISTRY, PRE-VETERINARY SCIENCE

**EARL R. NORRIS** (122 Bagley Hall), **ARTHUR W. MARTIN** (202 Physiology Hall),  
**ARTHUR SVIHLA** (234 Johnson Hall), **RUSSELL S. WEISER** (420 Johnson Hall),  
**JOHN L. WORCESTER** (Anatomy Building): *Advisory Board*

The minimum requirement for admission to most medical schools is three years of college training and 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 pre-medicine, although other majors are possible.

### Prescribed Curriculum

FIRST YEAR				SECOND YEAR			
	Aut.	Wtr.	Spring		Aut.	Wtr.	Spring
Chem.....	1 or 21	2 or 22	23	Chem.....	131	132	..
Zoology....	1	2	..	General Chem.....	..	..	111
Zoology....	..	..	105	Physics....	1 or 4	2 or 5	3 or 6
English....	1	2	..	Elective....	5 cr.	5 cr.	5 cr.
Elective....	..	..	5 cr.	or			
				For. Lang..			

The third year is wholly elective, but all courses must meet the approval of the Advisory Board.

### PRE-SOCIAL WORK

**MISS GRACE B. FERGUSON, Pre-Social Work Adviser, 300-F Commerce Hall**

For detailed information, see page 138; see also *Education for Social Work* bulletin.

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

Undergraduate students planning to apply for admission to any 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 a 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 many schools limit enrollment.

## PSYCHOLOGY

STEVENSON SMITH, *Executive Officer*, 338 Philosophy Hall

DEGREE: Bachelor of Science

A major requires 40 credits of psychology, approved by the department, including the following courses: Psych. 1, 2, 102, 106, 108, 109, 124 and 140.

Required courses in other departments: zoology, 10 credits; mathematics, 5 to 15 credits.

## ROMANIC LANGUAGES AND LITERATURE

(French, Italian, Portuguese, and Spanish)

HOWARD LEE NOSTRAND, *Executive Officer*, 202 Denny Hall

DEGREE: Bachelor of Arts

Majors are offered in French, Spanish, and Italian. Majors and minors for the 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 45<sup>1</sup> credits, and a minor with 33 credits, namely courses 4, 5, 6; 41; 101, 102, 103; 104, 105, 106; 107, or 108<sup>2</sup>; 158, 159; plus 12 elective credits<sup>3</sup> and some directed reading for the major. A Spanish major may be met with 43<sup>1</sup> credits, and a minor with 31<sup>2</sup> credits, namely courses 4, 5, 6; 101, 102; 103; 104, 105, 106; 158, 159; plus 15 elective credits<sup>3</sup> and some directed reading for the major.

<sup>1</sup>Beyond course 3 or two high-school years. A third high-school year replaces courses 4, 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.

## 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

JESSE F. STEINER, *Executive Officer*, Social Sciences Building

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 150, 55 or 155, 66, and 131.

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

The major is the same as in the College of Arts and Sciences, except that 190 may be substituted for 66.

The minor requires 25 credits, including courses 1 or 150 together with 140 and 190 or approved equivalents.

**SPEECH**

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

**DEGREE:** Bachelor of Arts

For a major 45 credits are required, including courses 40, 43, 186, and 190; one-half of the credits must be upper-division. Electives must be approved by the department.

For a minor 32 credits are required, including courses 40, 43, 186, and 190.

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

The requirement for the major is the same as in the College of Arts and Sciences, except that Speech 41 or 188, 38, 44, 79, 139, 187, 191, and Drama 51, 52, 151, and 153 are required in place of the approved electives.

The requirement for the minor is the same as in the College of Arts and Sciences, except that courses 38 and 79 are also required.

**Announcement of Courses**

For announcement of courses, see pages 141 ff.

## COLLEGE OF ECONOMICS AND BUSINESS

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

## Admission and Expenses

For detailed information concerning University fees, expenses, and admission requirements, see pages 50-58. 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 page 67.

## 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 naval science; women must have five 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 63. The same rules apply to a major in economics in the College of Arts and Sciences.

\* 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 40 minutes for a school year of 36 weeks.

## Lower-Division Requirements

FIRST YEAR	Credits	SECOND YEAR	Credits
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. ....	15	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
Approved Elective. ....	5	‡Approved Electives. ....	15

\* Students who have made good grades in English 1 and 2 (to be determined by the English Department) may substitute an approved English course for English 3.

† 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, American Economic History (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, 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, 106, 109.
5. Foreign Trade and Consular Service: E.B. 127, 131, 132.
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. Transportation: 20 credits or more approved by the adviser chosen from E.B. 144, 145, 146, 147, 148, 149, 194.

## Pre-Law Curriculum

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

*General.* The minimum requirements for admission to the Law School appear on page 120. A student planning to meet these requirements in the College of Economics and Business will register under the supervision of the pre-Law adviser.



**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 2.50, 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.

**Transfer Pre-Law 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.

### Commercial Teaching

Required:

- (a) Satisfaction of the lower-division requirements as outlined on page 99.
- (b) E.B. 16-17-18, Secretarial Training, nine 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, and 117.
- (e) Thirty-three credits of education courses, including Educ. 75E and Educ. 75F. See College of Education section, page 104.
- (f) A teaching major and two teaching minors in commercial education have been provided also in the College of Education. See page 104.

### Navy Pre-Supply Corps Curriculum

Under the Navy V-12 program the College of Economics and Business has been designated to receive and train pre-Supply Corps candidates. Completion of the prescribed curricula in this program requires three years. Upon successful fulfillment of the pre-Supply Corps training the candidate will be assigned to Navy Supply Corps School for a four-month course leading to a commission as Ensign, U.S.N.R.

Students who have completed the three-year pre-Supply Corps curricula and who desire subsequently to graduate from the College of Economics and Business may do so by satisfying the minimum number of prescribed hours for the bachelor's degree. (A memorandum setting forth the modified graduation requirements for pre-Supply Corps trainees, approved by the faculty of the College February 15, 1944, is available upon application at the Dean's office.)

### Special Business-Training Courses for Women

The College of Economics and Business offers a two-year training program for women preparing for business positions in war and essential civilian industries. This program is devised primarily to develop skills that are needed to meet the present war emergency. A student completing the curriculum will receive a two-year certificate as evidence of the training received. The positions for which certificate holders will be fitted include: stenographers, accounting assistants, statistical clerks, business machine operators, retail store clerks.

Required courses for this curriculum are: English 1, 2, 3; P.E. 10; Economics and Business courses 1 or 4; 16, 17, 18, Secretarial; 62, 63, Accounting; 115, Business Correspondence; 60, Statistics. In addition a student must complete 31 credits of approved electives. Choice of electives should be made with a view to increasing the student's proficiency in the field in which she seeks employment, for instance, in accounting, statistics, marketing, and stenography.

If, upon completion of the two-year program, a student elects to finish the four-year course and secure the degree of bachelor of arts in economics and business, it will be possible to do so by utilizing as electives the courses in the above curriculum not prescribed as lower- or upper-division college requirements.

**Curriculum for Government Service**

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

The degree of bachelor of arts in economics and business will be awarded, or a degree in economics, political science, or sociology if the student is registered in the College of Arts and Sciences, at the end of the fourth year. 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.

**First- and Second-Year Curriculum in Government Service**

English 1 and 2 and a choice of ten credits from English 3, Speech 40 or English 73; Sociology 1 and 66; Political Science 1, 52, 61; 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. 131, Psych. 108.

**Third-Year Curriculum in Government Service**

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 194.

**Fourth- and Fifth-Year Curriculum in Government Service**

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 126.

**Announcement of Courses**

For announcement of courses offered by the College of Economics and Business, see page 152.

## 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, 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 page 67.

### REQUIREMENTS FOR GRADUATION

During the first two years the candidate must meet certain group requirements as outlined on page 72 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 2.2 grade average. This change of college does not alter the academic major.

#### *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 in foreign language.

2. **Foreign language.** Students graduating from the College of Education may substitute twenty credits in General Literature and English for the foreign language requirement. The substituted credits must be in addition to the regular graduation requirement of English 1 and 2 (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 2.2 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" 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 (average 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. 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.

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):

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 <i>approved substitute</i> .....	3
		<hr/>
		28

5. Earn the following grades:

(a) An all-University grade-point average of 2.2 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:

**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, 54-55, 62, 63, 106, 115, 116, 117 (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. Twenty credits are required for a minor and thirty-six for a major.

#### Requirements for Teacher-Librarians

(For curricula in the School of Librarianship, see page 121.)

A high school librarian's certificate is required for 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.

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 171, 175, 176, 182, 184, 195.

#### 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 previously attended institutions, the 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 and possess and maintain a grade-point average of 2.2 for graduation.

#### *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.

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 carefully note 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.

LIST B: Guidance; 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.

LIST B: Adolescence; Guidance; 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. 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.

LIST B: Guidance; 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 a principal, supervisor, or head of a department, upon one level or the other.

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.



## COLLEGE OF ENGINEERING

EDGAR A. LOEW, *Dean*, 206 Guggenheim Hall

With minor exceptions, all curricula of the College of Engineering have a common freshman year, which is administered by the general engineering department. The work of the college beyond the freshman year comprises the curricula of six professional divisions, namely, aeronautical, chemical, civil, commercial, electrical, and mechanical engineering, and four departmental curricula combined with naval science. Four-year curricula leading to degrees of bachelor of science in the respective professional branches of engineering are offered. In addition there are four special four-year curricula leading to degrees of bachelor of science in aeronautical engineering and naval science, bachelor of science in civil engineering and naval science, bachelor of science in electrical engineering and naval science, and bachelor of science in mechanical engineering and naval science. The four engineering curricula combining a major branch of engineering with naval science are intended to offer opportunities for special training to those who wish to prepare for reserve commissions in the United States Navy. The curricula consist largely of required courses, but a sufficient number of electives is provided in the junior and senior years to give each student the training that will best serve him, and to permit the inclusion of a limited number of cultural courses in his schedule.

*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.* For requirements for advanced degrees, see Graduate School section, page 126.

*Professional Degrees.* For requirements for professional degrees, see page 129.

*Fellowships, Scholarships, Prizes.* See page 67.

### Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 50-58. In addition to the all-University entrance requirements, the College of Engineering requires one unit<sup>†</sup> each of elementary algebra, plane geometry, physics<sup>‡</sup>, 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. Also, for those taking the structural or hydraulic option of civil engineering, German is very desirable.

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.

<sup>†</sup>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.

<sup>‡</sup>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 English

Proficiency in the mechanics of English should be acquired by the time a student begins university work. To aid him in maintaining a high standard, careful criticism is given of his written papers; unless his rating is satisfactory, he must pass a test in spelling, punctuation, and grammar before being admitted to the course in technical writing (English 100) required of all students in the College of Engineering. For those who fail in this test, which is given on the second Saturday of the spring quarter, a non-credit course (English B) is provided, but is likely to result in irregularity of schedule. To avoid such difficulty, the student will do well to master the fundamentals of correct English while still in high school.

## 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.

## Curricula and Degrees

The College of Engineering offers four-year curricula in the departments of aeronautical, chemical, civil, commercial, electrical, and mechanical engineering, leading to the degree of bachelor of science in the respective department. It offers in addition four special four-year curricula combining naval science with aeronautical, civil, electrical, or mechanical engineering, leading to bachelor of science degrees in these branches of engineering and naval science. *The electives in all curricula must be approved in advance by the head of the department.*

## CURRICULA OF THE DEPARTMENTS OF ENGINEERING

## FRESHMAN

(The same for all curricula.)

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
†Chem. 24. General.....	4	Chem. 25. General.....	4	Chem. 26. General.....	4
G.E. 1. Drawing.....	3	G.E. 2. Drawing.....	3	G.E. 3. Drafting Problems..	3
G.E. 11. Engineering Probs..	3	G.E. 12. Engineering Probs..	3	†G.E. 21. Surveying.....	3
Math. 31. Engin. Fr.....	5	Math. 32. Engin. Fr.....	5	Math. 33. Engin. Fr.....	5

† Students who expect to take chemical engineering should register for Chemistry 21-22, 23.

‡ Chemical engineering students may substitute 3 hours of electives for G. E. 21.

## Aeronautical Engineering

I. Leading to the Degree of Bachelor of Science in Aeronautical Engineering.

## 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..	5	Physics 98. Engin. Physics..	5	Physics 99. Engin. Physics..	5
Math. 41. Engin. Calculus...	3	Math. 42. Engin. Calculus...	3	Engl. 100. Technical Comp..	3
M.E. 81. Mechanism.....	3	C.E. 91. Mechanics.....	3	C.E. 92. Mechanics.....	3
M.E. 82. Steam Engineering.	3	E.B. 3. General Economics..	3	Math. 43. Engin. Calculus...	3
M.E. 53. Mfg. Methods.....	1	M.E. 54. Mfg. Methods.....	1	M.E. 55. Mfg. Methods.....	1
P.E. 15. Hygiene.....	2				

## JUNIOR

A.E. 84. Aerodynamics.... 3	A.E. 101. Aerodynamics.... 3	A.E. 103. Airpl. Perform.... 3
A.E. 100. Aircraft Engines... 3	A.E. 171. Aircraft Structural Mechanics.... 3	A.E. 104. Laboratory Meth. and Instruments.... 3
C.E. 141. Hydraulics..... 4	M.E. 112. Machine Design... 3	A.E. 172. Aircraft Structural Mechanics.... 3
M.E. 111. Machine Design... 3	E.E. 101. Direct Currents.... 4	E.E. 121. Alt. Currents.... 4
English 101 or 102. Comp. for Engineers..... 3	E.E. 102. D.C. Laboratory.. 2	E.E. 122. A.C. Laboratory.. 2
		M.E. 104. Mfg. Methods.... 1

## SENIOR

A.E. 111. Airplane Design... 3	A.E. 112. Airplane Design... 3	A.E. 190. Seminar..... 1
A.E. 105. Wind Tunnel Lab. 2	A.E. 102. Adv. Aerodyn.... 3	M.E. 183. Thermodynamics and Refrigeration... 5
A.E. 141. Aerial Propulsion... 3	A.E. 189. Seminar..... 1	E.E. 57. Business Law.... 3
A.E. 173. Aircraft Structural Mechanics.... 3	M.E. 167. Engr. Materials.. 3	Electives*..... 7
A.E. 188. Seminar..... 1	Electives*..... 6	
Electives*..... 4		

\*Not less than 9 elective credits shall be obtained from the following list of aeronautical technical electives.

## TECHNICAL ELECTIVES

	<i>Credits</i>		<i>Credits</i>
A.E. 106. Advanced Wind Tunnel Lab..... 2		Geography 122. Meteorology..... 3	
A.E. 121. Airships..... 3		Math. 114. Ord. and Partial Dif. Equations.. 3	
A.E. 142. Advanced Aerial Propulsion... 3		Math. 115. Ord. and Partial Dif. Equations.. 3	
A.E. 161. Advanced Aeronautical Problems.. 3		M.E. 182. Heating and Ventilation..... 3	
A.E. 181. Advanced Airplane Structures... 3		M.E. 185. Naval Architecture..... 3	
A.E. 191, 192, 193. Research..... 2-5		M.E. 108. Production Management..... 3	
A.E. 211, 212, 213. Research..... 2-5		M.E. 109. Factory Cost Analysis..... 3	
M.E. 198. Gas Engineering..... 3			

## II. Leading to the Degree of Bachelor of Science in Aeronautical Engineering and Naval Science

## FRESHMAN

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Math. 31. Engin. Fr..... 5		Math. 32. Engin. Fr..... 5		Math. 33. Engin. Fr..... 5	
G.E. 1. Drawing..... 3		G.E. 2. Drawing..... 3		G.E. 12. Engin. Probs..... 3	
Chem. 24. General..... 4		G.E. 11. Engin. Probs..... 3		G.E. 3. Drafting Probs..... 3	
N. S. 1..... +3		Chem. 25. General..... 4		Chem. 26. General..... 4	
		N.S. 2..... +3		N.S. 3..... +3	

## SOPHOMORE

Math. 41. Engin. Calculus... 3	Math. 42. Engin. Calculus... 3	Math. 43. Engin. Calculus.. 3
M.E. 81. Mechanism..... 3	C.E. 91. Mechanics..... 3	C.E. 92. Mechanics..... 3
Phys. 97. Engin. Physics... 5	M.E. 82. Steam Engineering 3	Phys. 99. Engin. Physics... 5
M.E. 53. Mfg. Methods.... 1	Phys. 98. Engin. Physics... 5	Engl. 100. Tech. Comp.... 3
P.E. 15. Hygiene..... 2	M.E. 54. Mfg. Methods.... 1	M.E. 55. Mfg. Methods.... 1
N.S. 51..... +3	N.S. 52..... +3	N.S. 53..... +3

## JUNIOR

N.S. 101..... 3	N.S. 102..... 3	N.S. 103..... 3
A.E. 84. Aerodynamics.... 3	A.E. 101. Aerodynamics.... 3	A.E. 103. Airplane Perform. 3
A.E. 100. Aircraft Engines... 3	A.E. 171. Aircraft Structural Mechanics.... 3	A.E. 172. Aircraft Structural Mechanics.... 3
C.E. 141. Hydraulics..... 4	M.E. 112. Machine Design... 3	A.E. 104. Lab. Methods and Instruments.... 3
M.E. 111. Machine Design... 3	E.E. 101. Direct Currents.... 4	E.E. 121. Alt. Currents.... 4
	E.E. 102. D.C. Lab..... 2	E.E. 122. A.C. Lab..... 2

## SENIOR

N.S. 151..... 3	N.S. 152..... 3	N.S. 153..... 3
A.E. 111. Airplane Design... 3	A.E. 112. Airplane Design... 3	M.E. 183. Thermodynamics and Refrigeration... 5
A.E. 105. Wind Tunnel Lab. 2	A.E. 102. Adv. Aerodyn.... 3	M.E. 167. Engr. Materials.. 3
A.E. 173. Aircraft Structural Mechanics.... 3	Speech 40..... 5	M.E. 185. Naval Archit.... 3
A.E. 141. Aerial Propulsion... 3	M.E. 104. Mfg. Methods.... 1	A.E. 190. Seminar..... 1
A.E. 188. Seminar..... 1	A.E. 189. Seminar..... 1	

## College of Engineering

## Chemical Engineering

Leading to the Degree of Bachelor of Science in Chemical Engineering

## 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>
Chem. 51. Industrial Chemical Calculations....	2	Chem. 52. Industrial Chemical Calculations....	2	Chem. 53. Industrial Chemical Calculations....	2
Physics 97. Engineering.....	5	Physics 98. Engineering.....	5	Physics 99. Engineering.....	5
Math. 41. Engin. Calculus... 3		Chem. 110. Quant. Analysis. 5		Chem. 101. Adv. Qual. Anal. 5	
Chem. 109. Quant. Analysis. 5		M.E. 82. Steam Engin..... 3		M.E. 83. Steam Engin. Lab.. 3	
		P.E. 15. Hygiene..... 2			

## JUNIOR

Chem. 121. Chemistry of Engineering Materials....	5	Chem. 122. Inorganic Chemical Industries.....	5	Chem. 123. Organic Chemical Industries.....	5
Chem. 131. Organic Chem... 5		Chem. 132. Organic Chem... 5		C.E. 92. Mechanics..... 3	
E.E. 101. Direct Currents... 4		E.E. 121. Alt. Currents.... 4		English 100. Tech. Comp.... 3	
E.E. 102. D.C. Lab..... 2		E.E. 122. A.C. Lab..... 2		M.E. 55. Mfg. Methods.... 1	
				M.E. 54. Mfg. Methods.... 1	
				Electives..... 3	

## SENIOR

Chem. 181. Physical and Theoretical Chemistry....	5	Chem. 182. Physical and Theoretical Chemistry....	5	Chem. 173. Unit Operations. 3	
Chem. 171. Unit Operations... 5		Chem. 172. Unit Operations... 5		Chem. 178. Thesis..... 1	
Chem. 176. Thesis..... 2		Chem. 177. Thesis..... 2		Chem. 174 or Chem. 183... 3	
M.E. 111. Machine Design.. 3		Electives..... 4		Electives..... 8	

## Civil Engineering

I. Leading to the Degree of Bachelor of Science in Civil Engineering

## 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... 5		Physics 98. Engin. Physics... 5		Physics 99. Engin. Physics... 5	
Math. 41. Engin. Calculus... 3		M.E. 82. Steam Engin..... 3		C.E. 59. Adv. Surveying... 4	
C.E. 95. Mechanics..... 3		C.E. 58. Transportat. Engin. 4		English 100. Tech. Comp.... 3	
C.E. 57. Transport. Survey.. 4		E.B. 3. Gen. Economics..... 3		C.E. 96. Mechanics..... 3	
				P.E. 15. Hygiene..... 2	

## JUNIOR

C.E. 142. Hydraulics..... 5		C.E. 143. Hydraulic Engin.. 5		E.B. 57. Business Law..... 3	
C.E. 171. Structural Anal... 3		C.E. 172. Structural Anal... 3		C.E. 121. Rds., Pavements... 3	
E.E. 103. Direct Currents... 3		C.E. 162. Materials of Construction..... 3		C.E. 150. Sanitary Engin... 3	
E.E. 104. Dir. Cur. Lab..... 1		E.E. 123. Alt. Currents.... 3		C.E. 173. Structural Anal... 3	
Geol. 105. Petrology as Applied to Engineering....	5	E.E. 124. Alt. Cur. Lab.... 1		C.E. 163. Materials—Timber and Steel.....	3

## SENIOR

C.E. 175. Structural Design. 4		C.E. 176. Structural Design. 4		C.E. 177. Structural Design. 3	
C.E. 158. Sewage Disposal or		C.E. 123. Highway and		C.E. Group Requirements... 3	
C.E. 123. Highway and		Railway Economics, or		Non-technical electives*....	9
Railway Economics.... 3		C.E. 158. Sewage Disposal... 3			
C.E. 145. Hydraulic Mach., or		C.E. 157. Reclamation or			
C.E. 157. Reclamation..... 3		C.E. 145. Hydraulic Mach... 3			
C.E. Group Requirements... 3		C.E. Group Requirements... 3			
Non-technical electives*....	3	Non-technical electives*....	3		

\* Non-technical electives (12 credits) must include English 101 or 102 or Speech 40 or 103.

C.E. group requirements must be satisfied by *approved* elections from the following advanced courses offered by the department of civil engineering:

	<i>Credits</i>		<i>Credits</i>
C.E. 109. Engineering Relations.....	3	C.E. 166. Soil Mechanics.....	3
C.E. 124. Highway Design.....	3	C.E. 167. Soil Mechanics.....	3
C.E. 128. Transportation Administration....	3	C.E. 181. Advanced Structures.....	3
C.E. 147. Hydraulic Power.....	3	C.E. 182. Advanced Structures.....	3
C.E. 154. Sanitary Design.....	3	C.E. 183. Advanced Structures.....	4
C.E. 155. Water Supply Problems.....	3	C.E. 191, 193, 195. H, M, S, W, or T*Spec.Sr. Courses.....	3-5

\*Hydraulics (H), Materials (M), Structural (S), Sanitary (W), and Transportation (T).

## II. Leading to the Degree of Bachelor of Science in Civil Engineering and Naval Science

### FRESHMAN

The same curriculum as that leading to the degree of Bachelor of Science in Aeronautical Engineering and Naval Science.

### SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Engin. Physics....	5	Phys. 98. Engin. Physics....	5	Phys. 99. Engin. Physics....	5
Math. 41. Calculus.....	3	C.E. 58. Transportation... Engineering.....	4	C.E. 59. Adv. Surveying... 4	
C.E. 21. Surveying.....	3	C.E. 95. Mechanics.....	3	C.E. 96. Mechanics.....	3
M.E. 81 or 82. Mech. or Elem. Steam.....	3	N.S. 52.....	+3	P.E. 15. Hygiene.....	2
N.S. 51.....	+3			N.S. 53.....	+3

### JUNIOR

N.S. 101.....	3	N.S. 102.....	3	N.S. 103.....	3
C.E. 171. Struct. Analysis... 3		C.E. 172. Struct. Analysis... 3		C.E. 173. Struct. Analysis... 3	
C.E. 57. Transport. Surv... 4		C.E. 142. Hydraulics..... 5		C.E. 150. Sanitary Engin... 3	
E.E. 103. Direct Currents... 3		E.E. 123. Alt. Currents... 3		C.E. 121. Roads and Pavements.....	3
E.E. 104. D.C. Laboratory... 1		E.E. 124. Alt. Cur. Lab.... 1		E.E. 73. Vac. Tubes and Radio.....	5
Engl. 100. Technical Comp.. 3		C.E. 163. Materials..... 3			

### SENIOR

N.S. 151.....	3	N.S. 152.....	3	N.S. 153.....	3
C.E. 175. Struct. Design... 4		C.E. 176. Struct. Design... 4		C.E. 177. Struct. Design... 3	
C.E. 158. Sewage Disposl.. 3		C.E. 143. Hydraulic Engin.. 5		M.E. 185. Naval Architect.. 3	
Geog. 11. Weather and Climate.....	5	C.E. 162. Materials of Construction.....	3	Engl. 102 or Speech 103 or 40.....	3 or 5
C.E. 145. Hydraulic Mach.. 3		E.B. 3. Economics.....	3	Elective.....	3

## Commercial Engineering

Leading to the Degree of Bachelor of Science in Commercial Engineering

### 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... 5		Physics 98. Engin. Physics... 5		Physics 99. Engin. Physics... 5	
Math. 41. Engin. Calculus... 3		Math. 42. Engin. Calculus... 3		M.E. 83. Steam Engin. Lab. 3	
M.E. 81. Mechanism.....	3	C.E. 91. Mechanics.....	3	English 100. Tech. Comp... 3	
M.E. 82. Steam Engin.....	3	E.B. 3. Gen. Economics... 3		C.E. 92. Mechanics.....	3
M.E. 53. Mfg. Methods.....	1	M.E. 54. Mfg. Methods.....	1	M.E. 55. Mfg. Methods.....	1
		P.E. 15. Hygiene.....	2		

### JUNIOR

E.E. 101. Direct Currents... 4		E.E. 121. Altern. Currents... 4		E.B. 110. Accounting Analysis and Control.....	5
E.E. 102. Direct Cur. Lab... 2		E.E. 122. Alt. Current Lab... 2		E.E. 142. Hydraulics.....	5
E.B. 54. Business Law.....	5	E.E. 63. Prin. of Account... 5		Electives.....	5
E.B. 62. Prin. of Account... 5		Electives.....	6		

## SENIOR

M.E. 167. Engin. Materials.. 3	M.E. 111. Machine Design.. 3	M.E. 112. Machine Design.. 3
E.B. 154. Cost Accounting.. 5	E.B. 101. Scientific Mgm't.. 5	E.B. 121. Corporate Finance 5
Electives..... 6	E.B. 103. Money & Banking 5	Speech 103. Extempore.... 3
	English 101 or 102. For Engineers..... 3	Electives..... 5

Not less than 17 elective credits shall be technical (engineering).

## Electrical Engineering

## I. Leading to the Degree of Bachelor of Science in Electrical Engineering

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Math. 41. Calculus..... 3		Math. 42. Calculus..... 3		Physics 99. Light and Heat.. 5	
Physics 97. Mechanics..... 5		E.E. 109. Direct Currents... 5		E.E. 111. D.C. Mach..... 3	
M.E. 81. Mechanism..... 3		E.E. 110. Direct Cur. Lab.. 2		E.E. 112. Direct Cur. Lab.. 4	
M.E. 82. Steam..... 3		M.E. 83. Steam Laboratory.. 3		C.E. 91. Mechanics..... 3	
M.E. 53. Mfg. Methods..... 1		M.E. 54. Mfg. Methods..... 1		M.E. 55. Mfg. Methods..... 1	
		P.E. 15. Hygiene..... 2			

## JUNIOR

C.E. 92. Mechanics..... 3	E.E. 161. Alt. Currents..... 4	E.E. 163. Alt. Currents..... 4
E.E. 152. Machine Design.. 3	E.E. 162. Alt. Cur. Lab.... 4	E.E. 164. Alt. Cur. Lab.... 5
E.E. 159. Alt. Currents... 3	C.E. 142. Hydraulics..... 5	M.E. 167. Engin. Materials.. 3
M.E. 111. Machine Design.. 3	M.E. 112. Machine Design.. 3	English 101 or 102. For Engineers..... 3
English 100. Tech. Comp.... 3		

## SENIOR

E.E. 181. Vacuum Tubes.... 4	Electives*..... 9	Electives*..... 15
E.E. 182. V.T. Laboratory.. 2	Physics 155..... 3	
E.E. 195. Elec. Transients.. 4	E.B. 3. Economics..... 3	
E.E. 196. E.T. Laboratory.. 2		
Electives*..... 3		

\*Not less than 18 credits must be selected from the following list of technical electives of which at least 12 must be in E.E. courses.

## TECHNICAL ELECTIVES

Credits	Credits
E.E. 141. Illumination..... 3	A.E. 83. 101. Aerodynamics (each)..... 3
E.E. 170, 172, 174. Individual Projects (each)..... 2 to 5	C.E. 145. Hyd. Machinery..... 3
E.E. 171. Electric Railways..... 4	C.E. 171, 172. Structural Analysis (each).... 3
E.E. 175. Power Transmission..... 5	E.B. 57. Business Law..... 3
E.E. 183. Vacuum Tube Circuits.. 4	E.B. 62. Accounting..... 5
E.E. 184. Vacuum Tube Circuits Laboratory. 2	English Comp. 107..... 1
E.E. 185. Communication Networks..... 4	Speech 103..... 3
E.E. 186. Communication Networks Lab.... 2	G.E. 151. Patents..... 1
E.E. 187. Wave Propagation and Antennas.. 4	Math. 43. Engr. Calculus..... 3
E.E. 188. Wave Propagation and Antenna Lab..... 2	Math. 114, 115. Differential Equations (each) 3
E.E. 190. Radio-Tel. Trans. Practice..... 2	M.E. 108. Production Management..... 3
E.E. 191, 193. Adv. Circuit Theory (each)... 3	M.E. 109. Factory Cost Analysis..... 3
E.E. 198. Adv. Electric Transients..... 2 to 5	M.E. 183. Thermodynamics..... 5
	M.E. 200. Vibrations..... 3
	Physics 195, 196. Laboratory (each)..... 4

## II. Leading to the Degree of Bachelor of Science in Electrical Engineering and Naval Science

## FRESHMAN

The same curriculum as that leading to the degree of Bachelor of Science in Aeronautical Engineering and Naval Science.

## SOPHOMORE

The same curriculum as that leading to the degree of Bachelor of Science in Electrical Engineering.

## JUNIOR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
N.S. 101.....	3	N.S. 102.....	3	N.S. 103.....	3
E.E. 159. Alt. Currents.....	3	E.E. 161. Alt. Currents.....	4	E.E. 181. Vacuum Tubes.....	4
C.E. 92. Mechanics.....	3	E.E. 162. Alt. Cur. Lab.....	4	E.E. 182. V. T. Lab.....	2
M.E. 111. Mach. Design.....	3	M.E. 112. Mach. Design.....	3	C.E. 142. Hydraulics.....	5
Engl. 100. Tech. Comp.....	3	M.E. 167. Engr. Materials... 3		Speech 103. Ex. Speaking... 3	

## SENIOR

N.S. 151.....	3	N.S. 152.....	3	N.S. 153.....	3
E.E. 183. Vacuum Tube Circuits.....	4	E.E. 185. Communication Networks.....	4	Geog. 11. Weather and Climate.....	5
E.E. 184. Vacuum Tube Circuits Lab.....	2	E.E. 186. Communication Networks Lab.....	2	M.E. 185. Naval Arch.....	3
E.E. 195. Elec. Transients.. 4		Engl. 101 or 102. For Engineers.....	3	Elective.....	4
E.E. 196. E.T. Laboratory.. 2		Elective.....	4		

## Mechanical Engineering

## I. Leading to the Degree of Bachelor of Science in Mechanical Engineering

## 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.. 5		Physics 98. Engin. Physics.. 5		Physics 99. Engin. Physics.. 5	
Math. 41. Engin. Calculus... 3		Math. 42. Engin. Calculus... 3		M.E. 83. Steam Engin. Lab. 3	
M.E. 81. Mechanism..... 3		C.E. 91. Mechanics..... 3		English 100. Tech. Comp... 3	
M.E. 82. Steam Engin..... 3		E.B. 3. Gen. Economics... 3		C.E. 92. Mechanics..... 3	
M.E. 53. Mfg. Methods..... 1		M.E. 54. Mfg. Methods..... 1		M.E. 55. Mfg. Methods..... 1	
		P.E. 15. Hygiene..... 2			

## JUNIOR

E.E. 101. Direct Currents... 4		E.E. 121. Alternating Cur... 4		C.E. 142. Hydraulics..... 5	
E.E. 102. Dir. Cur. Lab... 2		E.E. 122. Alt. Cur. Lab... 2		English 101 or 102. For Engineers.....	3
M.E. 123. Engines & Boilers. 2		M.E. 111. Machine Design.. 3		M.E. 112. Machine Design.. 3	
M.E. 151. Experim. Engin... 3		M.E. 124. Engines & Boilers. 3		M.E. 153. Experim. Engin... 3	
M.E. 105. Adv. Mfg. Meth... 1		M.E. 152. Experim. Engin... 3		M.E. 107. Production Planning.....	1
Electives.....	3	M.E. 106. Adv. Mfg. Meth... 1			

## SENIOR

E.B. 57. Business Law..... 3		M.E. 114. Machine Design.. 2		M.E. 115 or 199. Steam or Internal Combustion Engine Design.....	3
M.E. 113. Machine Design.. 2		M.E. 167. Engin. Materials.. 3		M.E. 184. Power Plants..... 5	
M.E. 183. Thermodynamics and Refrigeration.....	5	M.E. 182. Heat and Ventil.. 3		*M.E. 195. Thesis..... 3	
Electives.....	5	M.E. 198. Internal Com- bustion Engines.....	3	Electives.....	5
		Electives.....	4		

\*When practicable, it is recommended that thesis be taken in the winter quarter.

## II. Leading to the Degree of Bachelor of Science in Mechanical Engineering and Naval Science

## FRESHMAN

The same curriculum as that leading to the degree of Bachelor of Science in Aeronautical Engineering and Naval Science.

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Mechanics.....	5	Phys. 98. Engin. Physics....	5	Phys. 99. Engin. Physics....	5
Math. 41. Calculus.....	3	Math. 42. Eng. Calculus....	3	M.E. 83. Steam Eng. Lab... 3	
M.E. 81. Mechanism.....	3	C.E. 91. Mechanics.....	3	Engl. 100. Tech. Comp.....	3
M.E. 82. Steam.....	3	M.E. 54. Mfg. Methods....	1	M.E. 55. Mfg. Methods....	1
M.E. 53. Mfg. Methods....	1	P.E. 15. Hygiene.....	2	C.E. 92. Mechanics.....	3
N.S. 51.....	+3	N.S. 52.....	+3	N.S. 53.....	+3

## JUNIOR

N.S. 101.....	3	N.S. 102.....	3	N.S. 103.....	3
E.E. 101. Direct Currents... 4		E.E. 121. Alternating Cur... 4		C.E. 142. Hydraulics.....	5
E.E. 102. Dir. Cur. Lab.... 2		E.E. 122. Alt. Cur. Lab.... 2		M.E. 112. Mach. Design... 3	
M.E. 123. Engines and Boilers.....	2	M.E. 111. Machine Design... 3		M.E. 153. Exper. Engin.... 3	
M.E. 151. Exper. Engin.... 3		M.E. 124. Engines and Boilers.....	3	M.E. 107. Production Planning.....	1
M.E. 105. Adv. Mfg. Methods.....	1	M.E. 152. Exper. Engin.... 3			
		M.E. 106. Adv. Mfg. Methods.....	1		

## SENIOR

N.S. 151.....	3	N.S. 152.....	3	N.S. 153.....	3
Engl. 101 or 102. For Engineers.....	3	M.E. 114. Mach. Design... 2		M.E. 199. Steam or Internal Comb. Engine Design.. 3	
M.E. 113. Machine Design.. 2		M.E. 167. Engin. Materials.. 3		M.E. 184. Power Plants.... 5	
M.E. 183. Thermodynamics.. 5		M.E. 198. Internal Comb. Engines.....	3	Speech 103. Ex. Speaking... 3	
M.E. 185. Naval Architecture 3		Geog. 11. Weather & Climate 5		M.E. 195. Thesis.....	3

## DEPARTMENT OF MILITARY SCIENCE AND TACTICS (ARMY R.O.T.C.)

(See also page 59)

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.

The Department of Military Science and Tactics offers a curriculum leading to a commission as Second Lieutenant in the Officers' Reserve Corps of the United States Army. Honor graduates, selected by the President of the University for their scholastic excellence and recommended by the Professor of Military Science and Tactics, may apply for appointment in the regular army instead of in the Officers' Reserve Corps.

*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.

## Active Duty as Commissioned Officers

Based upon needs as determined by the War Department, students who have successfully completed their course in the Reserve Officers' Training Corps, including the equivalent of summer camp training, are selected for active duty with the Army of the United States, after they have received their commissions. During the period they are on this duty they receive the pay and allowances of their commissioned grade. While on active duty, opportunity generally is afforded them to compete for commissions in the regular army.

## 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 \$10.00 uniform deposit to the University. As a charge against this deposit, tan shoes of standard design, which are not a part of uniform issue, are purchased by the student from the University Bookstore. The shoes become the personal property of the student. The difference between the cost price of the shoes and the \$10.00 deposit is refunded to the student, if all articles of



clothing issued are returned in good condition. Cost of articles lost by the student, or of damage to them due to other than fair wear and tear while in his possession, is collected by the University from the student. In case the student after registration is excused from military science for reasons stated on page 59, his deposit, less the cost price of the shoes he purchased, 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 the academic year by those students who have not terminated residence earlier. The latter return their uniforms at withdrawal.

#### **Subsistence Allowance**

Advanced Course students are paid twenty-five cents a day by the Government as a subsistence allowance.

#### **Camps**

R.O.T.C. summer camp training has been suspended for the period of the war. The equivalent of this training is given at Army Service Schools after the student is graduated.

### **DEPARTMENT OF NAVAL SCIENCE AND TACTICS**

The four-year course in Naval Science and Tactics prescribed by the Navy Department for units of the Naval Reserve Officers' Training Corps, may be substituted for military training. Enrollment in this course is limited by the Navy Department and students will be selected for enrollment by the Professor of Naval Science and Tactics from those applying. The course in Naval Science and Tactics leads to a commission as ensign in the United States Naval Reserve, from which officers may have an opportunity, depending upon existing law, to be transferred to the line of the regular navy in a status similar to graduates of the U. S. Naval Academy after they complete a year of active duty at sea.

#### **Graduates Commissioned in Naval Reserve**

Students who have successfully completed the course in naval science will be given a certificate showing such completion and, if recommended by the President of the University and the Professor of Naval Science and Tactics, will be given a commission in the U. S. Naval Reserve and will be available for assignment to active duty on ships of the navy at sea with the same pay as officers of the regular navy.

#### **Summer Cruises**

For those students regularly enrolled in the Naval R.O.T.C., a summer cruise without expense to the student is generally, but not always, offered.

Advanced Course students must take an Advanced Course cruise if one is offered prior to receiving a commission. University credit is given for Advanced cruise.

#### **Fees and Expenses**

Other than the regular University tuition fees there is no extra expense to the students regularly enrolled in the Naval R.O.T.C. On enrollment, an outfit of uniforms is furnished the students by the Navy Department. The uniform must be returned if the four years of naval training are not completed.

The Navy Department has authorized the Professor of Naval Science and Tactics to accept a limited number of students as supernumeraries, and also a limited number of naval science students. As no appropriations are available for these supernumeraries, students taken as supernumeraries will be required to pay for their own uniforms.

Advanced Course students are paid \$0.25 a day, as subsistence allowance while taking that course. This amounts to about \$90 per year. In addition, Advanced Course students are paid the pay of apprentice seamen (\$50 per month) during the summer cruise. All students are given subsistence while cruising and are allowed transportation and subsistence between the University and the port of embarkation for the cruise.

### **Obligations Incurred**

Entering freshmen making application for enrollment in the course of naval science must agree to fulfill the following obligations and agree to accept a commission in the Naval Reserve at the end of the four years' course in the Naval R.O.T.C.

1. Elect naval science as one of their courses in the University, for four full years.
2. Submit evidence of citizenship.
3. Submit to physical examination prior to enrollment, and yearly thereafter.
4. Agree to be vaccinated for small-pox and given typhoid prophylaxis during freshman year.
5. Devote five hours per week in attendance of the course in naval science and such other times as may be necessary properly to prepare their lessons.
6. Wear uniforms as required for drills and class room work, and submit to naval discipline while under instruction in naval subjects and during the summer practice cruise.
7. Take the necessary courses in mathematics as part of their regular university program.
8. Make one advanced summer cruise, if offered, prior to receiving commission in the Naval Reserve.
9. Near the completion of this course, apply for and accept a commission in the Naval or Marine Corps Reserve, if such be offered, and consider it a moral obligation to apply for and accept such a commission under the conditions stated.
10. Be unmarried at time of entrance, and agree to remain unmarried for the four-year course.
11. Agree to complete the Naval R.O.T.C. course in three years if required by the Navy Department.

### **Announcement of Courses**

For announcement of courses offered by the College of Engineering, see pages 141 ff.

## COLLEGE OF FORESTRY

HUGO WINKENWERDER, *Dean*, 206 Anderson Hall

For detailed information concerning University fees, expenses, and admission requirements, see pages 50-58. 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 page 67.

## Curricula

**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 180 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 126.

## Lower Division

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Bot. 10. Foresters'.....	4	Bot. 11. Foresters'.....	4	For. 1a. Dendrology.....	3
For. 2. Introduction.....	2	For. 3. Introduction.....	2	For. 4. Fire Protection.....	3
English 1. Composition.....	5	Math. 4. Trigonometry.....	5	For. 5. First Aid.....	2
Physics 1 or 4. General.....	5	Physics 2 or 3. General.....	5	For. 7. Forestry Problems...	3
				Physics 3 or 6. General.....	5

## SECOND YEAR

For. 1b. Dendrology.....	3	For. 60. Mensuration.....	5	<i>Sophomore Field Trip</i>	
For. 8. Forestry Problems...	3	G.E. 7. Engin. Drawing.....	3	For. 40. Silviculture.....	2
For. 15. Gen. Lumbering....	4	Chem. 2 or 22. General.....	5	For. 62. Field Problems in	
Chem. 1 or 21. General.....	5	For. 121. Silvics.....	3	Mensuration.....	6
				C.E. 56. Forest Surveying...	8

The total number of required credits in Physical Education must include P.E. 15.

\*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.

## Upper Division

Beginning with the upper division the student will, with the approval of his faculty adviser, elect to follow one of the specialties in forestry. In registering for upper-division courses he must include all electives required as prerequisites for the advanced specialized courses. (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. 109. Wood Technology..	3	For. 111. Wood Structure...	3	E.B. 3. Gen. Economics.....	3
For. 122. Silvicultural Mth..	5	For. 158. Utilization.....	5	For. 105. Wood Preservation	3
For. 104. Timber Physics....	5	For. 140. Forest Construction	4	For. 115. Protection.....	3
Elective.....	3	Elective.....	3-5	Bot. 111. For. Pathology....	5
				Elective.....	2

## FOURTH YEAR

For. 126. Forest Economics... 4	For. 119. Forest Admin.... 3	For. 164. { Senior { Surveys 4
For. 151. Forest Finance... 4	For. 152. Forest Organization	For. 165. { M'g't. { Inv't'y. 4
For. 185. For. Engineering... 5	and Regulation..... 4	For. 166. { Field { Studies. 4
Elective.....3-5	For. 171. For. Geography... 4	For. 167. { Trip { Report. 4
	Elective..... 4	

## Logging Engineering Curriculum

For majors in Logging Engineering C.E. 57, For. 186 and 187, the latter in place of For. 164, 165, 166, and 167, are required. In other respects the curriculum is the same as outlined for Forest Management.

## Forest Products Curriculum

## THIRD YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
For. 109. Wood Technology... 3		For. 111. Wood Structure... 3		E.B. 3. Gen. Economics.... 3	
E.B. 62. Accounting Prin... 5		For. 158. Forest Utilization... 5		Bot. 111. For. Pathology.... 5	
M.E. 82. Steam Engin.... 3		Elective..... 8		For. 105. Wood Preservation. 3	
For. 104. Timber Physics... 5				For. 106. Wood Pres. Lab... 2	
				Elective..... 3	

## FOURTH YEAR

For. 126. For. Economics... 4	For. 171. For. Geography... 4	For. 184. Manufacturing
For. 183. Milling..... 5	For. 188. Kiln Drying..... 3	Problems..... 5
E.B. 57. Business Law..... 3	Elective..... 9	For. 189. Wood Pulp..... 5
Elective..... 4		Elective..... 6

## SCHOOL OF LAW

JUDSON F. FALKNER, *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.

## Expenses

For fees, see pages 55-56.

## 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 2.50, 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 2.50, together with the required credits in military science and physical education or naval science, and including satisfactory completion of the following courses or their substantial equivalents: English 1, 2, 3 (15 quarter 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 non-professional 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 pre-legal 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 95 and 100.

For scholarship rules, see page 63.

## SCHOOL OF LIBRARIANSHIP

RUTH WORDEN, *Director*, 112 Library

### Admission Requirements

Admission to the School of Librarianship is granted to graduate students who hold the baccalaureate degree from any college or university of good standing, and whose undergraduate work has included at least 20 credits of one modern foreign language, and who have made an average grade of "B" in their undergraduate work. Students desiring to enter college or university library work or work in a large public library are required to have a reading knowledge of both French and German.

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. The number admitted will be limited.

Initial admission to classes is permitted only at the beginning of the autumn quarter. No one may be admitted to any course in librarianship except those so marked, unless he is expecting to complete the entire curriculum.

Application for entrance must be made to the School of Librarianship before May 15, or September 15, of the year of entrance. Transcripts must be filed with the Registrar of the University, as graduate standing is granted by the Registrar. *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.*

### 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.

### Curricula

Four curricula are offered: (1) General, (2) Library Work with Children, (3) School Library Work, (4) Law Librarianship. For full information, see School of Librarianship Bulletin which is available on request.

## COLLEGE OF MINES

MILNOR ROBERTS, *Dean*, 328 Mines Laboratory

### Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 50-58. 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 63.

### 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 126.

*Professional Degrees.* For requirements for professional degrees, see page 129.

*Fellowships, Scholarships, Prizes.* See page 67.

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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.

## CURRICULA OF THE COLLEGE OF MINES

For the Freshman and Sophomore Years 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. 24. General.....	4	Chem. 25. General.....	4	Chem. 23. General.....	5
G.E. 1. Drawing.....	3	G.E. 2. Drawing.....	3	G.E. 3. Drafting Problems..	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. Analysis.	5	Cer. 90. Industrial Minerals.	3
Math. 41. Calculus.....	3	English 100. Tech. Comp....	3	Geol. 121. Mineralogy.....	5
Physics 97. Engineers'.....	5	Physics 98. Engineers'.....	5	Physics 99. Engineers'.....	5

Practice in mining or geology or metallurgy or ceramics in summer vacation.

## Mining Engineering

Leading to the Degree of 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. Currents.	6	E.E. 121-122. Alt. Currents..	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. Mgmt.	3
Met. 162. Physical Met.....	3	Geol. 127. Economic Geol...	5	Min. 193. Thesis.....	1
Elective*.....	3	E.B. 3. Gen. Economics....	3	Elective*.....	3
				C.E. 59. Adv. Surveying....	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 103, or Speech 40.

## Metallurgical Engineering

Leading to the Degree of 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. Currents..	6	E.E. 121-122. Alt. Currents..	6
Met. 162. Physical Met.....	3	C.E. 92. Mechanics.....	3	E.B. 3. Gen. Economics....	3
C.E. 91. Mechanics.....	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 Metall'gy.	3	Met. 165. Met. Calculations.	3	Min. 107. Mine Excursion...	1
Min. 161. Mineral Dressing..	4	Min. 103. Mine Rescue Tr...	1	Min. 163. Mining 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 103, or Speech 40.

## Ceramic Engineering

Leading to the Degree of 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. 105. 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
Ceramics practice in summer vacation.					
				Chem. 141. Elem. Physical..	3

## 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. Physic'l Metal'gy.	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 103, or Speech 40.

## Announcement of Courses

For announcement of courses offered by the College of Mines, see page 175.

## COLLEGE OF PHARMACY

FOREST J. GOODRICH, *Dean*, 102 Bagley Hall

## Entrance Requirements

For detailed information concerning University admission requirements, fees, and expenses see pages 50-58. 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 126.

*Fellowships, Scholarships, Prizes.* See page 67.

## Accelerated Curriculum

An accelerated course has been provided for any student desiring to complete his training in three years by attending summer sessions.

To qualify for the Army, Navy, or Air Corps Reserve, students may, with approval of the Dean, take courses in mathematics and physics during the first year in pharmacy.

## Regular Curriculum

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 these 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
Pharm. 4. Profession.....	2	English 9. Pharm. Comp....	3	English 10. Comp.....	2
Chem. 8. General.....	5	Chem. 9. General.....	5	Chem. 10. Qualitative.....	5
Bot. 13. Pharmacy.....	5	Bot. 14. Pharmacy.....	4	Physiol. 6. Human.....	5

\*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.



## SECOND YEAR

Ph. Chem. 5. Quantitative Gravimetric..... 5	Ph. Chem. 6. Quantitative Volumetric..... 5	Ph. Chem. 7. Urinalysis..... 2
Pharm. 9. Prescriptions..... 3	Pharm. 10. Prescriptions..... 3	Ph. Chem. 8. Pharmacopoeial Assay..... 2
Ph'cog. 12. Pharmacognosy.. 3	Ph'cog. 13. Pharmacognosy.. 3	Pharm. 11. Prescriptions... 3
Chem. 37. Organic..... 5	Chem. 38. Organic..... 5	Ph'cog. 14. Pharmacognosy.. 3
		Chem. 39. Organic..... 5

*Optional Curricula.* The student, after completing the first two years, the outline of which is common to all courses, must elect to follow one of the following:

1. PHARMACY COMBINED WITH BUSINESS COURSES. (To prepare graduates for the operation and management of retail pharmacies.)

## THIRD YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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. Toxicology.. 5	
Bact. 101. General..... 5		Ph'cog. 104. Microscopy.... 3		Ph'cog. 105. Microscopy.... 3	
Approved elective..... 2		E.B. 3. General..... 3		E.B. 54. Business Law..... 5	
		Approved elective..... 2			

## FOURTH YEAR

Ph'cog. 112. Biologicals..... 3	Pharm. 183. New Remedies.. 3	Pharm. 184. Laws and Journals..... 3
Pharm. 113. Adv. Prescrip.. 5	Pharm. 114. Adv. Prescrip.. 5	Pharm. 115. Adv. Prescrip.. 5
Approved elective..... 8	Approved elective..... 8	Approved elective..... 8

2. THE SCIENTIFIC COURSE. (Prepares students for prescription and hospital pharmacy, manufacturing pharmacy and pharmaceutical chemistry.)

## THIRD YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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. Toxicology.. 5	
Bact. 101. General..... 5		Ph'cog. 104. Microscopy.... 3		Ph'cog. 105. Microscopy.... 3	
Approved elective..... 2		Approved elective..... 4		Approved elective..... 4	

## FOURTH YEAR

Ph'cog. 112. Biologicals..... 3	Pharm. 183. New Remedies.. 3	Pharm. 184. Laws and Journals..... 3
Pharm. 113. Adv. Prescrip.. 5	Pharm. 114. Adv. Prescrip.. 5	Pharm. 115. Adv. Prescrip.. 5
Physics 1 or 4. General..... 5	Physics 2 or 5. General..... 5	Approved elective..... 8
Approved elective..... 3	Approved elective..... 3	

3. PRE-MEDICAL 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

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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..... 5		Zoology 2 or 4..... 5		English 2. Composition.... 5	
Approved elective..... 2		Approved elective..... 2		English 37. Argumentation.. 5	
				Approved elective..... 2	

## 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 elective..... 10	Approved elective..... 10
Approved elective..... 5		

## Announcement of Courses

For announcement of courses offered by the College of Pharmacy, see page 182.

## 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 Dille, F. Eastman, Eby, Harrison, Hitchcock, Kerr, Mackin, Mander, Marckworth, Nostrand, 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, 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.

### Admission

Three classes of students are recognized in the Graduate School:

1. Candidates for the master's degree.
2. Candidates for the doctor's degree.
3. Students not candidates for a degree.

*Admission.* A graduate of the University or any other institution of good standing will be admitted to the Graduate School. Before being recognized as a candidate for a degree, however, a student must 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. When it has received approval and the student has been notified, he will be regarded as a candidate for a degree.

*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 hours of graduate work if full-time employees, and a maximum of eleven hours 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

### The Doctor's Degree

**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.

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 in exceptional cases be modified by action of the Graduate Council, making it possible for the candidate to offer more than two minors, or no minor at all. What subjects may be offered as minors shall be determined by the major department with approval of the Graduate Council. 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 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 no 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's Degree

**MASTER OF ARTS.** This 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.

**MASTER OF SCIENCE.** This 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.

The requirements for these degrees are as follows:

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 Graduate Council.

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.

*Master of Arts and Master of Science in Technical Subjects.* The degrees of master of arts and master of science 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, 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. In other respects, the requirements are essentially the same as those for the degree of master of arts and master of science. Special departmental requirements appear below.

*Master's Degree in Technical Subjects.* The master's degree is given in the following technical subjects: economics and business, 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, with the exception that all the work is in the major or closely correlated with it. (See departmental write-ups.)

**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 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.

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 candi-

date 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.

### DEPARTMENTAL REQUIREMENTS

Requirements for the degrees of *Master of Arts* or *Master of Science* in the following departments conform to the general requirements for these degrees:

Anatomy, animal biology, anthropology, bacteriology, botany, chemistry, drama, far eastern, fisheries, geography, geology, Germanic languages and literature, mathematics, philosophy, physics, political science, psychology, Romanic languages and literature, Scandinavian languages and literature, and speech. For departments which have special requirements, see below.

The degree of *Doctor of Philosophy* is given by the following departments:

Anatomy, animal biology, 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. 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 106.

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 the 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:
 

<ol style="list-style-type: none"> <li>A. Educational psychology</li> <li>B. Educational sociology</li> <li>C. Educational administration and supervision</li> <li>D. Elementary education</li> <li>E. Secondary education</li> <li>F. Classroom techniques</li> </ol>	<ol style="list-style-type: none"> <li>G. History and philosophy of education and comparative education</li> <li>H. College problems</li> <li>I. Curriculum</li> <li>J. Guidance and extracurricular activities</li> <li>K. Remedial and special education</li> </ol>
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- 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 (fifteen to twenty credits)
    - (2) Three minor fields (five to ten credits in each)
    - (3) A minimum of one course in each of the fields
    - (4) Educ. 290 and 291
  - B. Completion of related work outside the department of education:
    - (1) Ten elective credits in arts and/or letters
    - (2) Ten elective credits in science and/or mathematics
    - (3) Ten elective credits in social science and/or history
    - (4) Fifteen elective credits in foreign language
  - 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 examinations, 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 his grade average for 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. Work for the 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* to properly qualified candidates, subject to the requirements of the Graduate School for that degree.



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.

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, and Physical Education 113.

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 the 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, 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 six 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:* 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 24 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.

Post-graduate training in public health nutrition requires two quarters of academic study and five months of supervised field work in out-patient departments of hospitals and with social service agencies.

Two fields of post-graduate 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 this college 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.

**MUSIC.** Candidates are accepted for the degree of *Master of Arts in Music*. 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 advanced composition; (3) fifteen credits in approved electives; (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 in approved electives.

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 EDUCATION.** Graduate work in nursing education 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 degree 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 138-139.

**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 Departmental 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 of more 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, Acting Director, 300F 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 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 social 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 *May 1*, 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, winter, 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 unless, in the case of those over 35, the person has been engaged in a related field of work. References are consulted and a personal interview is required whenever possible.

**Curriculum.** The curriculum is planned to lead to the degrees of *Master of Arts* or *Master of Social Work*, and no other certificate or diploma is granted. For the student who enters with the minimum requirements in the 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 I and II, Social Case Work I and II, Family Case Work, The Child and the State, Child Welfare Case Work, Public Welfare I, II, and III, Social Aspects of the Law, Social Work Research and Statistics, and Field Work I, II, and III.

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 Arts Degree.* The degree of *Master of Arts in Social Work* is especially designed for those students who wish to enter the field of teaching social work.

*Candidacy.* 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.<sup>1</sup>

*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 ninety quarter credits, nine of which are in thesis research.

*The Degree of Master of Social Work.* The *Master of Social Work* is a professional degree intended primarily for students intending to practice social work. The requirements for this degree are the same as those for the master of arts with the following exceptions:

1. Reading knowledge of a foreign language is not required.
2. Course requirements cover a minimum of eighty-five quarter credits.

*Fellowships, Scholarships.* (See page 68.)

*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.

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<sup>1</sup> Detailed instructions regarding procedures in fulfilling degree requirements may be obtained from the secretary.

## EXPLANATION

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. For changes in registration, due to withdrawal of a course, no fee will be charged.

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 12 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; (4) brief description of its subject matter and method; (5) name of instructor.

In the lists of departmental faculties, the first name in each instance is that of the department's executive officer.



## ANNOUNCEMENT OF COURSES

### AERONAUTICAL ENGINEERING

*Professors Eastwood, F. S. Eastman, Kirsten; Associate Professor V. J. Martin; Instructor Dwinnell*

- 100. Aircraft Engines. (3) Operating characteristics. Pr., Phys. 99.
- 101. Aerodynamics. (3) Airflow phenomena and airfoil combinations. Pr., A.E. 84.
- 102. Advanced Aerodynamics. (3) Pr., 101.
- 103. Airplane Performance. (3) Pr., 101.
- 104. Laboratory Methods and Instruments. (3) The wind tunnel, etc. Pr., 101.
- 105. Wind Tunnel Laboratory. (2) Pr., 104.
- 106. Advanced Wind Tunnel Laboratory. (3) Pr., 105, special permission.
- 111. Airplane Design. (3) Aerodynamics problems. Pr., 103, 172.
- 112. Airplane Design. (3) Structural problems; determination of design loads. Pr., 111.
- 141. Aerial Propulsion. (3) Screw-propeller design and performance calculations. Pr., 101, 171.
- 142. Advanced Aerial Propulsion. (3) Types of propellers; testing coordination with vessel. Pr., 141.
- 161. Advanced Aeronautical Problems. (3) Pr., 102, 172.
- 171, 172. Aircraft Structural Mechanics. (3, 3) Stress analysis of basic parts. Pr., C.E. 92; 171 for 172.
- 188-189-190. Seminar. (1, 1, 1) Pr., 102, 172.
- 191, 192, 193. Research. (2 to 5 each quarter.)

#### *Courses for Graduates Only*

- 211, 212, 213. Research. (2 to 5 each quarter.)

Not offered in 1944-1945: 83, General Aeronautics; 84, Aerodynamics; 107, Advanced Wind Tunnel Laboratory; 121, Airships; 151, Special Aeronautical Designs; 173, Aircraft Structural Mechanics; 181, Advanced Airplane Structures.

### ANATOMY

*Professor Worcester; Associate Carter*

#### Gross Anatomy

- 100. Anatomy Lectures. (3) Worcester
- 101, 102, 103. General Human Anatomy. (3 or 6 each quarter.) Pr., Zool. 3 and 4 or equivalent. Worcester, Carter
- 104. Topographic Anatomy. (4) Cross and sagittal sections for correlation. Pr., 101, 102, 103. Worcester
- 108. Special Dissections. (†) Pr., 104 or equivalent. Worcester, Carter

#### Microscopic Anatomy

- 105. Histology. (3 or 6) Normal and abnormal microscopic anatomy; 3 credits for Harborview students. Pr., Zool. 3 or 4 or equivalent. Worcester, Carter
- 106. Embryology. (6) Human developmental anatomy. Pr., Zool. 3 and 4, or equivalent. Worcester, Carter
- 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. 3 and 4, or equivalent. Worcester, Carter,

#### *Course for Graduates Only*

- 200. Research. (†) Graduate course. Worcester

### ANIMAL BIOLOGY

*Professors Svibla, Hatch, Kincaid; Associate Professor Martin; Instructors Crescitelli,\* Frizell, Kipple, Welander*

#### Physiology

- 6. Elementary Physiology for Pharmacy Students. (5)
- 7. Elementary Human Physiology. (5)
- 11. Survey of Physiology. (5) No laboratory.
- 50. Physiology. (6) The mechanisms of adjustment in human beings. Pr., Anat. 100.

†To be arranged.

\*On leave.

- 53, 54. *Intermediate Physiology*. (5, 5)
- \*\*115. *General Physiology*. (5) Physics and chemistry applied to physiology. Pr., Chem. 2 or 22.
- \*\*139. *Comparative Physiology*. (†) Stress on invertebrates. Pr., 7, or Zool. 126 or 128.
- 151, 152, 153. *Advanced Physiology*. (5, 5, 5) Pr., Zool. 2, Chem. 2 or 22.
- \*\*163. *Physiology of Metabolism*. (†) Pr., 10 credits in human physiology and permission.
173. *Physiology of Endocrine Organs*. (†) Pr., 10 credits in human physiology and permission.

*Courses for Graduates Only*

- 201, 202, 203. *Research*. (†) Pr., 20 credits in physiology.
- 210, 211, 212. *Seminar*. (1, 1, 1)

Not offered in 1944-45: *Physiology 155, 156, 157, Elementary Problems*.

*Zoology*

- 1, 2. *General Zoology*. (5, 5) Survey of the animal kingdom, stressing structure, classification and economic relations.
8. *Survey of Zoology*. (5) Students who expect to continue with zoology should begin with 1, 2.
16. *Evolution*. (2)
17. *Eugenics*. (2) Evolution and heredity as related to human welfare.
101. *Cytology*. (5) The animal cell, its structure, activities, and development; sex-determination; heredity. Pr., 1, 2.
105. *General Vertebrate Embryology*. (5) Pr., 1, 2.
106. *Marine Plankton*. (5) Pr., 1, 2.
107. *Parasitology*. (5) Animal parasites. Pr., 1, 2.
108. *Limnology*. (5) Fresh-water biology. Pr., 1, 2.
111. *Entomology*. (5) Pr., 1, 2.
121. *Microscopic Technique*. (3) Making microscopic preparations. Pr., 1, 2.
- 125, 126. *Invertebrate Zoology*. (5, 5) Exclusive of insects. Pr., 1, 2.
- 127-128. *Comparative Anatomy of Chordates*. (5-5) Pr., 1, 2.
- 129, 130. *Vertebrate Zoology*. (5, 5) Taxonomy and ecology of vertebrates. Pr., 1, 2.
131. *History of Zoology*. (2) Pr., 20 credits of zoology.
135. *Museum Technique*. (3) Preparation of museum specimens. Pr., permission.
- 155, 156, 157. *Elementary Problems*. (3, 3, 3) Pr., 30 credits in zoology and permission.
- Teachers' Course in Zoology. (See Educ. 75Z.)

*Courses for Graduates Only*

- 201, 202, 203. *Research*. (†)
- 210, 211, 212. *Seminar*. (1, 1, 1)

**ANTHROPOLOGY**

*Professor Gunther; Assistant Professors Jacobs, Ray; Instructor Garfield*

- §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.
60. *American Indians*. (5) Ethnographic study with some consideration of their present condition. Not open to students who have had 110. Upper-division credit for upper-division students. Gunther

\*\*To be arranged. Students interested are to consult head of department.

§ Courses 51, 52, 53 may be taken in any order.

† To be arranged.

65. *Peoples of the World: Latin-America.* (5) The native cultures, ancient and modern. No prerequisite. Ray
91. *Theories of Race.* (2) Human heredity, race differences and mixtures. Not open to students who have had 51 or 152. Ray, Jacobs
101. *Basis of Civilization.* (3) Primitive mentality and culture patterns. Pr., 51, 52, or 53, or junior standing. Ray, Jacobs
105. *Invention and Discovery in the Primitive World.* (3) Pr., as for 101. Ray
107. *Methods and Problems of Archaeology.* (5) Includes field experience in this locality. Garfield
111. *Indian Cultures of the Pacific Northwest.* (3) Ethnographic study with special emphasis on the tribes of Washington. Ray
112. *Peoples of the Pacific.* (3) Ethnographic study; effects of European contacts. Gunther
114. *Peoples of Central and Northern Asia.* (3) Racial and linguistic groups, their life and customs; relations to the historic nations of Europe and southern Asia. Bacon
142. *Primitive Religion: Descriptive Survey.* (3) 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. 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
153. *Anthropology and Contemporary Problems.* (5) Gunther
170. *Primitive Crafts.* (5) Study of techniques of primitive material culture. Pr., permission. Gunther, Ray
185. *Primitive Social and Political Institutions.* (5) Pr., 51, 52, or 53, or permission. Ray
- 193, 194, 195. *Reading Course.* (To be arranged.) Gunther

**Courses for Graduates Only**

- 204, 205. *Seminar in Methods and Theories.* (3, 3) Pr., permission. Gunther
  206. *Seminar in Indian Administration.* (3) Gunther
  242. *Seminar in Theories of Primitive Religion.* (3) Pr., 142 or permission. Ray
  252. *Seminar in American Indian Languages.* (3) Pr., 150, 151. Jacobs
- Not offered in 1944-1945: 120, *Cultural Problems of Western America*; 141, *Primitive Literature*; 160, *History of Anthropological Theory*; 190, 191, 192, *Research*.

**ARCHITECTURE**

*Professors Thomas, Herrman, Gowen\*;* *Associate Professor Pries;* *Assistant Professor Olschewsky;* *Instructor Hansen \**

- 1-2. *Architectural Appreciation.* (2-2) History of architecture from prehistoric to Roman times. Herrman
3. *Architectural Appreciation.* (2) Domestic architecture. Herrman
- 4-5-6. *Elements of Architectural Design.* (4-4-4) To be taken with 7-8-9. Herrman, Olschewsky
- 7-8-9. *Graphical Representation.* (1-1-1) Orthographic projection, shades and shadows, perspective. To be taken with 4-5-6. Olschewsky
- 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., 3. Thomas
- 54, 55, 56. *Architectural Design, Grade I.* (5, 5, 5) Pr., 6. Pries
- 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.* (5, 5, 5) Pr., Arch. Design, Gr. I. Herrman, Olschewsky
- 120-121-122. *Building Construction.* (2-2-2) Lectures and drafting-room practice in working drawings. Pr., jr. standing in design. Olschewsky
151. *History of Architecture.* (2) From the middle of the eighteenth century to the present. Pr. 103. Herrman

\*On leave.

- 152-153. Theory of Architecture. (2-2) Design theory, composition, scale, planning. Pr., Arch. Design, Gr. 11. Herrman
- 154, 155, 156. Architectural Design, Grade III. (5, 5, 5) Pr., Arch. Design, Gr. II. Pries
- 160, 161, 162. Architectural Problems. (3 to 7 each quarter.) Pr., 156. Thomas
- 167-168. Materials and Their Uses. (2-2) Herrman
169. Specifications and Office Practice. (2) Contract forms; office organization and methods; ethics. Pr., 122 and senior standing. Thomas
- Not offered in 1944-45: 135, Introduction to City Planning; 180, 181, 182, 183, Principles of City Planning; 190, 191, 192, 193, 194, City Planning Design.

## ART

*Professors Isaacs, Patterson; Associate Professors Benson, Foote, Hill, Penington, Pratt\*; Assistant Professor Johnson; Instructor Curtis; Associate Hensley*

The School of Art reserves the right to retain student work for temporary or permanent exhibition.

- 1, 2. Elementary Painting and Design. (5, 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)
- 53, 54, 55. Design. (3, 3, 3) Pr., 5, 6, 7, 9, 10, 11. Johnson, 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)
- 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. (2) Not open to freshmen. 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)
105. Lettering. (3) Pr., for art majors, 11; for non-majors, permission. Benson
106. Commercial Design. (3) Posters. Pr., 105. Benson
- 110, 111, 112. Interior Design. (5, 5, 5) For majors. General students by permission. Pr., 7, 11. Art 62 to be taken with 110. Foote
116. Design for Industry. (3)
- 122, 123, 124. Sculpture. (3, 3, 3) Pr., 72, 73, 74.
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.
- 150, 151. Illustration. (5, 5) Book illustration and 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. Composition. (5, 5) Pr., Life, 3 credits. Isaacs
166. Design. (3) Commercial application and techniques. Pr., 55. Benson

\* On leave.

- 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, Foote  
 or equivalent.  
 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

*Courses for Graduates Only*

- 250, 251. *Advanced Design.* (3 or 5 each quarter)  
 260, 261, 262. *Advanced Life Painting.* (3 or 5 each quarter) Isaacs, Patterson  
 263, 264. *Composition.* (3 or 5 each quarter) Isaacs  
 Not offered in 1944-45: 107, 108, 109, 207, 208, 209, *Portrait Painting.*

**ASTRONOMY**

*Associate Professor Jacobsen*

1. *Astronomy.* (5) Star finding, solar system, sidereal universe. Pr., plane trigonometry. Jacobsen  
 105. *Practical Astronomy.* (5) Star identification, determination of latitude, longitude, time, precise use of nautical almanac, sextant work. Pr., plane trigonometry. Jacobsen

**BACTERIOLOGY AND PATHOLOGY**

*Professors Henry,\* Hoffstadt; Associate Professors Weiser, Ordal; Assistant Professor Douglas; Associate Duchow*

100. *Fundamentals of Bacteriology.* (10) Pr., 10 credits of botany or zoology, Chem. 132, and permission. Douglas, Ordal  
 101. *General Bacteriology.* (5) Pr., Chem. 2 or 22. Weiser, Hoffstadt, Douglas  
 102. *Sanitary and Clinical Methods.* (5) Pr., 100 or 101. Weiser  
 103. *Public Hygiene.* (5) No laboratory. Pr., junior standing. Hoffstadt  
 104. *Fundamentals of Immunology.* (5) Pr., 100 or 101, Chem. 132. Hoffstadt  
 105. *Infectious Diseases.* (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. Hoffstadt  
 107. *Control of Micro-organisms.* (5) Pr., 100 or 101 and permission. Ordal  
 110. *Fundamentals of Pathology.* (5) Pr., 100 or 101, Anat. 105. Weiser  
 111. *Special Pathology.* (5) Injuries due to infectious and physical agents, obstructions, chemicals, and other causes. Pr., 110. Weiser  
 112. *Special Pathology.* (5) Diseases of endocrine, dietary, and neoplastic origin. Pr., 110. Weiser  
 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, Weiser  
 127. *Review of Journals.* (1) Pr., 105. Hoffstadt  
 130, 131, 132. *Industrial Microbiology.* (5, 5, 5) Pr., 100 or 101, Chem. 111, 132. Douglas, Ordal

**Graduate Courses**

Ten undergraduate credits and permission are prerequisites to all graduate courses.

201. *Physiology of Bacteria.* (5) Ordal, Douglas  
 202. *Viruses.* (5) Hoffstadt  
 203. *Experimental Pathology.* (5) Weiser  
 204, 205, 206. (†)  
 207. *Marine Bacteriology.* (6) Ecology and biochemistry. Ordal  
 209. *Seminar.* (1) Pr., graduate standing.  
 210, 211, 212. *Research.* (†)

\*On leave.

†To be arranged.

## BOTANY

*Professors Hitchcock, Frye, Hotson, Rigg; Instructors Stuntz, Roman\**

For those who expect to take only five credits of botany, courses 1, 3, 4, 8, or 5 are recommended. For those who expect to take only ten credits of botany, courses 1 and 2, 1 and 3, or 1, 4, and 8 are recommended.

Courses 1, 5, 10, 13, and 16 are beginning courses, only one of which should be taken. Courses 2, 11, and 14 presuppose that 1, 5, 10, 13 or 16 has been taken.

1. Elementary Botany. (5) Structure and functions of roots, stems, leaves, seeds.
2. Elementary Botany. (5) Structure and relationships of the major plant groups. Pr., 1 or one year high school botany. Hitchcock
3. Elementary Botany. (5) Local flora. Hitchcock
4. Plants and Civilization. (3) Origin, discovery, cultivation and improvement of important plants used for food and clothing; their effect on civilization. Stuntz
5. Survey of Botany. (5) Outstanding generalizations concerning plants. Students who expect to continue with botany should begin with 1 or 3. Rigg, Hitchcock
8. Heredity. (3) For students with little or no training in biology.
- 10, 11. Forestry Botany. (4, 4) 10: Structure and physiology of seed plants; 11: Structure, reproduction, and economic importance of lower plants. Hitchcock, Stuntz
- 13, 14. Pharmacy Botany. (5, 4) Vegetative and reproductive parts of seed and spore plants. Rigg
16. Economic Botany. (5) Use of plants by man for food, clothing, shelter. Stuntz
24. Plant Propagation. (5) Methods of potting and forcing; general greenhouse practice. Pr., 1 or equivalent. Hanley
25. Plant Propagation. (5) Seed germination; grafting, cuttings, budding, etc.; general greenhouse practice. Pr., 1 or equivalent. Hanley
101. Ornamental Plants. (3) Pr., 5 credits in botany. Hitchcock
- 106, 107, 105. Morphology and Evolution. (5, 5, 5) Pr., one year high school botany or ten credits of botany, or Zool. 1 and 2. Frye, Hitchcock
108. Genetics. (5) Application to plants and animals. Pr., 10 credits in biological science. Not open to those who have had Bot. 8.
111. Forest Pathology. (5) Common wood-destroying fungi. Pr., 11 or 105. 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 botany.
122. Cyto-Genetics. (3, lectures only, or 5) Chromosome structure and mechanics; bearing on genetics, taxonomy and evolution. Pr., 15 credits in botany or zoology, including 108 or equivalent.
129. Plant Anatomy. (5) Tissues; origin and development of the stele. Hitchcock
131. Mosses. (5) Frye
132. Algae. (5) Frye
- 134, 135. Taxonomy. (5, 5) The flowering plants. Pr., 10 credits of botany, including 3 or equivalent. Hitchcock
- 140, 141, 142. General Fungi. (5, 5, 5) Their morphology and classification; basis for plant pathology. Pr., 15 credits in botany. Hotson, Stuntz
- 143, 144, 145. Plant Physiology. (5, 5, 5) Pr., 15 credits of botany, Chem. 22; also Chem. 132, Phys. 2 are desirable. Rigg
151. Range Plants. (3) Their recognition and economic importance. Pr., 10 credits in botany. Hitchcock
- 180, 181, 182. Plant Pathology. (5, 5, 5) Pr., 142. Hotson, Stuntz
199. Proseminar. (1 to 15 each quarter) Pr., permission.
- Teachers' Course in Botany. (See Educ. 75B.)

*Courses for Graduates Only*

200. Seminar. ( $\frac{1}{2}$ )
- 205, 206. Physiology of Marine Plants. (3, 3) Rigg
220. Advanced Fungi. (2 to 5 each quarter) Hotson, Stuntz

\*On leave.

233. Research. (2 to 5 each quarter)
250. Algae. (2 to 5) Pr., 30 credits of botany. Frye
251. Bryophytes. (†) Frye
279. Colloidal Biology. (5) Pr., 143, Chem. 132; Chem. 141 desirable. Rigg
280. Micrometabolism. (5) Pr., 107, 145. Rigg
281. Physiology of Fungi. (5) Pr., 142, 145, 280. Rigg

Not offered in 1944-1945: 210, 211, Phyto-plankton.

CERAMIC ENGINEERING—Pottery techniques. See Mining, Metallurgical and Ceramic Engineering, page 177.

### CHEMISTRY AND CHEMICAL ENGINEERING

*Professors Benson, Beuschlein, Dehn, Norris, Powell, Tartar, Thompson\*: Associate Professors Cady, Robinson; Assistant Professors McCarthy, Moulton. Sivertz; Instructors Haendler,\* Lingafelter; Associate Radford*

#### Chemistry

- 1-2. General Chemistry. (5-5) Open only to students without high school chemistry.
- 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.
23. Elementary Qualitative Analysis. (5)
- 24-25, 26. General Chemistry. (4-4, 4) 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
104. Food Chemistry. (4) Pr., 111 and 132. Norris
109. Quantitative Analysis. (5) Gravimetric. Pr., 23. Robinson
110. Quantitative Analysis. (5) Volumetric. Pr., 109. Robinson
111. Quantitative Analysis. (5) For non-majors. Pr., 23. Robinson
- 131, 132. Organic Chemistry. (5, 5) Pr., 22. Dehn, Powell
133. Organic Chemistry. (5) For chemistry majors. Pr., 132. Powell
134. Qualitative Organic Analysis. (5) Pr., 132. Powell
- 135-136. Organic Chemistry. (4, 4) For home economics students. Pr., 22. Powell
137. Organic Chemistry. (5) For nursing students. Pr., 22. Powell
- 140-141. Elementary Physical Chemistry. (3-3) For non-majors. 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.
- 161-162, 163. Biological Chemistry. (5-5, 3) Pr., 111, 131. Norris
166. Biochemical Preparations. (2 to 3) Pr., 162. Norris
- 181, 182, 183. Physical and Theoretical Chemistry. (5, 5, 5) Pr., 111, 15 cr. college physics and differential and integral calculus. Tartar
190. History of Chemistry. (3) Pr., 132, 140.

Teachers' Course in Chemistry. (See Education 75C.)

#### Chemical Engineering

- 51, 52, 53. Industrial Chemical Calculations. (2, 2, 2) Pr., 23, Math. 33. Moulton
74. Elementary Electrochemistry. (2) For non-majors. Pr., 26, Phys. 98.
121. Chemistry of Engineering Materials. (5) Pr., 111. Benson, Moulton
122. Inorganic Chemical Industries. (5) Pr., 111. Benson, Moulton
123. Organic Chemical Industries. (5) Pr., 111. Benson, Moulton
152. Advanced Chemical Calculations. (3) Pr., Math. 41. Moulton
- 171, 172, 173. Unit Operations. (5, 5, 3) Pr., 53. Beuschlein, McCarthy
174. Chemical Engineering Calculations. (3) Pr., 182. Beuschlein

\* On leave.

† To be arranged.

175. Industrial Electrochemistry. (3) Pr., 181 for chemists and chemical engineers, 74 for others. Moulton
- 176, 177, 178. Chemical Engineering Thesis. (1 to 5 each quarter) Benson, Beuschlein, Moulton, McCarthy
179. Research in Electrochemistry. (2 to 5) Pr., permission.

#### Courses for Graduates Only

200. Departmental Seminar. (no credit)
- 201, 202, 203. Advanced Theoretical and Physical Chemistry. (3, 3, 3) Alternates with 204, 215, 216. Pr. 182. Tartar
204. Chemistry of Colloids. (3) Not offered 1944-1945. Alternates with 201. Pr., 182. Tartar
- 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) Powell
213. Thermodynamics. (3) Not offered in 1944-1945. Alternates with 214. Pr., 182. Lingafelter
214. The Phase Rule. (3) Alternates with 213. Pr., 182. Sivertz
- 215, 216. Advanced Theoretical and Physical Chemistry. (3, 3) Not offered 1944-1945. Alternates with 202, 203. Pr., 182. Tartar, Lingafelter
- 218, 219, 220. Selected Topics in Industrial Chemistry. (2, 2, 2) Benson
- 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. Micro-quantitative Analysis. (3) Pr., 111, 182. Robinson
227. General Chemical Microscopy. (3) Pr., 141, or 182. Robinson
228. Micro-qualitative Analysis. (3) Pr., 101, 227. Robinson
- 231, 232, 233. Advanced Organic Chemistry. (2, 2, 2) Powell
236. Advanced Physical Chemical Laboratory. Not offered in 1944-1945.
238. Chemistry of High Polymers. (3) Pr., 132, 182. McCarthy
- 241, 242, 243. Advanced Unit Operations. (3, 3, 3) Theory. Not offered 1944-1945. Alternates with 244, 245, 246. Pr., 173. Beuschlein
- 244, 245, 246. Advanced Unit Operations. (3, 3, 3) Theory. Alternates with 241, 242, 243. Pr., 173. Beuschlein
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.

#### CIVIL ENGINEERING

*Professors Van Horn, Farquharson, Harris, May, Miller, More, Tyler; Associate Professors Hawthorn, Hennes, Moritz, Rhodes,\* Sergev, Smith; Assistant Professors Chittenden, Collier,\* Rhodes\*; Lecturer Hauan*

#### Lower-Division Courses

56. Forest Surveying. (8) The use of steel tape, compass, clinometer, level, transit, and plane table. Pack Forest. Chittenden
57. Transportation Surveying. (4) Curves and earthwork. Complete survey notes and map for highway or railway grading project. Pr., G.E. 21. Chittenden
58. Transportation Engineering. (4) Highway-railway grades, automobile and locomotive performance; super-elevation and widening of curves; sight distances; legal descriptions. Profile, mass diagram, and estimates. Pr., G.E. 21. Chittenden
59. Advanced Surveying. (4; mines students, 3) Base-line measurement; triangulation; precise leveling; determination of azimuth, latitude, and time; plane table. Pr., G.E. 21. Chittenden
91. Mechanics. (3) Kinetics, kinematics. Pr., G.E. 12, Math. 33, preceded by or concurrent with Phys. 97. Smith
92. Mechanics. (3) Mechanics of materials. Analysis and application of elementary structural design. Pr., 91. Farquharson
- 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

\* On leave.

† To be arranged.



**Transportation Engineering**

121. **Roads and Pavements.** (3) Location, construction, and maintenance. Materials and accessories. Pr., 58. Hawthorn
123. **Highway and Railway Economics.** (3) Highway and railway location, construction, and operation. Pr., 121. Hawthorn
124. **Highway Design.** (3) Selection of pavements. Pavement subgrades and embankments. Roadway and intersection design. Pr., 121. Hawthorn
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. Hawthorn
128. **Transportation Administration.** (3) Highway and railway organization and finance. Sampling and testing of highway materials. Pr., 121. Hawthorn

**Highway and Sanitary Engineering**

141. **Dynamics of Fluids.** (4) Conservation of energy and loss of energy in fluid motion. Application of principles of Torricelli, Bernoulli, and Borda. Pr., 91. Harris, Moritz
142. **Hydraulics.** (5) Flow of water through pipes and orifices, over weirs, and in open channels; energy of jets with application to impulse wheels. Pr., 91 or 95. Harris, Moritz
143. **Hydraulic Engineering.** (5) Complete projects: hydrometric methods; design of gravity spillway, 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 disease. Bacteriological and chemical analyses of water and sewage. Pr., Chem. 22-25. Van Horn
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. Pr., 92 or 96. Smith
163. **Materials of Construction.** (3) Strength and physical characteristics of timber and steel. Pr., 92 or 96. Smith
166. **Soil Mechanics.** (3) Settlement and bearing capacity of foundations; stability of earth slopes. Consolidation, stability, and stress distribution in the subsoil. Seniors and graduates only. Hennes
167. **Soil Mechanics.** (3) Earth pressure on walls and substructures; earth fill; leakage under dams. A study of shear, permeability, and the physical properties of the subsoil. Seniors and graduates only. Hennes

**Structural Analysis and Design**

- 171, 172, 173. **Structural Analysis.** (3, 3, 3) Theory of structural mechanics. Mechanics of materials with special consideration of reinforced concrete, steel, and timber. Pr., 96 (or 92); 172 pr. to 173. Miller
- 175, 176, 177. **Structural Design.** (4, 4, 3) Reinforced concrete, steel, and timber members and connections. Pr., 173. Miller
- 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. More

*Special Senior and Graduate Courses*

- \*\*191, 193, 195. Advanced Professional Design and/or Analysis. (2 to 5 each quarter)  
 \*\*192, 194, 196. Research. (3 to 6 each quarter). Special investigations by seniors or advanced students under the direction of members of the staff.  
 198. Thesis. (3 to 6)

*Courses for Graduates Only*

- \*\*210, 212, 214. Research. (2 to 5 each quarter)  
 \*\*220, 222, 224. Seminar. (2 to 5 each quarter)

## CLASSICAL LANGUAGES AND LITERATURE

*Professors Densmore, Thomson, Stone; Associate Professor Read; Associate Kohler*

## I. Greek

- 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. Densmore  
 6. The World of Homer. (3) Readings from the story of Achilles. Pr., 5. Densmore  
 7. New Testament Greek. (3) Densmore  
 8, 9. Grammar and Composition. (2, 2) Pr., 3. Densmore  
 51. Greek Authors. (No credit) Sight-reading. Pr., 5 or permission. Densmore  
 101. The Persian War Period. (3) Herodotus and Plutarch. Pr., 5. Read  
 102. Pericles and the Peloponnesian War. (3) Aristotle, Thucydides, Xenophon, and Plutarch. Pr., 5. Read  
 103. Periods of Theban and Macedonian Supremacy. (3) Plutarch, Demosthenes, and Arrian. Pr., 5. Read  
 122. Grammar and Composition. (3) Pr., 9 or equivalent.  
 151, 152. Plato. (3 to 5 each quarter) The Phaedo, Symposium, and extensive readings in the Republic. Pr., 103. Densmore  
 153. Plato. (3 to 5) Selections from the Parmenides, Theaetetus, Sophist, Timaeus. Pr., 152. Densmore  
 191, 192, 193. Literary Criticism and Aeschylus. (3-5) 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*

- 201, 202, 203. Greek Philosophers. (3 to 5) Densmore  
 231. Research in Special Authors. (3 to 5) For 1944-1945, Aristophanes. Densmore

## II. Latin

- 1-2, 3. Elementary Latin and Caesar. (5-5, 5) Kohler  
 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. Read  
 22. Catullus. (5) Pr., as for 21. Read  
 24. Sallust: Jugurtha. (5) Pr., as for 21. Read  
 100. Livy. (5) Pr., 21, 23, 25, or permission. Thomson  
 101. Horace. (5) Pr., as for 100. Thomson  
 103. Plautus and Terence. (5) Pr., as for 100. Stone  
 106. Syntax and Prose Composition. (3) Pr., 100 or equivalent. Stone  
 153. Augustine: Confessions. (3) Pr., 100, 101. Read  
 154. Lucretius. (3) Pr., as for 153. Read

\*\*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).

- 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*

- |   |         |
|---|---------|
| 207. Seneca: Moral Essays. (3)            | Thomson |
| 211. Latin Novel. (3)                     | Read    |
| 285. Vulgar Latin. (3) Pr., permission.   | Stone   |
| 287. Medieval Latin. (3) Pr., permission. | Stone   |

III. Courses in Classical Antiquities, Given in English

*Greek*

- |   |          |
|---|----------|
| 13. Greek Literature. (5)   | Read     |
| 111. Greek Civilization. (5) Research for advanced students. Pr., permission. | Densmore |

*Latin*

- |   |         |
|---|---------|
| 11. Roman Civilization. (5) Includes history and private life of the Romans and their contributions to modern civilization. | Stone   |
| 113. Masterpieces of Latin Literature. (5) Pr., upper-division standing or permission.                                      | Thomson |

Not offered in 1944-1945: *Greek* 104, 105, Drama; 106, Lyric Poetry; 211, 212, Hellenistic Literature. *Latin* 23, Virgil: Georgics and Bucolics; 25, Ovid: Metamorphoses; 102, Tacitus: Germania and Agricola; 104, Martial: Epigrams; 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; 286, Vulgar Latin; 288, Medieval Latin. *Antiquities in English*: Greek 11, Civilization; 18, Mythology; Latin 13, Literature.

DRAMA

*Professor Hughes; Associate Professor Conway; Assistant Professor Harrington; Instructor Ferrall; Theatre Assistant Bell.*

- |   |                     |
|---|---------------------|
| 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)   | Ferrall in charge   |
| 51, 52, 53. Acting. (3, 3, 3) Theory and practice. Includes pantomime, improvisation, and characterization. Pr., 46, 47, 48.  | Harrington, Ferrall |
| 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)  |                     |
| 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.   |                     |
| 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, Ferrall |
| 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              |
| 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. (2, 2, 2) 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.

## ECONOMICS AND BUSINESS

Professors Preston, Burd, Cox, Dakan, Denmery, Engle, Farwell,\* Gregory, Hall, Mund, Skinner, Smith; Special Research Professor Mossey; Professor Emeritus McMahon; Associate Professors Brown, Butterbaugh, Huber,\* Kerr, Lorig, Mackenzie, Miller; Assistant Professors Bartels,\* Chertkov,\* Gifford, Lockling,\* Mikesell,\* Simpson; Lecturers Buschel, Draper, Hamack, McConabey, Truax; Instructors Fordon,\* Sheldon,\* Sutermeister\*; Associate Goebring

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) Organization of our economic life and the fundamental principles underlying it; war economy and post-war stabilization.
3. General Economics. (3) Condensation of E.B. 1-2 for students in chemistry, pharmacy, forestry, and engineering. Pr., sophomore standing. Cox
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. Buschel
5. Wartime Economic Problems. (5) Mobilization of nation's resources for total war. Price control, rationing, man power, labor relations, war finance, federal debt. Monetary problems and inflation. (Not open to students in the College of Economics and Business or to Economics majors in the College of Arts and Sciences.) Buschel

## Economic Geography. (See Geography 7.)

- 16-17-18. Secretarial Training. (3-3-3) Shorthand and typewriting. Three hours lecture, five hours laboratory. Hamack
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, credit transactions, and business associations. 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. Brown
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.
104. Principles of Transportation. (5) General survey of the elements of transportation and communication. Pr., 1-2. 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. Kerr

\* On leave.

† To be arranged.

106. **Economics of Marketing and Advertising.** (5) Principles, processes, systems; middlemen and their functions; legislation. Pr., 1-2. 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) Draper
115. **Business Correspondence.** (5) Analysis of principles, including psychological factors; study of actual business letters in terms of these fundamentals. Pr., 1-2; Comp. 1, 2. Goehring
116. **Office Appliances.** (5) Study and demonstration of important business machines; uses to which put; economies secured; costs; practical application to secondary school instruction. Pr., 18 and permission. Not open to students who have had E.B. 19. Hamack
117. **Secretarial Training—Advanced.** (5) Advanced practice in dictation and transcription; office practice and methods; the business relationships of the secretary. (Meetings 5 days weekly, plus laboratory.) Pr., 18 and permission. Hamack
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
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. Emphasis is placed upon the financing of war activities. 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. Smith
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 1944-1945. Skinner

**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. Skinner
132. **Problems in Foreign Trade.** (5) Special emphasis on the Far East. Pr., 107; Geog. 7 or 1. Skinner
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. Miller

**Public Utilities and Transportation**

141. **Regulation of Public Utilities.** (5) Economic, legislative, and administrative problems of regulation. Pr., 104. Hall
143. **Railway Transportation.** (5) Critical evaluation of problems of finance, operation, competition, combination, and regulation. Pr., 104. Miller
144. **Water Transportation.** (5) Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104. Miller
145. **Highway Transportation.** (5) Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104. Miller
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. Miller

**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. Kerr
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
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
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.
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. Kerr
- 208A. Graduate Seminar in Economics. (5 to 7) Systematic review of the theories of value, price, and distribution; special references 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.
258. Graduate Seminar in Accounting. (5) Pr., permission. McConahey
- Teachers' courses in Economics and Business. (See Educ. 75E, 75F.)

Not offered in 1944-1945: 19, Office Machines; 123, Investment Analysis; 138, Recent Marketing Trends; 142, Advanced Economics of Public Utilities; 147, Transportation Rates; 148, Traffic Management; 149, Marine Insurance and Carriers' Risks; 155, Cost Accounting II; 165, European Labor Problems; 172, Public Finance Taxation II; 177, Social Insurance; 179, The Economics of War; 212, Seminar in Public Service Problems; 215B, Seminar in Economic History.

EDUCATION

*Professors Powers, Bolton, Cole, Corbally, Draper, Duorak,\* Osburn, Stevens, Williams; Associate Professor Jessup; Acting Assistant Professor Hayden; Associate Batie.*

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)

*An all-University grade-point average of at least 2.2 is prerequisite to and required in all Education courses leading to the Three-Year Secondary Certificate.*

9. Psychology of Secondary Education. (3) Pr., 1, Psych. 1. Batie, Powers
30. Washington State Manual. (0) For all applicants for Washington teaching certificates. Corbally, Jessup
60. Principles of Secondary Education. (3) May be taken concurrently with 90. Pr., 1, 9, 70, 75. 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. Pr., 1, 9, 70, 90, 75 or approved equivalent, and all-University grade-point average of at least 2.2. Is done in the Seattle schools; a student should leave three consecutive hours free either in the morning or the early afternoon for this work. 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 hour is charged for the course. Corbally, Powers
- 71N-72N. Cadet Teaching for Vocational Home Economics Majors Only. (5-3) Education 72N may follow or precede 71N. Students take Education 30 the same quarter in which they are registered for 71N. Pr., as for 71-72. 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. Corbally
90. Measurement in Secondary Education. (2) May be taken concurrently with 60. 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
122. Diagnosis in Education. (3) Materials and devices for locating pupil difficulties. Osburn
140. School Supervision. (4) The improvement of school work through the in-service education of teachers. Jessup
141. Supervision of Elementary School Subjects. (4) Jessup
- 145B. Principles and Objectives of Safety Education. (3) Types of school programs in elementary and secondary schools, safety under school jurisdiction, coordination of safety education programs. Corbally

\*On leave.

146. Extracurricular Activities. (3) Pr., 60. Draper  
 147. Principles of Guidance. (3) Corbally  
 153. Elementary School Curricula. (4) Jessup  
 158A. Investigations in Reading. (3) Primarily for administrators and teachers with experience. Osburn  
 164-165. Principles and Techniques of Curriculum Making. (3-3) Draper  
 175. Improvement of Teaching. (3) Adaptation of instruction to individual differences. Examination of laboratory studies; summarization of research. Osburn  
 180, 181, 182. History of Education. (3, 3, 3) Social interpretation of the historic beginnings of education. Jessup  
 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) Experimental background of the modern effort toward character development. Powers  
 197, 198, 199. Individual Research. (2-5 ea. qtr.) Pr., consent of department.

### III. Advanced Courses (Open to Graduates Only)

201. Advanced Educational Psychology. (3) Pr., courses in general and educational psychology. Powers  
 220. Seminar in Educational Sociology. (5) Corbally  
 222. Seminar in Diagnostic and Remedial Education. (5) Osburn  
 245, 246, 247. 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  
 263. Junior College. (3) Hayden  
 265, 266. College Problems. (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. Problems in Modern Methods. (3) Williams  
 275. Improvement of College Teaching. (5) Stevens  
 287, 288, 289. Seminar in Philosophy of Education. (3, 3, 3) Williams  
 290. Educational Statistics. (5) Required of candidates for the doctor's degree in Education. Hayden  
 291. Methods of Educational Research. (3) Required for master's and doctor's degrees in Education. Hayden  
 298, 299, 300. Individual Research. (†)  
 Field of interest should be indicated by letter when registering.
- |  |   |
|--|---|
| A. Educational psychology.                     | G. History and philosophy of education and comparative education. |
| B. Educational sociology.                      | H. Higher education.  |
| 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.                       |   |

**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

### Teachers' Courses in Secondary Subjects

- 75A. Art. (2) Pr., Education 70, senior standing in Art, consent. Johnson  
 75B. Botany. (2) Pr., two years of Botany. To be taken with or before Education 71. Frye  
 75C. Chemistry. (2) Pr., at least 20 credits of college Chemistry of average "B" grade. Tartar  
 75D. Civics. (2)

†To be arranged.



- 75E. Commercial Course, Accounting. (5) Two credits count as Education; three credits as Economics and Business. Pr., 30 credits of the 49 required for a major in commercial teaching, including 10 credits in accounting. O. E. Draper
- 75F. Commercial Course, Shorthand and Typewriting. (5) Hamack
- 75H. English. (5) Two credits count as Education and three as English. Sperlin
- 75K. French. (2) Pr., French 103 and 158. Simpson
- 75L. German. (2) Pr., German 120, or permission. Vail
- 75M. History. (5) Two credits count as Education and three as History. Open to seniors. Gates
- 75NA. Home Economics. (3) Two credits count as Education. Pr., 25 credits in Home Economics. Raitt
- 75NB. Home Economics. (5) Organization and methods for nurses, dietitians, internes, employees of hospitals or other institutions. Pr., 25 credits in Home Economics. Raitt
- 75O. Geography. (2) Pr., Geog. 1 and five additional credits in Geography. Earle
- Journalism. (See Journalism 125 for teacher's course.)
- 75P. Latin. (2) Must be taken in combination with Latin 106. Pr., 20 credits of college Latin. Stone
- 75Q. Mathematics. (3) Two credits count as Education, one as elective. Pr., Math. 109. Jerbert
- 75R. Senior High School Music. (2) Pr., Music 98. Munro
- Music. (For other teachers' courses in music, see Music 113, 116, 165, 166, 167.)
- Physical Education for Men. (See P.E. 158, 161, 163, for teachers' courses.)
- 75V. Health and Physical Education for Women. (2) Pr., P.E. 156, 162, 163, 164, at least five credits of which must be in residence. Ruth Wilson
- 75X. Speech. (5)
- 75Y. Spanish. (2) Pr., Spanish 103, and 158. Wm. E. Wilson
- 75Z. Zoology. (2) Pr., 20 credits in Zoology. Hatch

### ELECTRICAL ENGINEERING

*Professors A. V. Eastman, Loew, Hoard, Shuck, G. S. Smith; Associate Professors Cochran, Linabloom; Assistant Professor Hill*

101. Direct Currents. (4) For non-electrical students. To be taken with E.E. 102. Pr., Physics 98, Math. 41.
102. Direct-current Laboratory. (2) To be taken with E.E. 101.
105. Electric Wiring. (2) For architects.
109. Direct Currents. (5) Electric, magnetic, and dielectric circuits. To be taken with 110. Preceded or accompanied by Math. 41.
110. Direct-current Laboratory. (2) Circuits and measurements. To be taken with 109.
111. Direct-current Machinery. (3) To be taken with 112. Pr., 109.
112. Direct-current Machinery Laboratory. (4) To be taken with 111.
121. Alternating Currents. (4) For non-electrical students. To be taken with 122. Pr., 101.
122. Alternating-current Laboratory. (2) To be taken with 121.
159. Alternating-current Circuits. (3) Pr., 109.
161. Alternating-current Machinery. (4) To be taken with 162. Pr., 111 and 159.
162. Alternating-current Laboratory. (4) To be taken with 161.
- 170, 172, 174. Individual Projects. (2-5 each quarter)
181. Vacuum Tubes. (4) Rectifiers and amplifiers; photoelectric cells, thyatrons; applications to power and low-frequency fields. To be taken with 182. Pr., 159.
182. Vacuum Tube Laboratory. (2) To be taken with 181.
183. Vacuum Tube Circuits. (4) Amplifiers and oscillators; applications in the communication field. To be taken with 184. Pr., 191.
184. Vacuum Tube Circuits Laboratory. (2) To be taken with 183.
185. Communication Networks. (4) Network theorems; coupled circuits; transmission lines; filters; equalizers; impedance matching. To be taken with 186. Pr., 159.
186. Communication Networks Laboratory. (2) To be taken with 185.
187. Wave Propagation and Antennas. (4) Maxwell's equations; r-f transmission lines; antennas; arrays; wave guides. To be taken with 188. Pr., 185. Eastman

188. Wave Propagation and Antennas Laboratory. (2) To be taken with 187.
195. Electric Transients. (4) Single and double energy transients; standing and traveling waves; short-circuit transients; surges; corona; lightning. Pr., 161. **Smith**
196. Electric-transient Laboratory. (2) To be taken with 195. **Smith**
198. Electric-transient Laboratory. (2 to 5) Continuation of 196. Vibrator and cathode ray oscillographs, klydonograph, and voltage impulse recorders. **Smith**
- HFT-1. Ultra-high-frequency Techniques. (5) Cathode-ray tubes and circuits including amplifiers, oscillators, trigger circuits, sweep circuits; modulation and demodulation (amplitude and frequency). Must be preceded or accompanied by 183. **Cochran**
- HFT-2. Ultra-high-frequency Techniques. (4) Radio receivers and transmitters; ultra-high-frequency generators, including velocity-modulation tubes and magnetrons. Pr., HFT-1. **Cochran**

#### Courses for Graduates Only

- 210, 212, 214. Research. (2 to 5 each quarter)

Not offered in 1944-1945: 152, Electrical Machine Design; 163, Alternating Currents; 164, Alternating-current Laboratory.

#### ENGLISH

Language and Literature: *Professors Griffith, Benham, Blankenship, Cox, Harrison, Hughes, Taylor, Winther; Associate Professors Cornu,\* Eby, Stirling, Zillman; Assistant Professors Bostetter,\* Burns,\* Kabin, Kocher\*; Lecturer Sperlin; Associate Butterworth.* Composition and Creative Writing: *Associate Professor Lawson (in charge of Freshman English); Assistant Professors Hall (in charge of Engineering English), Savage; Instructors Adams, S. F. Anderson, Beal, Burgess, Emery, Gillette, Nix, Person, Walters; Associates V. Anderson, Guberlet, Kubn, McKinlay, Norlin, St. Clair, Stubbs, Vickner.* Library: *Gilchrist, Jones.*

English 1 or equivalent is prerequisite to all literature courses.

- A. Elementary Composition. (No credit) For those who fail in entrance test for 1 and 4 **Lawson in Charge**
- B. Elementary Composition. (No credit) Admits to 100 those who fail in test for admission to that course. **Hall in Charge**
- X 1, 2, 3. Composition. (5, 5, 5) Includes also methods of collecting material for longer papers; the study of evidence, fallacies, and proof; analysis of modern literature. **Lawson in Charge**
- 4, 5, 6. Composition. (3, 3, 3) Content same as 1 and 2. For those in architecture, art, and nursing education. **Lawson in Charge**
- 9, 10. Composition. (3, 2) For students in pharmacy. **Lawson in Charge**
- 51, 52, 53. Advanced Exposition. (3, 3, 3) Upper-division credit for upper-division students. Pr., 1 and 2 or equivalent. **Person**
54. Introduction to Non-fictional Writing. (3) Biographies, magazine and feature articles, and expository papers. Upper-division credit for upper-division students. Pr., 1 and 2, or equivalent.
55. Advanced Writing. (3) For English majors and others. Upper-division credit for upper-division students. Pr., 1 and 2, or equivalent.
57. Introduction to Poetry. (5) **Zillman**
58. Introduction to Fiction. (5) Narrative poems, short stories, novels, plays. Upper-division credit for upper-division students. **Griffith, Winther**
60. Report Writing. (3) Upper-division credit for upper-division students. Pr., 1, or equivalent. **Person, Adams**
- 61, 62, 63. Verse Writing. (2, 2, 2) Pr., English 1, 2. **Zillman**
- 64, 65, 66. Literary Backgrounds. (5, 5, 5) The most important English classics, their appreciation, literary forms, and historical relations. 66 is prerequisite to 174 and 175. Grade of "A" or "B" grants upper-division credit to an upper-division student for the quarter in which the grade is earned.
67. Survey of American Literature. (5) **Blankenship**
- X 73. Introduction to Modern Literature. (5) 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 and 2 or equivalent. **Savage**
- 77, 78, 79. Narrative Writing. (3, 3, 3) Upper-division credit for upper-division students. Pr., English 1 and 2, or equivalent.
96. The Bible as Literature. (5) Upper-division credit for upper-division students.
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**

\* On Leave.

101. **Modern Reading.** (3 to 5) For students in technology; reading in non-technological 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. **Non-technical 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) Pronunciation, vocabulary, and syntax. Open to sophomores; 180 may be substituted for this course. **Butterworth**
131. **Advanced Non-fictional Writing.** (5) Pr., 54. **Savage**
- 137, 138, 139. **Advanced Short Story Writing.** (5, 5, 5) Pr., 77, 78, 79 or permission. **Benham**
140. **Social Ideals in Literature.** (5) Model commonwealths. **Benham**
- 144, 145. **Eighteenth Century Literature.** (5, 5) Pr., 144 to 145. **Cox**
- 150, 151. **Old and Middle English Literature.** (5, 5) 150: Old English literature in translation; 151: Chaucer and contemporaries. **Griffith, Butterworth**
- 153, 154. **English Literature: 1476-1642.** (5, 5) 153: Not offered in 1944-1945; 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. **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) **Benham**
- 170, 171, 172. **Shakespeare.** (5, 5, 5) 170: Introduction; 171: Comedies and Histories; 172: Tragedies and Romances. Pr., 64 and 65, or permission; 170 for 171 and/or 172. **Taylor**
- 174, 175. **Late Nineteenth Century Literature.** (5, 5) Pr., 66; 174 for 175. **Winther**
- 177, 178. **Early Nineteenth Century Literature.** (5, 5) Pr., 66; 177 for 178. **Cox, Zillman**
- 180, 181, 182. **Old English Language.** (5, 5, 5) Anglo-Saxon classics in the original. **Butterworth**
- 184, 185, 186. **Creative Writing Conference.** (3 to 5 each quarter) Revision of manuscripts. Student entering this course should have the preliminary work on his writing project completed. Pr., permission. **Savage**
191. **Major Conference.** (5)
- 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, 202. **Graduate English Studies.** (5, 5) Required of candidates for a master's degree. **Griffith**
203. **Literary Criticism.** (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.** Offered 1945-1946. (5, 5, 5)
- 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. **Old English.** (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.** (To be arranged) **Winther**
- 244, 245, 246. **Eighteenth Century Literature.** (5, 5, 5) **Cox**
- 250, 251, 252. **Thesis Research.** (To be arranged) Student should not enroll for this course until he has chosen a thesis subject.

## FAR EASTERN

*Professor Taylor\**; *Professor Emeritus Gowen*; *Visiting Professor Kiang*; *Associate Professors Michael, Schultheis,\* Spector, Williston*; *Assistant Professors Creel, Tatsumi\**; *Instructors Bacon,\* Gershevsky, Sunoo*; *Associates Ch'eh, Kastner, Maki,\* Tweddell*.

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|--|---------|
| 10. Survey, Problems of the Pacific. (5)   | Michael |
| 40. Chinese Civilization. (5) Social, intellectual, institutional life; recent changes.          | Kiang   |
| 90. History of China. (5) Upper-division credit to upper-division students.                      | Michael |
| 91. History of Japan. (5) Upper-division credit to upper-division students.                      | Steiner |
| 113. Civilization of Southeastern Asia. (5)  |         |
| 130. Russian Literature. (5) The great masters of the Golden Age.                                | Spector |
| 132. Contemporary Russian Literature. (5) Outstanding writers from Gorky to Sholokhov.           | Spector |
| 136. Modern Russian History. (5)   | Spector |
| 170. Literature of China in Translation. (5)   | Kiang   |
| 180. Modern Chinese History. (5) Pr., 90 or upper-division standing.                             | Michael |
| 181. Modern Japanese History. (5)  | Steiner |
| 182. Modern India; Its Geography, Peoples and Politics. (5)                                      |         |
| 184. Modern Korean History. (5)  |         |
| 190. Undergraduate Research. (3-5) For F.E. majors. Pr., permission. May be repeated for credit. |         |
| 196. Russian Expansion and Colonization in Asia. (3) Ivan IV to 1917. Pr., permission.           | Spector |

*Chinese*

- |  |                 |
|--|-----------------|
| 44. Chinese Language. (10) Intensive A.  | Tweddell        |
| 44-a. Chinese Language, Conversation. (5)  | Ch'eh, Tweddell |
| 46. Chinese Language. (5) For students with some knowledge of Chinese, but not prepared for 147. |                 |
| 147. Chinese Language. (10) Intensive B.   | Ch'eh           |
| 149. Chinese Language. (10) Intensive C.   | Tweddell        |
| 172, 173, 174. Advanced Chinese Language. (5)  | Ch'eh, Tweddell |

*Japanese*

- |   |       |
|---|-------|
| 1. Japanese Language. (10) Intensive A.   | Creel |
| 1-a. Japanese Language, Conversation. (5)   | Creel |
| 3. Japanese Language. (5) For students with some knowledge of Japanese, but not prepared for 107. |       |
| 107. Japanese Language. (10) Intensive B.   | Creel |
| 109. Japanese Language. (10) Intensive C.   | Creel |
| 120, 121, 122. Advanced Japanese Language. (5)  | Creel |

*Korean*

- |  |       |
|--|-------|
| 4. Korean Language, Intensive A. (10)  | Sunoo |
| 4-a. 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, Intensive C.   | Sunoo |
| 176, 177, 178. Advanced Korean Language. (5)   | Sunoo |
- See also: Anthro. 142; Art 182, 183, 184; Geog. 103, 132; History 132; Pol. Sci. 114, 129, 130, 132, 158.

*Russian*

- |  |                     |
|--|---------------------|
| 7. Russian Language. (10) Intensive A.   | Spector             |
| 7-a. Russian Language, Elementary. (5)   | Gershevsky, Spector |
| 9. Russian Language. (5) For students with some knowledge of Russian but not prepared for 141. | Gershevsky          |
| 141. Russian Language. (10) Intensive B.   | Gershevsky          |
| 162. Russian Language. (10) Intensive C.   | Spector             |
| 167, 168, 169. Advanced Russian Language. (5)  |                     |

\* On leave.

*Courses Primarily for Graduates*

220. Seminar in Eastern Asia. (2)  
 222. Seminar in Western Asia. (2) History, religion, and literature. Gowen  
 225, 226. Seminar in Far Eastern Diplomacy. (3, 3) Williston  
 280, 281, 282. Research. (†) Pr., permission.  
 290, 291, 292. Thesis. (2 to 5 each quarter)

Not offered in 1944-1945: 41, Japanese Civilization; 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; 171, Literature of Japan in Translation; 192, History of the Ming Dynasty; 195, The Meiji Restoration in Japan; 221, Sources in East Asia.

**FISHERIES**

*Professors W. F. Thompson, Lynch; Assistant Professor Donaldson*

101. Comparative Anatomy of Fishes. (5) Morphology. Emphasis on evolution of structures in reference to phylogeny. Pr., Zool. 1 and 2.  
 102. Classification and Identification of Soft-rayed Fishes. (5) Special attention given to salmon and trout. Pr., 101.  
 103. Classification and Identification of Spiny-rayed Fishes. (5) Special emphasis on game and food fishes. Pr., 102.  
 105, 106, 107. Commercial Aquatic Invertebrates. (5, 5, 5) Classification, life history, uses. Pr., Zool. 1 and 2.  
 108, 109, 110. Problems of Fisheries Science. (1, 1, 1) Required of all majors.  
 151. Natural Fish Foods and Water Supplies. (5) Fresh-water insects and crustacea and their relations to pond culture. Physical and chemical determinations of the suitability of water. Propagation of salt-water fishes. Pr., Zool. 1 and 2; Chem. 1-2, or 21-22.  
 152. Propagation of Freshwater Fishes; Methods of Hatching and Rearing. (5) Feeding and efficiency of diets. Design, structure, maintenance of hatcheries, pond systems, and aquaria. Pr., 151.  
 153. Hatchery Biology. (5) Algae, higher plants, and miscellaneous invertebrates in relation to fish. Sanitation, disease prevention. Stream improvement. Stocking policies. Pr., 152.  
 154. Diseases of Fish. (5) Pr., Zool. 1 and 2; Fish. 101 and 102; Bacteriology 101.  
 157. Age and Growth of Game and Food Fishes. (5) By length frequencies, scales, and otoliths. Pr., Fish. 102.  
 158. Migrations of Game and Food Fishes. (5) By marking and racial investigations. Pr., Fish. 102.  
 165, 166, 167. Elementary Problems. (2 to 5 each quarter) Pr., 15 credits in fisheries.  
 195, 196, 197. Seminar. (2 to 5 each quarter) Current fisheries literature. Pr., 15 credits in fisheries.

*Courses for Graduates Only*

- 201, 202, 203. Research. (2 to 5 each quarter) Pr., 25 credits in fisheries or its equivalent in zoology.  
 205, 206, 207. Graduate Seminar. (2 to 5 each quarter) Required of all graduate students. Open to graduates in zoology.

Not offered in 1944-1945: 125, Spawning Habits of Game and Other Fishes; 126, Early Life History of Fishes.

**FORESTRY AND LUMBERING**

*Professors Winkenwerder, Grondal, Marckworth, Pearce; Assistant Professors Schrader,\* Wangaard,\* Zumwalt \**

- 1a, 1b. Dendrology. (3, 3) Identification, classification, distribution of the trees of North America.  
 2, 3. Introduction to Forestry. (2, 2) Orientation course required of all freshmen. Winkenwerder.  
 4. Forest Fire Protection. (3) Factors influencing their spread, methods of suppression, detection, and suppression. Required of all freshmen. Winkenwerder  
 5. First Aid to the Injured. (2) Dr. Hall  
 6. General Forestry. (3) For non-majors. Winkenwerder  
 7, 8. Forestry Problems. (3, 3) Methods of attack, emphasizing accuracy, analysis, and interpretation of forestry data. Pr., Math. 4; 7 pr. to 8. Schrader

\* On leave.

† To be arranged.

15. **General Lumbering.** (4) Comparative methods in different regions of the U. S. Pre-requisite to all courses in logging and milling.
40. **Silviculture.** (2) Field studies and nursery practice. Given at Pack Forest. Pr., 121.
60. **Forest Mensuration.** (5) Theory of scaling, volume and taper tables, sample plot methods, determination of contents of stands, growth, yield. Pr., 3, 7, 8; Math 4.
62. **Field Problems in Forest Mensuration.** (6) Given at Pack Forest. Pr., 1b, 60, G.E. 7.
104. **Timber Physics.** (5) General mechanics, stresses, tests, theory of flexure, moisture and strength; mechanical properties of wood. Pr., For. 8, Physics 3 or 6. Schrader
105. **Wood Preservation.** (3) Classification and control of wood-destroying agencies; mechanical properties of treated wood. Pr., 11. Schrader
106. **Wood Preservation Laboratory.** (2) Evaluation of preservatives; methods of testing and inspection of treated material. Must be preceded or accompanied by 105. Grondal
109. **Wood Technology.** (3) Identification, taxonomy, physical and chemical properties of wood. Pr., Physics 3 or 6, For. 1a, 10 credits in chemistry, Bot. 10 and 11. Grondal
111. **Wood Structure.** (3) Identification, xylotomy, and elementary microtechnique. Pr., 10. Grondal
115. **Forest Protection.** (3) Fire plans; relation of forestry practice in the control of insect and fungus attacks. Pr., 4. Winkewerder
119. **Forest Administration.** (3) Pr., E.B. 3 or 4; senior standing. Marckworth
121. **Silvics.** (3) Relation of trees and forests to soil, moisture, light, and temperature; forest ecology. Pr., 1b, 3, Bot. 11.
122. **Silvicultural Methods.** (5) Type and site classification; intermediate and final cuttings; natural and artificial regeneration. Pr., 40, 121.
126. **Forest Economics.** (4) Position of forests in the economic structure. Pr., E.B. 3 or 4; senior standing. Marckworth
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 Finance.** (4) Cost of growing timber; valuation of land for forest production. Pr., 122. Marckworth
152. **Forest Organization and Regulation.** (4) Sustained yield management; forest working plans. Pr., 151. Marckworth
158. **Forest Utilization.** (5) Secondary and derived forest products. Pr., 10.
- 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. Opportunities are offered in city forestry, tree surgery, wood fibers, microtechnique in the study of wood, research methods, advanced work in any of the regular forestry subjects. 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. Marckworth
171. **Forest Geography.** (4) Economic geography of the forest regions of world. Pr., senior standing.
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., E.B. 62, For. 183. Schrader
185. **Forest Engineering.** (5) Logging plans and costs; correlation of logging engineering methods with condition of stand, topography, forest management, etc. Pr., senior stand. Pearce
186. **Logging Engineering.** (5) Machinery, equipment, and problems.
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., 11, 158. Grondal
189. **Wood Pulp.** (5) Design of waste conversion plants; wood pulp manufacture. Pr., 11, 158, 183, 188. Grondal

*Courses for Graduates Only*

202. **Thesis.** (3 to 6 each quarter) 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 each quarter) Pr., 164, 165, 166, 167. Marckworth

- 210, 211, 212. Graduate Studies. (3 to 5 each quarter) In fields for which there is not sufficient demand to organize regular courses.
- 213, 214, 215. Research. (3 to 5 each quarter)
221. Forest History and Policy. (3) Forestry policy of the U.S.; the states and island possessions; the rise of forestry abroad. Marckworth
- Not offered in 1944-1945: 65, Forest Recreation Planning; 154, Wild Life Management; 155, Range Management; 182, Lumber Grading; 193, 194, Seminar; 208, Graduate Seminar; 220, Advanced Forest Engineering.

## GENERAL ENGINEERING

*Professors Wilcox, Warner; Associate Professor Brown, Rowlands\*; Assistant Professors Engel, Jacobsen, Jensen; Instructors Boehmer, Douglass, Gullikson, Tbwing, Twelker, Wallace; Lecturer Bliven; Associate Hillis*

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
9. Engineering Drawing. (3) Orthographic projection; reading commercial drawings. Not open for credit to engineers. 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 equivalents, and trigonometry. Engel
22. Mapping and Map Reading. (3) Not open for credit to engineers. Pr., 2. 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

## GENERAL LITERATURE

*Professor Benham; Associate Professor Read*

- 51, 52, 53. Masterpieces of European Literature. (3, 3, 3) 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. Benham
- 194, 195, 196. General European Literature. (3, 3, 3) Pr., 193. To approximately 1650 A.D. 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; N. S. Hayner (Sociology); M. E. Jensen (History); A. R. Jerbert (Mathematics); Kathleen Munro (Music); H. L. Nostrand (Romanic Languages); V. Sivertz (Chemistry)*

- 21-22-23. American Social Trends. (5-5-5) Non-technical introduction to the various social sciences in terms of American experiences and institutions. Jensen
- 151, 152. Sources of the Modern Cultural Crisis. (2-6, 3) 151: Individual reading to be assigned by members of the interdepartmental staff. May be repeated in various fields in the same or successive quarters. 152: Based on Randall, *Making of the Modern Mind*, and selected primary source material. 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. Primarily for seniors. Pr., 152 or permission. Interdepartmental Staff<sup>1</sup>
- 191, 192, 193. Senior Study. (†) Pr., permission.

<sup>1</sup>M. Jacobs (Anthro.), R. Penington (Art), V. Sivertz (Chemistry), D. Thomson (Classics), C. Kerr, V. Mund (Economics), C. T. Williams (Education), W. Hiltner, R. G. Tyler (Engineering), J. B. Harrison (English), F. H. Michael, F. Williston (Far East), H. B. Densmore (General Studies), M. Jensen (History), D. Monroe (Home Economics), R. A. Beaumont (Math.), G. McKay (Music), L. W. Rising (Pharmacy), H. J. Phillips, M. Rader (Philosophy), D. H. Loughridge (Physics), L. A. Mander (Political Science), Rev. J. Bartlett, Rabbi A. Zuckerman (Religion), H. L. Nostrand, L. V. Simpson (Rom. Lang.), L. Bartlett, R. W. O'Brien (Sociology), M. H. Hatch (Zoology).

\* On leave, 1944.

† To be arranged.

## GEOGRAPHY

*Professor Martin; Associate Professors Church,\* Earle; Assistant Professors Pierson, Read; Instructor Sherman*

1. Survey of World Geography. (5) World regions; man's relation to his habitat. Not open to students who have had 7 or 70. Earle, Read
2. Physical Geography. (5) Land forms; soils; waters; mineral products; topographic maps. Read
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
11. Weather and Climate. (5) World distribution of temperature, pressure, winds, precipitation. Climatic cycles. Weather maps. Pierson, Sherman
70. World Geography. (5) Economic-political; for journalism students. Not open to students who have had 1 or 7. Martin
77. Urban Geography. (2) Major cities of U.S.; location, development. Martin
101. World Regional Geography. (5) Same as 1, but with additional work. Not open to those who have had 1, 7, or 70. Pr., junior standing. Earle, Read
102. Geography of United States. (5) Regional and industrial. Pr., 1 or 101, 7 or junior standing. Martin, Read
103. Geography of Asia. (5) Countries and natural regions; resources; population; transportation; trade. Pr., 1, or 101, 7, or permission. Earle
104. Geography of Europe. (5) Countries and regions; manufacturing; commercial relationships. Pr., 1 or 101, 7, or permission. Martin
105. Geography of South America. (5) Economic and social; raw materials; potential markets; inter-American relations. Pr., 1 or 101, 7, or permission. Pierson
106. Geography of Africa-Australasia. (5) Colonization and development. Resources; plantation agriculture; tropical problems. Pr., 1 or 101, 7, or permission. Earle
108. Geography of Canada and Alaska. (3) Regions, resources, economic and social development; northern settlement. Pr., 1 or 101, 7, or permission. Pierson
109. Geography of Middle America. (3) Regions, resources. Pr., 1 or 101, 7, or permission. Read
110. Resources of the Pacific Northwest. (3) Rural and urban development; industry; regional problems.
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. Sherman
121. Regional Climatology. (5) Climatic characteristics of continents. Controls, types, distribution, and classification. Pr., 11, 111, or permission. Sherman
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. Read
132. Islands of the Pacific. (3) Geography, climate, resources, peoples, etc. Pr., Geog. 1, 101, 7, or consent. Earle
140. Geography in the Social Studies. (3) Pr., 10 credits in geography, or permission. Read
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. Sherman
- 153, 154. Meteorological Laboratory. (3) Weather charts based on frontal and isentropic methods. Sherman
155. Influences of Geographic Environment. (5) Theory of occupation; urbanization; human adjustment. Pr., 20 credits of geography, or permission. Earle
160. Cartography. Map projections, aerial distribution, scales, sketch mapping, block diagrams. Pierson
170. Conservation of Natural Resources. (5) Public policy; land reclamation; resource utilization. Martin
175. Problems in Political Geography. (5) Current international issues; territorial problems. Pr., 10 credits of geography, permission. Martin
192. Research Problems in Meteorology and Climatology. (†) Pr., permission. Sherman
195. Individual Conference and Research. (†) For advanced undergraduates. Pr., permission.
199. Preseminar in Geography. (5) Research methods; presentation of paper. Pr., permission. Martin

Teachers' Course in Geography. (See Educ. 75-O.)

\* On leave

† To be arranged.



*Courses for Graduates Only*

- |  |        |
|--|--------|
| 200. Seminar. (5)                                | Martin |
| 201. Research. (†)                               |        |
| 207. World Resources and Industries. (†)         | Martin |
| 211. Research in Meteorology. (†)                |        |
| 220. Land Utilization. Not offered in 1944-1945. |        |
| 255. History and Theory of Geography. (†)        | Earle  |

## GEOLOGY

*Professors Goodspeed, Weaver, Fuller; Associate Professors Mackin, Coombs, Barksdale\**

- |  |                   |
|--|-------------------|
| 1. Survey of Geology. (5)  | Coombs, Mackin    |
| 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            |
| 8. Geology and Mineral Resources of the Balkans, Southern Russia, and Asia Minor. (2)  | Weaver            |
| 101. History of Geology. (3) Required of all majors in geology. Pr., 15 credits in geology.  |                   |
| 105. Petrology as Applied to Engineering. (5) Same as 5, but with additional work. For engineering students. Pr., junior standing.                               | Goodspeed, Coombs |
| 106. Elements of Physiography. (5) Same as 6, but with additional work. Pr., junior standing.  | Mackin            |
| 107. Historical Geology. (5) Same as 7, but with additional work. Pr., 5 credits in geology or Zool. 1 and 2, and junior standing.                               | Weaver            |
| 108. Geology and Mineral Resources of the Balkans, Southern Russia, and Asia Minor. (2) Same as 8 but with additional work.                                      | Weaver            |
| 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, 112 or 113.   | Mackin            |
| 116. Glacial Geology. (5) Mechanism of glacial action. 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 U.D. chemistry students).  | Coombs            |
| 124, 125. Petrography and Petrology. (3 or 5) Systematic study of rocks with the petrographic microscope. Pr., 123 for 124; 124 for 125.                         | Coombs, 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            |
| 142. Structural Geology. (5) Interpretation of rock structures and their genesis. Pr., 5, 6, 7.  |                   |
| 143. Advanced Structural Geology. (3) Pr., 142.  |                   |
| 144. Field Methods. (5) Geologic and topographic surveying and recording. Pr., 124, 142.   |                   |
| 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.  |                   |

\*On leave.

†To be arranged.

*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 languages, a Germanic, Romanic, or Far Eastern, 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. (†)

Not offered in 1944-1945: 128, Mineral Resources—Non-metals; 131, Stratigraphy; 136, Geology of South America; 137, Tertiary Faunas of Washington; 150, Elements of Seismology.

## GERMANIC LANGUAGES AND LITERATURE

*Professors Vail, Eckelman, Lauer, Meisner; Associate Professor Meyer; Instructors Ankele, Schertel, Wilkie; Associate Wesner.*

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)  
 1X, 2X, 3X. First Year Intensive Course. (10, 10, 10) Wilkie  
 3. First Year Reading. (5) Pr., 1-2 or one year in high school.  
 4. Second Year Reading. (5) Pr., 3 or two years in high school.  
 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) Students making a grade of "B" in this course may go directly to upper-division scientific German if they desire. Pr., 4, 5, or 6.  
 61. Intermediate Scientific German. (2)  
 113, 114, 115. Upper-division Scientific German. (2 or 3 each quarter) Each student reports on reading in his own field in weekly conferences. Pr., 60, grade "B," or 61, or equivalent. Schertel  
 116. Upper-division Scientific German for Pre-meds. (3) Pr., as for 113. Schertel  
 117. Military German. (2 or 3) Pr., 8 credits of second-year German or equivalent. 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. Schertel, Vail  
 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

†To be arranged.

\*\*To be arranged; students interested should consult head of department.

- \*\*139. Studies in German Literature.** (1 to 5) Pr., 130, or equivalent.  
 180, 181, 182. Nineteenth Century Literature. (3, 3, 3) Alternates with 183, 184, 185. Not offered in 1944-1945. Eckelman  
 183, 184, 185. History of German Literature. (3, 3, 3) To the age of Goethe. Pr., 130 or equivalent. Wilkie

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.  
**\*\*102. Goethe.** (3)  
**\*\*104. Thomas Mann.** (3) Conflicting tendencies in German thought and letters during the 20th century; social and economic backgrounds.

*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. Credit and time for all courses will be arranged.

- 200, 201, 202. Goethe's Lyrics and Letters.  
 203, 204, 205. Storm and Stress Period.  
 206, 207, 208. The Romantic School.  
 209, 210, 211. Schiller.  
 220, 221, 222. Interrelations of German and English Literature.  
 230. Reformation.  
 234. The Age of Enlightenment.  
 235. Pietism and Sentimentalism.  
 240. The Literature of the Middle High German Period.  
 243. The Baroque Literature of the 17th Century.  
 250. Middle High German.  
 251. Middle High German Literature in the Original.  
 255. Old High German.  
 256. Old High German Literature in the Original.  
 258. Gothic.  
 259. Old Saxon.  
 270. Renaissance.

Not offered in 1944-1945: 101, The Novel; 103, The Drama; 140, Heimatkunst; 141, Recent Novellen; 143, Expressionism and Twentieth-century Realism; 145, Modern Novels; 147, 148, Modern Drama; 160, Lessing; 162, Goethe's Lyric Poetry; 163, Goethe's Dramatic Works; 166, 167, Goethe's *Faust*; 168, Schiller's Historical Dramas; 186, Lyrics and Ballads.

**HISTORY**

*Professors Holt,\* Levy, Lucas; Associate Professors Costigan,\* Dobie, Gates, Jensen, Katz,\* Quainton, Lecturer Kimmel; Instructor Brown; Associate Davis*

- 1-2. Medieval and Modern European History. (5-5) The Roman world empire of Augustus to our own times. Lucas, Quainton, Dobie  
 3-4. Survey of Western Civilization. (5-5) Introduction to the social sciences. Lucas  
 5-6. English Political and Social History. (5-5) By special work, upper-division students may receive upper-division credit.  
 7. A Survey of the History of the United States. (5) By special work, upper-division students may receive upper-division credit. Gates  
 21-22-23. American Social Trends. (5-5-5) Survey of social trends from the earliest times to the present. Jensen  
 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. Levy  
 106. English Constitutional History. (5) Development of legal and governmental institutions to the present time. Pr., 5-6.  
 114. The Culture of the Renaissance. (5) Lucas

**\*\*To be arranged; students interested should consult head of department.**

**\*On leave.**

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| 115. The Reformation. (5)   | Lucas    |
| 120. Medieval Civilization: Art, Letters, Religion, Education, and Thought. (3)   | Lucas    |
| 128. France from the Reformation to the French Revolution. (5)  |          |
| 129. The French Revolution and Napoleonic Era. (5)  | Quainton |
| 130. Europe 1814-1870. (5)  | Quainton |
| 132. History of Modern Colonial Empires. (5)  | Dobie    |
| 133. Europe Since 1914. (5)   | Levy     |
| 135. History of Modern Military Systems from Gustavus Adolphus to the Present. (3 or 5) Pr., junior standing or permission. | Kimmel   |
| 140. American Colonial History. (5)   | Jensen   |
| 141. American Revolution and Confederation. (5)   | Jensen   |
| 144. History of the United States, 1789-1829. (5)   | Jensen   |
| 149. History of the United States, 1877-1920. (5)   | Gates    |
| 155. History of Canada. (5) Canadian development to the present time.   | Dobie    |
| 158. The United States in World Affairs: 1776-1861. (5)   |          |
| 159. The United States in World Affairs: 1861 to the Present Day. (5)   | Gates    |
| 164. History of Washington and the Pacific Northwest. (5)   | Gates    |
| 181. History of the British Empire since 1783: British Commonwealth of Nations. (5)   | Dobie    |
| 190. Introduction to Roman Law. (5) Open to qualified sophomores.   | Levy     |
| 199. Individual Conference and Research. (1 to 5)   |          |
- Teachers' Course in History. (See Educ. 75M.)
- Geographic Background of American History. (See Geog. 125.)

#### *Courses for Graduates Only*

Courses for graduate students to be given either as seminars, reading courses, or lecture courses are offered in the following fields:

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| 201. Historiography. (5) Required of all majors and minors.   |          |
| 218, 219. British Empire. (3, 3)                              | Dobie    |
| 225-226. American History. (3-3)                              | Gates    |
| 227-228. American History. (3-3)                              | Jensen   |
| 231, 232, 233. Modern European History (1600-1815). (3, 3, 3) | Quainton |
| 234. Roman Law. (3)   | Levy     |
| 300, 301, 302. Individual Research or Thesis Work. (†)        |          |

Not offered in 1944-1945: 41, Latin America and the Development of the Western Hemisphere from the Voyages of Discovery to 1900. 42, Latin America and the Development of the Western Hemisphere since 1900. 100, Greece in the Age of Pericles; 101, Alexander the Great, and the Hellenistic Period; 103, Age of Caesar and Cicero; 104, The Roman Empire; 110, The Byzantine Empire; 111, Greek and Roman Political Institutions; 118, 119, Medieval Civilization; 124, Economic History of Europe Since the Industrial Revolution; 131, Europe 1870-1914; 134, Germany from 1648 to 1914; 145, History of the United States, 1829-1860; 147, History of the Civil War Period and Reconstruction; 151, History of American Industrial Society; 166, Constitutional Law in Europe; 170, Constitutional History of the United States from the Colonial Foundations to 1801; 171, Constitutional History of the United States from 1801 to the Present; 180, History of the British Empire since 1783: Britain in India, Africa, and the Pacific; 182, England in the Eighteenth Century; 183, England in the Nineteenth Century; 184, England in the Twentieth Century; 191, Comparative Law; 192, Introduction to Modern Civil Law; 202-203, American Historiography; 208, 209, Greek and Roman History; 216, 217, Philosophy of History; 221-222, American History; 251, 252, 253, Advanced Seminar in American History.

HOME ECONOMICS

*Professors Raitt, Denny, Monroe, Payne, Rowntree; Associate Professors Bliss, Dresslar, Ingalls, Terrell; Assistant Professor Storvick; Lecturer Wade; Instructors Black, McAdams.*

7. Introduction to Home Economics. (2) Function, history, present status in technological and relational aspects, place in curriculum, professional opportunities, personal accounts and budgets. Raitt
9. Nutrition for Student Nurses. (6) For student nurses only. Pr., Chem. 1 or 21. Bliss
12. Costume Design and Construction. (5) Payne, Ingalls
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
24. Textiles for Non-Majors. (2) Fibers and fabrics, their characteristics, varieties, uses, and care. Denny
25. Textiles. (5) The products and their uses, economic and esthetic values. Relation of raw material, construction, and finish to quality and the cost of fabrics. Denny
26. Institution Textiles. (3) Purchase, specifications, testing, storage, care. Denny
41. Home Furnishings for Non-majors. (3) Artistic structure, color harmony, cost and upkeep. Denny
- 101, 102. Needlecraft. (2, 2) Historic laces and embroideries of various nationalities; application of authentic and original designs. Pr., 12, Art 9. Payne
103. Feeding the Family in Wartime. (5) Meals; food purchasing; cookery, practicing time shortcuts.
104. Nutrition for Non-majors. (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, Chem. 1-2, 137, Physiol. 53, 54. Storvick
106. Nutrition for Public Health Nurses. (5) Pr., graduate nurse. Storvick
- 107-108. Nutrition. (5-3) Pr., 15, Chem. 135-136, Physiol. 7. Premedics and chemistry majors may enroll with the instructor's permission. Prerequisites to all advanced courses in nutrition. Rowntree
109. Income Management and Consumption Problems. (3) Family and individual spending and saving patterns; attempts to raise living levels of low income families through social action. Monroe
112. Costume Design and Construction. (3) Children's clothing and wool dresses. Pr., 12, Art 9.
113. Costume Design and Construction. (3) Modeling garments in muslin; final problem in silk. Psychology of dress, factory-made clothing, fashion, and sources of consumer information. Pr., 112. Ingalls
114. Costume Design and Construction. (3) Coat and suit construction; selection and purchase of clothing. Pr., 113. Ingalls
115. Food Preparation. (3) Introduction to investigation methods. Pr., 15, Chem. 1-2, or 21-22, Physiol. 7. Dresslar
116. Advanced Food Preparation. (5) For teacher-training majors. Pr., 115. Dresslar
117. A Woman's Wartime Wardrobe. (5) Dressmaking, repair, remodeling of clothing; purchases in harmony with personality and pocketbook.
119. Household Operation in Wartime. (2) Care of furnishings and equipment; purchasing; substitute materials, scarcities; practice in Home Management Laboratory.
120. Advanced Food Preparation. (3) For institution administration majors. Pr., 115.
121. Institution Food Preparation. (5) Large quantity manipulation, cost accounting, standardization of formulas, menu planning. Pr., 120. Terrell
122. Institution Food Purchasing. (3) Problems of quality, grade, and cost. Pr., 120. Terrell
123. Institution Management I. (3) Organization, housing, and furnishing standards. Open to students accepted for the professional curriculum or others by permission. Pr., E.B. 1-2. Raitt
124. Institution Management II. (3) Food service organization and administration; finances, personnel, and equipment. Open to students accepted for the professional curriculum or others by permission. Pr., 121. Terrell
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. Ingalls

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.** (5) Housing needs, standards, and social regulation; floor plans and construction; fixtures; the saving of time and energy. Pr., or parallel, Physics 89 or Chem. 1. Black
144. **Income Management.** (3) Personal and family expenditures; real income; savings and investment program. Pr., E.B. 1 or 4 or permission. Monroe
145. **Family Relationships.** (3) Organization of the household; basic principles and desirable attitudes. Pr., E.B. 1 or 4, junior standing. Raitt
147. **Home Furnishing.** (5) Economic and esthetic values; historic and modern furniture, pictures, rugs, tapestry, china, glass, silver. Pr., Art 9. Denny
148. **Home Management House.** (2) Organization, financial management, records, house-keeping, food preparation and service, and hospitality. For home economics majors. Pr., senior standing.
160. **Advanced Costume Design and Construction.** (5, 5) Flat pattern and modeling methods. Open to students accepted for the professional curriculum or others by permission. Pr., 114, Art 169. Payne
175. **Institution Equipment.** (3) Construction; operation; care required; routing of work. Open to students accepted for the professional curriculum or others by permission. Pr., or parallel, 124. Terrell
180. **Family Incomes and Consumption.** (5) Short-term and long-term consumer credit agencies; the social implications of credit. Pr., senior standing or permission. Monroe
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. Monroe
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.
190. **Child Nutrition and Care.** (3) Maternity and infancy; physical and mental health of children. Pr., 107. Rowntree
191. **Diet Therapy.** (3) Open to students accepted for the professional curriculum or others by permission. Pr., 108. Storvick
195. **Research in Home Economics.** (†) A problem in household management. Pr., fifth year.
- 196, 197. **Supervised Field Work.** (15, 15) Six months of work in the fifth year. Pr., 195 credits. The following are acceptable:
- A. Hospital internship approved by the American Dietetic Association.
  - B. Administrative internship approved by the American Dietetic Association.
  - C. Nursery School Service.
  - D. Field work in other lines under adequate supervision.
198. **Historic Textiles.** (3) A collection of rare materials is available for study. Pr., 25, 47, Art 9, 10, 11, or equivalent. Denny
- Teachers' Courses in Home Economics.** (For junior and senior high school, see Educ. 75 NA; for institution administration, see Educ. 75 NB.)

#### *Courses for Graduates Only*

200. **Investigation Cookery.** (3) Research in food supply and preparation. Pr., 116 or 120. Dresslar
202. **Home Economics Education.** (†) Raitt
204. **Introduction to Research in Nutrition.** (†) Basal metabolism studies; animal experimentation; nitrogen, calcium, and hemoglobin determination. Must parallel 214. Pr., 108. Storvick
- 205, 206. **Research in Nutrition.** (†) Mineral or energy metabolism, animal feeding, or dietary studies. Pr., 204. Storvick
- 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; 214 for 215. Rowntree, Storvick
- 220, 221, 222. **Research in Institution Administration.** (†) Problems of food service and housing units. Pr., 121, 122, 123, 124, 175, or equivalent. Terrell

† To be arranged.

245. Social and Economic Problems of the Consumer. (†) Pr., 144, 145, 181. Monroe  
250. Thesis. (9)

Not offered in 1944-1945: 110, Food Study for Technology; 111, Nutrition for Technology.

# JOURNALISM

*Professors McKenzie,\* Jones; Associate Professors Benson,\* Christian,\* Everest, Kennedy; Assistant Professor Mansfield\*; Associates Astel, Helberg, Jacobsen, Murton, Vincent*

1. Journalism as a Profession. (1) Required in the freshman year of pre-journalism majors.
2. The Newspaper and Society. (2) Required in the freshman year of pre-journalism majors. Pr., 1.
51. Preliminary News Writing. (5) Required in the sophomore year of pre-journalism majors.
- 81, 82, 83. Editorial Techniques. (3 or 5) Work on University publications.
84. Editorial Techniques. (3 or 5)
- 90, 91, 92. Contemporary Affairs. (2, 2, 2)
125. Principles of High School Journalism. (5) For teachers in high schools and junior colleges. Editorial, advertising, circulation, and mechanical production of school publications. Pr., 51.
130. Fundamentals of Advertising. (5) 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. (5) Layouts and copy writing. Pr., 130.
132. Advertising Typography. (5) Laboratory course in display advertising. Pr., 131.
- 147-148. Fundamentals of Journalism. (5-5) Business management, contemporary affairs, reporting, copy reading.
- 149-150-151. Fundamentals of Journalism. (5-5-5) Advertising, reporting, law of the press.
- 152-153-154. Fundamentals of Journalism. (5-5-5) History of American journalism, public relations, advertising, contemporary affairs, radio.
- 171-172. Magazine and Feature Writing and Trade Journalism. (3-3)
- 173, 174, 175. Short Story Writing. (5-5-5) Pr., upper-division or permission.
199. Problems of Journalism. (2to 5) Research and individual study. Upper-division only.

# LAW

*Professors Falknor, Ayer, Beardsley, Harsch, Levy, Nottelmann, O'Bryan, Richards,\* Shattuck,\* Sholley; Associate Professor Taylor; Assistant Professor Cross; Lecturers Shufelman, Thorgrimson.*

## First Year

*All first-year subjects are required.*

100. Property I. A. (3) Aigler, Bigelow & Powell, Cases on Property, Vol. 1. Cross
- †101. Contracts. A. (4); W.S. (3-3) Goble and Patterson, Cases on Contracts. Taylor
- †102. Torts. A. (4); W.S. (3-3) Casebook to be announced. Ayer
- †104. Property II. W. S. (3-3) Aigler, Bigelow & Powell, Cases on Property, Vol. 1. Cross
- †105. Criminal Law and Procedure. A.W. (3-3) Harno, Cases on Criminal Law, 2nd ed., and O'Bryan, Cases on Criminal Procedure. O'Bryan
112. Agency. S. (4) Casebook to be announced. Ayer
130. Legal Bibliography. W. (3) Beardsley, Legal Bibliography and the Use of Law Books. Beardsley

## Second Year

*All second-year subjects are required.*

- †110. Sales. A.W. (3-3) Vold, Cases on Sales. Ayer
111. Wills. A. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed. Falknor
113. Domestic Relations. S. (3) Shattuck, Washington Materials on Domestic Relations. Beardsley
- †114. Equity. W.S. (3-5) Walsh, Cases on Equity. Nottelmann
- †115. Evidence. A.W. (4-4) McCormick, Cases on Evidence. Falknor
- †116. Bills and Notes. W.S. (3-3) Britton, Cases on Bills and Notes, 2nd ed. Falknor
- †119. Constitutional Law. W.S. (2-3) Dowling, Cases on Constitutional Law. Sholley

†No examination for credit until completion of entire course.

\*On leave.

†To be arranged.

## Third Year

*All third-year subjects are required.*

117. Legal Administration and Ethics. S. (3) Cheatham, Cases and Materials on the Legal Profession. Shefelman
121. Administrative Law. C. (4) Gellhorn, Administrative Law, Cases and Comments.
- ‡123. Property III. S. (6) Aigler, Bigelow & Powell, Cases on Property, Vol. 2. Cross
- ‡126. Trusts. A,W. (3-3) Scott, Cases on Trusts, 2nd ed. Nottelmann
127. Code Pleading. A. (3) Cathcart & Howell, Cases on Code Pleading. Falknor
142. Practice and Procedure I. W. (3) McBaine, Cases on Trial Practice, supplemented by Washington Code of Procedure and Washington cases. In 142 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. O'Bryan
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. O'Bryan
- ‡145. Credit Transactions. A,W. (2-4) Shattuck, Washington Materials on Security Transactions. Taylor
- ‡149. Business Associations. W,S. (4-4) Ballantine and Lattin, Cases and Materials on the Law of Corporations. Cases assigned on other business organizations. Ayer

## Fourth Year

*Required Courses*

118. Conflict of Laws. W. (4) Cheatham, Rowling, Goodrich and Griswold, Cases and Material on Conflict of Laws. Shefelman
124. Community Property. A. (3) Mechem, Sholley, Luccock, Cases on Washington Law of Community Property. Cross
135. Legislation. A,W. (2-2) Horack, Cases on Legislation. Harsch
146. Taxation. S. (5) Magill and Maguire, Cases on Taxation, 3rd ed. Harsch
199. Seminars and Individual Research Courses. Ten credits required, selected from the following one-quarter seminars, each carrying five credits.
- 199G. Comparative Law. W. (5) Levy
- 199I. Civil and Criminal Procedures. S. (5) Falknor
- 199J. Labor Law. A. (5) Nottelmann

## Elective Fourth-Year Courses

Sixteen credits of electives to be selected. An additional five credits of seminar or individual research may be undertaken with permission of the dean.

- ‡122. International Law. A,W. (3-3) Briggs, The Law of Nations. Martin
128. Damages. S. (3) Taylor
133. Public Utilities. S. (3) Welch, Cases on Public Utility Regulation, 2nd ed., with Supplement. Nottelmann
141. Admiralty. A. (4) Lord and Sprague, Cases on Admiralty, 2nd ed. Shefelman
147. Municipal Corporations. S. (4) Tooke, Cases on Municipal Corporations, 2nd ed. Thorgrimson
190. Roman Law. W. (3) Radin, Handbook of Roman Law. Levy
- 199K. Research Problems in Law. A,W,S. (1 to 3) Properly qualified third- and fourth-year students may, with the consent of a member of the law faculty and the dean of the school, receive from one to three credits for individual research in any of the major fields covered by the curriculum.

Not offered in 1944-1945: 125, Trade Regulation; 129, Drafting of Legal Instruments; 131, Quasi-contracts; 132, Legal Accounting; 134, Federal Jurisdiction and Procedure; 136, Insurance; 137, Water Rights; 138, Future Interests; 139, Administration of Debtors' Estates; 140, Mining Law; 191, Comparative Law; 199A, Trusts; 199B, Banking Law and Advanced Problems in Security; 199C, Public Utility Regulation; 199D, Law of Income Taxation; 199E, Law of Corporation Finance, Regulation, and Reorganization; 199F, Corporation Practice; 199H, Government Regulation of Business.

‡No examination for credit until completion of entire course.



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
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
- 114, 115, 116. Realism in Philosophy, Literature, and the Arts. (5, 5, 5) Cory

LIBRARIANSHIP

*Professors Worden, C. W. Smith, Beardsley; Associate Professor Alfonso; Assistant Professor Andrews; Instructor Turner; Lecturer W. H. Carlson.*

- §170. Introduction to Library Work with Children. (3) Andrews
- ‡171. Children's Books. (2) Andrews
- §172. Introduction to Library Work. (2) Worden
- ‡175. Classification, Cataloging, Subject Headings. (4) Alfonso, Turner
- ‡176. Reference for High School Libraries. (3) Turner
- §177. Bibliography and Reference. (3) Includes trade and subject bibliography and government documents. Smith, Alfonso
- §178. History of the Book. (3) Carlson
- §179-§188-§196. Selection of Books for Libraries. (4, 2 or 3, 3) Andrews
180. Story Telling. (3) Folk and fairy tales, myths, epics, and short stories as source material. Open to juniors and seniors in autumn. Andrews
- §181. Advanced Children's Work. (2) Organization of the department; book buying and administration. Pr., 170. Andrews
- ‡182. School Library Administration. (3) Turner
- §183. Selection of Books for Children. (3) Pr., 170. Andrews
- ‡184. Classification, Cataloging, Subject Headings. (3) Pr., 175. Alfonso, Turner
- §185. Bibliography and Reference. (3 or 4) Pr., 177. Smith, Alfonso
- §186. Practice. (5) Four weeks (40 hours a week) in neighboring Northwest libraries. Worden
- §189. Organization and Administration of Small Libraries. (2) Worden
- §190. Selection of Books for Children. (3) Pr., 183. Andrews
- §191. Classification, Cataloging, Subject Headings. (3 or 5) Pr., 184. Alfonso
- §192. Administration. (2) Management, buildings, equipment, finance, publicity. Worden
- §194. Bibliography and Reference. (2 or 4) Pr., 185. Alfonso
- ‡195. Book Selection for High School Libraries. (3) Andrews
- §240. Advanced Legal Bibliography. (4) Bibliographical data and use of federal and state law reports and statutes; quasi-legal and commissioners' reports of the states, for association records, legal periodicals, indexes and digests, legal regional bibliographies, cooperative bibliographies of law collections.
- §241. Order and Accessioning of Law Books. (4) Aids to selection, processing, microphotography of legal material, etc. Beardsley
- §242. Legal Reference and Research. (5) Bibliographical lists, law reference questions, briefing, annotations, local legal history. Beardsley
- §243. Law Library Administration. (5) Staff, patrons and public relations, circulation, architecture, book arrangements, equipment, rules, publicity, publications, budgets, reports, professional societies, regional service, cooperative buying. Beardsley

Second-Year Library Work With Children

(Not offered in 1944-1945)

§ Open only to students registered in the School.

‡ Open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools.

\* On leave.

## MATHEMATICS

*Professors Carpenter, Ballantine, Winger; Associate Professors Cramlet, Jacobsen, Jerbert, McFarlan, Taub\*; Assistant Professors Birnbaum, Haller, Mullemeister, Zuckerman; Instructors Beaumont, Kingston, Mublenberg, Yates; Associates Eastman, McClay, Muggli, Perks, Watson*

Mathematics 1 may be taken concurrently with Mathematics 4 and Mathematics 2 with Mathematics 4, 5, 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. Winger
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. Birnbaum
- 107, 108, 109. Differential and Integral Calculus. (5, 5, 5) Pr., 6; 107 for 108; 108 for 109. Carpenter, Winger
- 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.
- 141, 142, 143. Calculus of Probabilities and Statistics. (3, 3, 3) Pr., 109 or permission; 141 for 142; 142 for 143. Birnbaum
- 150, 151. Advanced Analysis. (2, 3) Pr., 109 or 114; 150 for 151.
- 152, 153. Interpolation and Approximation. (3, 3) Pr., differential calculus. Ballantine
160. Vector Analysis. (3, 3) Pr., differential calculus.

*Courses for Graduates Only*

All courses numbered above 200 require a full year of differential and integral calculus as prerequisite, and the consent of the instructor in charge.

- 214, 215, 216. Higher Calculus. (3, 3, 3)
- 230, 231, 232. Advanced Topics in Algebra. (3, 3, 3)
- 241, 242, 243. Functions of Complex Variables. (2, 2, 2)

Variations from the above program for succeeding years will be made by selections from the following courses:

Undergraduate: Survey of Mathematics, Advanced Analytic Geometry, Mathematics of Navigation, Introduction to Actuarial Science, Theory of Equations, Algebraic Curves, Theory of Numbers, Calculus of Observations, Foundations of Algebra.

Graduate: Differential Geometry, Modern Algebra, Topology, Finite Differences, Finite Collocation Groups, Functions of a Real Variable, Invariant Theory, Calculus of Variations, Integral Equations, Advanced Differential Equations.

## MECHANICAL ENGINEERING

*Professors Eastwood, McIntyre, McMin, Schaller, Wilson, Winslow; Associate Professor Tymstra; Assistant Professor Cooper; Instructors Crain,\* Sullivan, Snyder*

53. Manufacturing Methods. (1) Schaller, Snyder, Sullivan
54. Manufacturing Methods. (1) Schaller, Sullivan
55. Manufacturing Methods. (1) Snyder, Sullivan, Schaller
81. Mechanism. (3) Pr., G.E. 3, Math. 32. McIntyre, Tymstra, Cooper
82. Steam Engineering. (3) Not open to freshmen. Pr., G.E. 2. Eastwood, McMin, Tymstra, Winslow, Cooper, Snyder
83. Steam Engineering Laboratory. (3) Preceded or accompanied by 82. Wilson, McIntyre
104. Manufacturing Methods. (1) Pr., 53, 54, 55. Schaller
105. Advanced Manufacturing Methods. (1) Pr., 53, 54, 55. Sullivan
106. Advanced Manufacturing Methods. (1) Pr., 105. Sullivan
107. Production Planning. (1) Pr., 106. Schaller

\* On leave.

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| 108. Production Management. (3)   | Schaller   |
| 109. Factory Cost Analysis. (3)   | Schaller   |
| 110. Heating and Ventilation. (2) Pr., junior standing in architecture.             | Eastwood   |
| 111, 112. Machine Design. (3, 3) Pr., C.E. 92.                                      | McMinn, McIntyre, Tymstra, Winslow, Cooper, Snyder |
| 113, 114. Advanced Machine Design. (2, 2) Pr., 112.                                 | Winslow  |
| 115. Steam Engine Design. Not offered in 1944-1945.                                 |  |
| 123, 124. Engines and Boilers. (2, 3) Pr., 83; C.E. 91.                             | Winslow  |
| 151, 152, 153. Experimental Engineering. (3, 3, 3) Pr., 83.                         | Wilson, McIntyre                                   |
| 167. Engineering Materials. (3) Pr., C.E. 92.                                       | McMinn   |
| 182. Heating and Ventilation. (3) Pr., 82, junior standing in engineering.          | Eastwood   |
| 183. Thermodynamics and Refrigeration. (5) Pr., 82, junior standing in engineering. | Eastwood   |
| 184. Power Plants. (5) Pr., 83, 123.  | Winslow  |
| 185. Naval Architecture. (3) Pr., junior standing.                                  | Eastwood   |
| 191, 192, 193. Research. (2 to 5 each quarter)                                      |  |
| 195. Thesis. (2 to 5 each quarter) To be taken in the senior year.                  | Wilson   |
| 198. Internal Combustion Engines. (3) Pr., 82, junior standing in engineering.      | Wilson   |
| 199. Internal Combustion Engine Design. (3) Pr., 198.                               | Wilson   |

*Courses for Graduates Only*

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| 200. Vibrations of Machinery. (3) Elective for approved seniors, graduates. | Winslow |
| 211, 212, 213. Research. (3, 3, 3)  |         |

**MILITARY SCIENCE AND TACTICS (ARMY ROTC)**

*Lieutenant Colonel Joseph; Captain Dawson, Captain Harwick, First Lieutenant Hilsenberg; Technical Sergeant Harrison; Sergeants Lustig, Stevens; Corporal Forrest*

The basic courses listed below constitute the program of instruction prescribed by the War Department for institutional units of the Reserve Officers' Training Corps. The advance course has been suspended for the duration.

**First Year**

- 7, 8, 9, 10. Branch Immaterial. (2, 2, 2, 2) Orientation, Leadership, Military Courtesy and Discipline, Rifle Marksmanship, Military Law, Military Sanitation and First Aid. Three quarters required.
- 14, 15, 16. Branch Immaterial. Su. Ses. (B) Sem. I, Sem. II (2, 2, 2) Same as above, but offered to students on semester basis. Two semesters required.

**Second Year**

- 64, 65, 66, 67. Branch Immaterial. (2, 2, 2, 2) Map Reading, Field Fortifications, Tactics of Small Units, Individual Scouting and Patrolling. Three quarters required.
- 74, 75, 76. Branch Immaterial. Su. Ses. (B) Sem. I, Sem. II (2, 2, 2) Same as above, but offered to students on the semester basis. Two semesters required.

**MINING, METALLURGICAL AND CERAMIC ENGINEERING**

*Professors Roberts, Daniels; Associate Professor Corey; Assistant Professor Zwermann\*; Instructor Keith\**

**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, non-metallic 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.

\*On leave.

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, 194. Thesis. (†) In mining, metallurgical, or ceramic engineering. Completed thesis due three weeks before graduation. Pr., senior standing. Minimum total of five credits required.

*Courses for Graduates Only*

- 201, 202, 203. Seminar. (1, 1, 1) Lectures and discussions. Required of fellowship holders in the College of Mines.
- 211, 212, 213, 214. Graduate Thesis. (†) In mining, metallurgical, or ceramic engineering. Finished thesis due one month before graduation. Total of nine credits allowed for thesis.
- 221, 222, 223. Metal Mining. (†) Roberts
- 231, 232, 233. Mineral Dressing. (†) Roberts
- 251, 252, 253. Coal Mining. (†) Daniels
- 261, 262, 263. Fuels and Combustion. (†) 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. Corey
101. Fire Assaying. (3) Testing of reagents, crushing, sampling, and assaying of ores, furnace and mill products. Pr., Chem. 111. Corey
102. Metallurgical Laboratory. (2) Pr., 53. Corey
103. Fuel Technology. (4) Primary and manufactured fuels; source, composition, methods of utilization, and economy. Pr., junior standing. Daniels, Corey
104. Non-ferrous Metallurgy. (3) Pr., 53. Corey
153. Elements of Metallurgy. (3) Same as 53. Pr., junior standing. Not open to those who have had 53. Corey
154. Wet Assaying. (3) The determination of elements in ores and furnace products. Pr., Chem. 109, 110, or 111. Corey
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. Corey
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. Corey
163. Metallography. (3) Preparation, photomicrography, study of metal sections. Open to all senior engineering students. Corey
165. Metallurgical Calculations. (3) Physical chemistry of the metallurgist, slag calculations, furnace problems. Pr., 104. Corey
166. Advanced Non-ferrous Metallurgy. (3) The extraction of the metals. Pr., senior Mines or graduate standing. Corey

*Courses for Graduates Only*

- 221, 222, 223. Advanced Metallurgy. (†) Pr., graduate standing. Corey

† To be arranged.

**Ceramic Engineering**

90. **Industrial Minerals.** (3) Non-metallic minerals and their products. Pr., sophomore standing in mines, engineering, or science.
100. **Clays, Plasticity, and Suspensions.** (3) Pr., 90.
101. **Firing and Firing Problems.** (3) Vitrification of clay; melting, fusion, crystallization of silicates. Pr., 100.
102. **Ceramic Decoration.** (3 to 6) Its value; colors, surface textures, glazes. Pr., 101.
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.
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.
- 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.
- 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

**Courses for Graduates Only**

- 221, 222, 223. **Ceramic Research.** (†) The ceramic resources of the Pacific Northwest or new products or processes.

**MUSIC**

*Professors Wood, McKay, Rosen, Werner; Associate Professors Hall, Jacobson, Lawrence, Munro, Normann, Van Ogle, Welke; Assistant Professors Bostwick, Creel, Groth, Irvine, Kirchner, Wilson, Woodcock; Instructor Eichinger; Associates Beck, Graf, Horsfall, Pauly, Phillips, Tustin; Lecturer Kinsella.*

The following courses are suitable for students not majoring in music (such students should consult the music registration adviser before registering): Music 14, 15, 16, 21, 22, 23, 24, 51, 54, 55, 87, 98, 105, 106, 128, 132, 151, 153, 161, 162, 190, 191, 192, 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.** (2) Technic of listening and of using reference materials in relation to concert programs. Required of freshman music majors. Woodcock
- 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 Chorus.** (1-1-1) Mixed voices. Pr., some choral experience, ability to read music at sight. Lawrence
- 14, 15, 16. **Fundamentals.** (3, 3, 3) Laboratory work in hearing and reading music; keyboard drill and dictation; melody writing. Groth in charge
- 18, 19, 20. **Instrumental Music.** (2 or 3 each quarter) 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 common musical forms, idioms, styles. Woodcock, Kinsella
22. **Music Appreciation: Symphonic Music.** (2) For the general student. Upper-division credit to upper-division students. Irvine
23. **Music Appreciation: Opera.** (2) Special attention to Metropolitan broadcasts. Upper-division credit to upper-division students. Irvine
24. **Music Appreciation: Solo and Chamber Music.** (2) Upper-division credit to upper-division students. Woodcock
- 30, 31, 32. **Elementary Band.** (1, 1, 1) For underclassmen not registered in Military Band. Welke
- 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).** (3) Pr., 15. Welke, Normann

†To be arranged.

41. **Elementary Orchestral Instruments (Brass).** (3) Pr., 15. Welke, Normann
42. **Elementary Orchestral Instruments (Strings).** (3) Pr., 15. Kirchner
43. **Elementary Orchestra.** (2) Material suitable for schools. Welke
- 48, 49, 50. **Vocal or Instrumental Music.** (2 or 3 each quarter) 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 various teachers are designated by capital letters immediately following the course number, and must be indicated in registering.
  - 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>), Usdane (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>).
  - 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>), Pauly (bassoon, F<sub>4</sub>).
  - G. Brass.
  - H. Harp. Beck (H<sub>1</sub>), Graf (H<sub>2</sub>).
51. **Elementary Harmony.** (3) Structural and physical basis of chords. All primary harmonies and non-harmonic tones. Pr., 16 and 3AX or equivalent. Wood, Eichinger
52. **Score Reading.** (3) Pr., 51. Irvine
53. **Intermediate Harmony.** (5) Secondary harmonies and simple modulations. Pr., 52 or exemption. Eichinger
54. **The Symphonic Poem.** (2) Berlioz, Liszt, Strauss. Pr., 4 or 22. Van Ogle
55. **Russian Composers.** (2) The Russian Five, Chaikovski. Pr., 4 or 22. Van Ogle
60. **Advanced Orchestral Instruments (Wind).** (3) Class instruction. Pr., 40 or permission. Welke
62. **Advanced Orchestral Instruments (String).** (3) Class instruction. Pr., 42 or permission. Kirchner
- 65-66-67. **Choral Ensemble.** (2-2-2) Men's and Women's Glee Clubs. Lawrence, Werner
- 68, 69, 70. **Vocal or Instrumental Music.** (2 or 3 each quarter) See description for 48, 49, 50. Pr., 50.
- 80-81-82. **University A Cappella Choir.** (2-2-2) Mixed voices. Audition required. Lawrence
87. **Gregorian Chant.** (1) Rhythm, modes, forms, elements of performance and conducting. 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., 51. Groth, Hall
101. **Advanced Harmony.** (5) Chromatic harmonies and modulations. Pr., 109. McKay
105. **The French Impressionists.** (2) Debussy, Ravel, Satie, and the "Six." Van Ogle
106. **Modern Spanish and British Composers.** (2) Van Ogle
109. **Counterpoint I.** (5) Regulation of concurrent melodies. Sixteenth-century motet style. Pr., 53, 98. Wood, Eichinger
112. **Musical Forms.** (5) Analysis and exercises in composition. Pr., 53. Wood, Woodcock
113. **Elementary School Music.** (5) Teaching music in the first six grades. Pr., Educ. 75R Normann
116. **Junior High School Music.** (3) Contribution to the needs of the adolescent. Pr., 113, 136. Hall
- 118, 119, 120. **Vocal or Instrumental Music.** (2 or 3 each quarter) See description for 48, 49, 50. Pr., 70.
- 121-122-123. **Madrigal Singers.** (2-2-2) 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. Groth, Hall
132. **Haydn, Mozart, and Beethoven.** (2) Orchestral and chamber music. Pr., 112. Woodcock

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
  145. *Church Music.* (3) The chant, anthem, solo, and small ensemble. Pr., 136. Munro, Wilson
  - 148, 149, 150. *Vocal or Instrumental Music.* (2 or 3 each quarter) See description for 48, 49, 50. Pr., 120.
  151. *Richard Wagner.* (2) Van Ogle
  153. *Modern Russian and Finnish Composers.* (2) Scriabin, Stravinsky, Sibelius. Van Ogle
  155. *School Music Supervision.* (3) Pr., 116. Normann
  - 157, 158, 159. *Composers' Laboratory, First Year.* (3, 3, 3) Pr., permission. McKay
  160. *Song.* (2) Interpretation. Pr., permission. Werner
  161. *Music in the Americas.* (3) To the beginning of the twentieth century. Lecture and illustration. 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
  - 165-166-167. *Piano Teaching.* (2-2-2) Material, principles, supervised practice teaching. Pr., permission. Woodcock
  - 168, 169, 170. *Vocal or Instrumental Music.* (2 or 3 each quarter) See description for 48, 49, 50. Pr., 150.
  - 177, 178, 179. *Composers' Laboratory, Second Year.* (3, 3, 3) Pr., permission. For majors in composition and others specially qualified. McKay
  180. *Orchestral Conducting.* (3) Pr., 40, 42, 136. Welke
  181. *History of Keyboard Music.* (3) Kinscella
  187. *Music of the Middle Ages.* (3) Includes laboratory in Gregorian chant. Munro, Woodcock
  190. *Palestrina to Bach.* (3) Pr., senior standing. Munro
  191. *Vocal Music: Hayden to Brahms.* (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. Irvine
  195. *Choral Conducting.* (3) Pr., 136. Munro
  199. *Senior Recital.* (2) Pr., permission of faculty committee.
- Teachers' Course in Music. (See Education 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
211. *Music of the Elizabethan Age.* (2) Hall
- 218, 219, 220. *Graduate Vocal or Instrumental Music.* (2 or 3) Pr., thirty credits in the same branch of music. See description for 48, 49, 50.
221. *History of Instruments.* (2) Irvine
230. *Seminar in Music Education.* (1 to 3) Selected topics in secondary school music and supervision. Pr., one year of approved teaching experience. 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 or musicology. Pr., permission.

Not offered in 1944-1945: 210, *History of Musical Performance*; 212, *Opera*; 222, *History of Notation*; 223, *History of Music Theory*.

†To be arranged.

## NAVAL SCIENCE AND TACTICS

*Capt. Barr; Comdr. Keeler; Lt. Comdr. Ramsey; Lt. Comdr. Wendelburg; Lt. (jg) Fuller; Ch. Bos'n Harmony; CGM Hamilton; CTC Sincere; CTC Hoffman; CY Littell; CSp. McDermott; CSp. Zwolsman; Y1c Keating; Y2c Hjerpe; Y3c Hallas.*

*First Year*

- N 1-2 (V-12)—Organization. (2) Naval customs and courtesies; traditions; indoctrination; organization; administration; and Navy Regulations.

*Second Year*

- N 3 (V-12) & (NROTC)—Naval History & Elementary Strategy. (3) Seapower beginning; early wars; American wars; modern warfare; airpower; tactics.
- NS 1, 2 (NROTC)—Seamanship. (3, 3) Visual and sound communications; small boats under oars and sail; Rules of the Road; piloting and ship handling; ropes, knots and splices; weather.
- NS 3 (NROTC)—Communications. (3) Naval communication procedure; duties of communication officer; flags and pennants; recognition drills.
- NS 4, 5 (NROTC)—Navigation and Nautical Astronomy. (3, 3) Piloting and ocean navigation; chart construction; variation and deviation of compass; calculation of ship's position by dead reckoning, by observation of celestial objects, and by bearings of terrestrial objects; use of navigational instruments; compensation of the compass; calculation of tides and currents; air navigation; radio and navigation by radio bearings. Includes drill and physical training. Pr., advanced algebra and plane trigonometry.

*Third Year*

- Navy 101, 103 (NROTC)—Ordnance, Gunnery, Naval Engineering & Electricity. (3, 3). Ordnance, including ballistics, gunnery, powder, and explosives; electrical installations; naval machinery, etc. Pr., NS 53.
- NS 6 (NROTC)—Naval Administration & Law. (3) Organization, administration, establishment of the naval organization; duties of watch officers; ship handling; Naval law, including discipline, punishments, courts, etc.; and Leadership.
- NS 8, 9 (NROTC)—Ordnance & Gunnery. (3, 3) Similar to Navy 101, 103, under Navy College Training Program. Includes drill and physical training.

*Fourth Year*

- Navy 151, 153 (NROTC)—Leadership, Communications & Aviation. (3, 3) Leadership, administration, strategy and tactics, naval communications, naval aviation, military law, etc. Pr., 103.
- NS 7 (NROTC)—Tactics & Aviation. (3) Theory of aviation; nomenclature; aviation history; operation of planes; elementary tactics and ship handling; naval strategy; and mooring board problems.
- NS 10 (NROTC)—Damage Control and Engineering. (3) Stability of ships and damage control; the engineering plant, boilers, turbines, reciprocating engines, internal combustion engines, propellers, lubrication, etc.
- NS 11 (NROTC)—Refresher. (3) Review. Includes drill and physical training.

*Courses Open to General Registration*

The following courses in naval science are open to general registration and offered to all students by extension whether or not they are members of the Naval ROTC:

- 57c. Seamanship. (3) Rules of the Road, collision cases. Complete analysis of the practical application of Nautical Rules of the Road.
- 61-62. Sea Navigation. (3-3) Complete course in sea navigation; similar to S 4, 5.
63. Advanced Sea Navigation and Air Navigation. (3)

## NURSING EDUCATION

*Professor Soule; Associate Professor Leaby; Assistant Professors Cross,\* Olcott, Tschudin; Instructors Airtb, Anderson,\* Blackman, Braker,\* Britell, Byers,\* Coffman, Coggeshall, Erbe, Felton, Green, Heitmanek, Henderson, Hierstein, Hoffman, Johnson,\* Lamberty, Lindblom, Mahoney, Mickel, Miller,\* Moser,\* Ruch, Selfridge, Shattuck, Snively.*

- |   |            |
|---|------------|
| 1. History of Nursing. (3) Open to any woman student.   | Soule      |
| 5. Home Care of the Sick, and Child Hygiene. (3)  | Coggeshall |
| 20. Elementary Theory and Practice for Red Cross Nurse Aid. (5)                                       | Coggeshall |
| 104. Public Health Administration and Epidemiology. (2) Pr., graduate registered nurse or permission. | Newsom     |
- Hospital Division Courses NE 120-148 inclusive will be given on the quarter basis. Open only to students in Curriculum A or approved schools of nursing.

\* On leave.



120. Principles and Practice of Elementary Nursing. W. (5) Erbe, Felton, Hoffman
121. Advanced Nursing Procedures and Methods of Planning Individualized Nursing Care. A,S. (3) Erbe, Felton, Hoffman
122. Practice in Elementary Nursing and Special Hospital Departments. A,S. (3) Medical and surgical services correlated with laboratory, X-ray, and pharmacy experience. Erbe, Felton
124. Principles of General Medicine, Surgery, Otolaryngology, and Nursing Care. A.S. (5) Blackman, Mickel
125. Principles of Medical and Surgical Specialties and Their Nursing Care. W. (5) Blackman, Byington, Mickel
128. Medical Nursing Practice. A,W,S. (6) Including communicable disease and related out-patient clinics. Blackman
129. Principles of Special Therapy. A.S. (2) Light, electricity, heat, water, massage, exercise, and occupation as aids in care or control of disease processes. Tschudin
130. Principles of Preventive Medicine and Nursing Care in Communicable Diseases. W. (4) Erbe, Felton
132. Surgical Nursing and Diet Therapy Practice. A,W,S. (6) Six weeks in general surgical service with related out-patient clinics and six weeks in diet therapy. Mickel
133. Operating Room and Emergency Service Practice. A,W,S. (6) Ten weeks in operative nursing and anaesthetic care. Two weeks in emergency service. Hejmanek
134. Nursing Practice in Surgical Specialties. A,W,S. (6) Orthopedic, emergency surgery, head injury, urology, gynecology, ear, nose and throat, related out-patient clinics. Byington
137. Introduction to Public Health Nursing. A,S. (2) Soule
138. Professional Problems in Nursing. A,W,S. (2) Dowler
139. Principles of Pediatrics and Pediatric Nursing. A,W,S. (5) Physical and mental development of normal children included. Selfridge, Shattuck
140. Pediatric Nursing and Nursery School Practice. A,W,S. (6) Selfridge, Shattuck
141. Principles of Obstetrics and Obstetrical Nursing. A,W,S. (5) Mahoney
142. Obstetrical Nursing Practice. A,W,S. (6) Mahoney
145. Tuberculosis Nursing Practice. AWS. (3) Six weeks in a tuberculosis sanatorium.
146. Visiting Nursing Practice. A,W,S. (3) Six weeks in a public health agency.
147. Principles of Psychiatry and Psychiatric Nursing. A,W,S. (5) Lamberty, Lindblom
148. Psychiatric Nursing Practice. A,W,S. (6) Lamberty, Lindblom

*Courses for Graduate Registered Nurses Only*

150. Principles of Teaching Nursing and Health. A,W. (5) Coggeshall, Tschudin
151. Administration of Schools of Nursing. W. (5) Olcott
152. Supervision of Hospital Departments. S. (5) Ward teaching and supervision. Olcott, Tschudin
153. Hospital Administration in Relation to Nursing Service. (5) Hoffman
154. Cader Teaching and Ward Administration in Hospitals. (10) Pr., 150, 152. Olcott, Tschudin
- 155, 156, 157. Advanced Nursing Practice in Clinical Specialties. (3 each quarter)
158. Advanced Nursing Practice in Emergency, Fracture, and Neurological Injuries. (3)
162. Field Practice in Public Health Nursing. (5) Health teaching and nursing. Leahy
163. Field Practice in Public Health Nursing. (5) Administrative activities and record work. Leahy
164. Field Practice in Public Health Nursing. (6) Family health planning. Use of social agencies and maintenance of community relationships. Leahy
165. Survey of Current Literature in Specialized Fields in Public Health Nursing. (2) Pr., 167. Leahy
166. Advanced Field Work. (12) Pr., 164. Leahy
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) Leahy
169. Public Health. (3) History, development, principles of public health programs. Open to health education majors.
190. Methods of Supervision of Public Health Nursing. (3) Leahy

*Courses for Graduates Only*

- 201, 202, 203. Seminar in Nursing Problems. (†) Pr., graduate registered nurse, thirty credits in nursing.
205. Research in Nursing Education, Hospital Administration, Public Health Nursing. (†) Pr., 167, 168; Bact. 101, 102, 103, or Nurs. Educ. 150, 151, 152.

*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) Lindblom
9. Principles of Psychiatry and Psychiatric Attendant Nursing. (3) Slough
11. Sociology for Hospital Attendants. (3) Slough
- No offered in 1944-1945: 144, Senior Service Hospital Practice; 159, Ward Management and Teaching.

**NURSERY SCHOOL**

*Assistant Professors Harris, Wright; Associate Williams*

101. Child Development. (3) The first six years. Pr. (or to be taken concurrently), Psych. 1. Harris
102. Child Guidance. (3) The first six years. Pr., 101 or permission. Harris
103. The Nursery School. (3) Its history and program. Pr., 102 or permission. Harris
104. Nursery School Participation and Special Problems. (†) Pr., permission. Harris, Williams
105. Child Development and Guidance. (†) (For Home Economics students.) To be taken concurrently with H.E. 190. Harris

**OCEANOGRAPHIC LABORATORIES**

No courses will be offered in 1944-1945.

**PHARMACY, PHARMACOGNOSY, PHARMACEUTICAL CHEMISTRY AND TOXICOLOGY, AND PHARMACOLOGY**

*Professors Goodrich, Johnson, Rising, Dille\*; Associate Professor Fischer; Assistant Professors Kelly, Plein; Instructors Arrigoni, Larson, Youngken.\**

*Department of 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
- 113, 114, 115. Advanced Prescriptions. (5, 5, 5) Problems in dispensing and manufacturing; study of U.S.P. and N.F. Rising, Plein
173. Cosmetic Manufacture. (3 to 5) Rising
183. New Remedies. (3) Those having a non-official status. Plein
184. Pharmacy Laws. (3) Their effect on liabilities of the pharmaceutical retailer and manufacturer. Plein
191. Research Problems. (1 to 5) Open to juniors, seniors, and graduates.

*Course for Graduates Only*

201. Investigations in Practical Pharmacy. (†) Maximum, 45 credits. Rising, Plein

*Department of Pharmacognosy*

- 12, 13, 14. Pharmacognosy. (3, 3, 3) Plant and animal drugs, their source, methods of collection and preservation, identification, active constituents, and adulterations. Goodrich, Fischer
- 104, 105. Pharmacognosy. (3, 3) Microscopic study of crude and powdered drugs for purposes of identification and detection of adulteration. Goodrich
106. Medicinal Plants. (2) Those plants of the Northwest and their commerce. Goodrich
112. Biologicals. (3) Goodrich
193. Research Problems. (1 to 5) Open to juniors, seniors, graduates.

† To be arranged.

\* On leave.

*Course for Graduates Only*

202. Investigation in Pharmacognosy. (†) Maximum of forty-five credits. Goodrich

*Department of Pharmaceutical Chemistry and Toxicology*

5. Gravimetric Quantitative Analysis. (5) Kelly  
 6. Volumetric Quantitative Analysis. (5) Kelly  
 7. Urinalysis. (2) Kelly  
 8. Pharmacopoeial Assay. (2) Kelly  
 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. Investigation in Toxicology. (†) Maximum of forty-five credits. Johnson, Fischer  
 204. Investigation in Pharmaceutical Chemistry. (†) Maximum of forty-five credits. Johnson, Fischer, Kelly

*Department of Pharmacology*

61. Pharmacology and Therapeutics. (3) Larson  
 101, 102, 103. Pharmacology and Toxicology. (3, 3, 3) The action of drugs, their posology and rational uses in therapeutics with consideration of symptoms and treatment of poisoning. Arrigoni  
 170. Pharmacology. (2) Source, action, uses of the common drugs. Open to pre-medical students and others interested in a survey of the field of pharmacology. Arrigoni  
 194. Research Problems. (1 to 5) Open to juniors, seniors, and graduates. Arrigoni

*Courses for Graduates Only*

205. Investigation in Pharmacology. (†) Maximum of forty-five credits.  
 210. Graduate Seminar. (no credit) Reports on assigned reading under direction of members of the staff.

Not offered in 1944-1945: 185, 186, Experimental Pharmacology; 187, Biological Assays; 199, Seminar in Pharmacology.

**PHILOSOPHY**

*Professors Savery, Nelson\*; Assistant Professors Phillips, Rader.*

1. Introduction to Philosophy. (5) Main problems and typical solutions. Phillips  
 2. Introduction to Social Ethics. (5) With special emphasis upon democracy. Rader  
 3. Introduction to Ethics. (5) Moral principles and their application to the problems of life. Phillips  
 5. Introduction to Logic. (5) Conditions of clear statement, adequate evidence, and valid reasoning. Phillips  
 101-102-103. History of Philosophy. (3-3-3) Ancient, medieval, and modern. For juniors and seniors; others by permission. Rader  
 104-105-106. Philosophy of Nature. (3-3-3) The meaning of truth, the way we know the physical world, the nature of matter, the relation of the mind to the body, the self and human freedom. Pr., 1, or 103, or permission. Savery  
 113. Philosophy of Religion. (5) Experience and belief. Pr., 1. Offered 1945-1946. Phillips  
 129. Esthetics. (5) Theories of art and of beauty. Rader  
 130, 131, 132. Philosophical Issues in the War and the Peace. (2, 2, 2) Fascist and democratic ideals, and the conditions of "the good life" after the war. Rader  
 133. Ethical Theory. (3) Phillips  
 141-142-143. Contemporary Philosophy. (2-2-2) Idealism, intuitionism, positivism, pragmatism, realism, and vitalism. Pr., 1 or 103. Savery  
 194. The Philosophies of India. (3) Hinduism and Buddhism. A study of the contribution of philosophy to the India of today. A reading course. No prerequisite. Savery  
 196. The Ethical and Political Philosophy of China. (3) A reading course. No prerequisite. Savery  
 197, 198, 199. Reading in the Philosophical Classics. (3, 3, 3) Including contemporary writers. Savery  
 No prerequisite.

†To be arranged.

\*On leave.

## Courses for Graduates Only

- 207, 208, 209. Seminar in Philosophy of Science. (4, 4, 4) Pr., permission. Savery  
 251, 252, 253. Research in Philosophy. (1 to 6 each quarter) Pr., permission.

Not offered in 1944-1945: 137-138-139, Development of Social Philosophy; 193, Advanced Logic; 214-215-216, Seminar in Logic; 234-235-236, Seminar in Descartes, Spinoza, Leibnitz; 237-238-239, Seminar in Locke, Berkeley, Hume; 241-242-243, 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, Kunde,\* Peek,\* Reeves, Torney\*;  
 Instructors Kirkland, Mills; Associates Buckley,\* Clark, Duggins, Edmundson, Graves, Stevens,\*  
 Ulbricksen, Welch.

- 1, 2, 3. Adapted Activities. (1, 1, 1) Gymnastics, games, and sports to meet the needs of the individual. Reeves  
 5, 7, 8. Physical Education Activities for Majors. (1, 1, 1) Reeves  
 9, 10, 11. Physical Education for Sophomore Majors. (1, 1, 1) Reeves  
 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. Reeves  
 15. Personal Health. (2) Health information that affords a basis for intelligent guidance in the formation of health habits and attitudes. Academic credit given.

## II. FOR WOMEN

Professor Hutchinson; Associate Professors de Vries, Rulifson; Assistant Professors Kidwell, McGownd,\* MacLean, McLellan, Wilson

## Activity Courses

- 11, 12, 13. Physical Education Activities for Freshman Majors. (2, 2, 2) Folk dancing, clog and tap dancing, hockey, basketball, tennis, soccer, archery, baseball, volley ball, modern dancing, swimming.  
 51, 52, 53. Physical Education Activities for Sophomore Majors. (2, 2, 2) Practice in the skills and techniques of soccer, tennis, volley ball, badminton, basketball, folk dancing, tap and clog dancing, swimming, life saving, and modern dance.  
 X 57 to 98. Physical Education Activities. (1, 1, 1) 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; 94, equitation; 95, elementary swimming; 96, intermediate swimming; 97, advanced swimming; 98, diving; 99, life saving.

## Health Education Lecture Courses

4. Health Education. (2) Personal hygiene. McLellan  
 6. Health Education. (2) Community hygiene. Coggeshall  
 8. Health Education. (2) Nutrition. Storvick  
 X10. Health Education. (5) Personal and community hygiene; nutrition. McLellan

## III. PROFESSIONAL COURSES FOR MEN AND WOMEN

101. Methods and Materials in Gymnastics, Stunts, and Tumbling. (3) WOMEN. Pr., or accompanying courses, Anat. 100 and Physiol. 50. Wilson  
 102-103. Problems in Physical and Health Education and Recreation. (1-1) MEN and WOMEN. Relation of problems to professional study. Hutchinson, Foster  
 107. Personal and General Hygiene. (3) MEN. Advanced course designed primarily for professional students in physical education. Pr., 15. Reeves

\* On leave.

† Golf instruction fee (payable to golf club), autumn, spring, \$3; winter, \$1.50.

‡ Bowling fee (payable at bowling alley), \$4.20.

§ Riding instruction fee (payable to riding academy), each quarter, \$17.50.

109. **The School Dance Program.** (2) MEN. 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
110. **First Aid.** (2) MEN and WOMEN. Emergency treatment. Safety measures for the prevention of injuries. Auernheimer, MacLean
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
114. **Advanced First Aid.** (2) MEN and WOMEN. Pr., P.E. 110 or equivalent. MacLean, Auernheimer
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. 100, Physiol. 50. Rulifson
116. **First Aid and Athletic Training.** (3) MEN. May satisfy both the Standard and Advanced American Red Cross First Aid Certification. Pr., Anat. 100, Physiol. 50. Reeves
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., 12 or 62; 13 or 92. de Vries, 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. 100, Physiol. 50.
124. **Activities and Recreational Methods.** (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. Reeves
125. **Administration of Play and Recreation.** (3) MEN and WOMEN. Departmental organization and maintenance. Principles and policies. Pr., 145, 124, 110. Reeves
126. **Observation and Practice Teaching.** (In Recreation) (2-4) MEN and WOMEN. Fifty hours of practice teaching in organized recreation centers. Pr., 125 and six credits in methods courses. For women, 4 credits; for men, 2 credits. Reeves, 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.
128. **Organization and Administration of Camp Programs.** (3) WOMEN. The educational significance of current movements and existing local and national organizations; administrative practices; organization of activities. Pr., 124. McLellan
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., 110. MacLean, Reeves
135. **Adapted Activities.** (3) MEN and WOMEN. Atypical cases from the standpoint of individual needs. Pr., 115, 122, Physiol. 50. Reeves, Kidwell
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. 50 and junior standing. Foster
150. **The School Physical Education Program.** (5 or 2) MEN and WOMEN. Problems of organization and administration. Pr., 158, 161, 163, or 162, 163, 164. For men, 5 credits; for women, 2 credits. Foster, 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, 163, Physiol. 50. Hutchinson
155. **Dance Composition.** (2) WOMEN. Practice in modern dance; analysis of choreography; opportunity for creative work. Pr., 92, 118. de Vries
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., 53 or 92, 118. de Vries
158. **Methods in Teaching Apparatus, Tumbling, and Stunts.** (2) MEN. Pr., 25, 26, and competence in ten additional physical educational activities. Auernheimer
- 159-160. **Dance Production.** (2-2) WOMEN. Costuming, lighting, staging for dance concerts and festival programs. Pr., 92 or 53, 118. de Vries
161. **Methods in Teaching Boxing and Wrestling.** (2) MEN. Pr., 24, 27, and competence in ten additional physical educational activities. Mills
162. **Methods and Materials in Teaching Folk, Tap, and Clog Dancing.** (2) WOMEN. For majors, pr., 52; for minors, no pr. Wilson

163. **Methods and Materials in Teaching Sports.** (2 or 3) MEN and WOMEN. Women majors, 3 credits; pr., 51, 52, 112; men, 2 credits; pr., competence in twelve activities; women minors, 2 credits. Rulifson, MacLean, Reeves
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., 29. McLean
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.
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
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., 20 credits in physical education. Foster

### PHYSICS

*Professors Brakel, Henderson, Loughbridge, Utterback; Associate Professor Uebbing\*;  
Assistant Professors Cady,\* Higgs, Kenworthy\*; Instructor Sanderman.*

Students not in engineering, who do not have a year of high school physics, must elect Physics 4, 5, 6.

- 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 Economic 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, Henderson, Loughbridge
- 101-102. **Introduction to Modern Physics.** (3-3) Pr., 3 or 6. Utterback
- 105-106. **Electricity.** (3-3) Pr., 3 or 6. Brakel
109. **Pyrometry.** To be offered in 1945-1946.
115. **Photography.** (4) The more important processes; application to the sciences and arts. Pr., 54. Higgs
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.
166. **Physical Oceanography.** To be offered in 1945-1946.

\* On leave.

- 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, and calculus. Loughridge  
 195, 196. Experimental Atomic Physics. (3, 3) Pr., 30 credits in physics. Higgs

*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. Henderson, Loughridge  
 204. Thermodynamics. (6) Pr., 40 credits in physics.  
 205. Kinetic Theory. (6) Pr., 40 credits in physics.  
 210. Mathematical Theory of Sound. To be offered in 1945-1946.  
 211. Statistical Mechanics. To be offered in 1945-1946.  
 212. Conduction of Electricity Through Gases. (6) Pr., 40 credits in physics.  
 213, 214. Electricity and Magnetism. (4, 4) Pr., 201.  
 216. X-Rays. (6) Pr., 40 credits in physics.  
 219. Hydrodynamics. To be offered in 1945-1946.  
 220. Advanced Dynamics. To be offered in 1945-1946.  
 221. Collision Theory. (6) Pr., 240.  
 222. The Metallic State. To be offered in 1945-1946.  
 226, 227. Electromagnetic Theory. To be offered in 1945-1946.  
 230, 231. Atomic Structure. To be offered in 1945-1946.  
 239, 240. Wave Mechanics. (4, 4) Pr., 202 or equivalent.  
 241, 242, 243. Relativity. To be offered in 1945-1946.  
 245, 246, 247. Advanced Quantum Mechanics. To be offered in 1945-1946.  
 250, 251, 252. Seminar. (†)  
 256, 257, 258. Research. (†)

**PHYSIOLOGY**

See Animal Biology, page 141.

**POLITICAL SCIENCE**

*Professors Martin, Cole, Levy, Mander; Associate Professors Cook,\* von Brevern; Associates Swygard, Busbnell; Lecturer Williston*

*Elementary Course Primarily for Freshmen*

1. Survey of Political Science. (5) Forms and functions of modern government; political ideas and institutions, American and foreign. Martin, Mander, Cole

*Intermediate Courses Primarily for Sophomores*

51. Principles of Politics. (5) Sovereignty, political obligation, liberty, rights, and other major concepts. Cole  
 52. Introduction to Public Law. (5) Legal construction of political organization; the state and the individual; leading concepts in constitutional, international, and administrative law. Cole  
 54. International Relations. (5) Rise of modern states; alliances, imperialism, the League of Nations; present problems. Mander  
 60. The American Government. (5) Principles of the American governmental system, federal and state; the accommodation of eighteenth-century doctrines and institutions to the needs of our modern continental republic. Martin  
 100. Post-war Planning and Administration, National and International. (5) Mander, Martin, Cole, Swygard

**Group I. Political Theory and Jurisprudence**

111. History of Political Thought. (5) Major concepts from Socrates to the beginning of the nineteenth century. Cole  
 112. American Political Thought. (3) Major thinkers from the Colonial Period to the present. Cole  
 113. Contemporary Political Thought. (5) Changing concepts since the French and Industrial revolutions. Cole

† To be arranged.

\* On leave.

**Group II. International Relations**

121. **Foreign Relations of the United States: Europe.** (3) From the nineteenth century to the present. von Brevern
122. **The Foreign Service.** (3) Department of State; diplomatic and consular services; American diplomatic practice and procedure. Martin
123. **Foreign Relations of the United States: The Caribbean Area.** (3) The Monroe Doctrine; Pan-Americanism; Imperialism. von Brevern
124. **Contemporary World Politics.** (3) Pre-war international organization; collective security and its apparent breakdown; recent developments. Mander
127. **International Organization and Administration.** (5) International unions, conferences, commissions, especially the League of Nations. Mander
128. **Foreign Relations of the United States: South America.** (3) The same criteria as in course 123; the "Good Neighbor" policy; independence of the Americas. von Brevern
129. **International Relations in the Far East.** (5) Relations between China, Japan, Russia, Philippines before 1839; economic and political expansion of Europe in the East and the relations between Eastern powers from 1839 to 1930; the Far East in world politics. Williston
130. **The Middle and Near East.** (5) Egypt, Turkey, Persia, Afghanistan; the mandate for Palestine and Syria; the effect of the present war. Mander
131. **International Practice and Procedure.** (3) Diplomatic protection of citizens abroad; rights and duties of aliens; international claims; modes of redress short of war; regulations of war and neutrality; extradition; international arbitration and judicial procedure. von Brevern
132. **American Foreign Policy in the Far East.** (5) In relation to diplomacy, trade, and internal politics. Williston
133. **Europe Since 1914.** (5) Broad outline of history from World War I to the present. Levy
135. **Colonial Government and Administration.** (3) Government of native peoples; mandates; India and the Philippines. von Brevern
- Law 122. **International Law.** (3) As developed by custom and agreement, and as exhibited in decisions of international tribunals and municipal courts. Martin

**Group III. Politics and Administration**

152. **Political Parties and Elections.** (5) Organization and methods. Swygard
153. **Introduction to Constitutional Law.** (5) Growth and development of the United States Constitution as reflected in decisions of the Supreme Court; political, economic, social effects. Cole
154. **The Public Service.** (5) Government employment in the United States and Great Britain; personnel administration in the United States. Swygard
155. **Introduction to Public Administration.** (5) Including relationship of administration to other agencies of government. Swygard
- Public Finance. See Economics and Business 171.
157. **The Governments of Europe.** (5) In transition; 1918 to the present. Mander
158. **Government and Politics in the Far East.** (5) China, Japan, Manchukuo, Korea, Formosa; colonial administration in Indo-China and the Philippines. Williston
160. **Eastern European Governments.** (3) Constitutional systems; political structure; international relations of Finland, Baltic States, Poland, Hungary, Rumania, Russia, and the Balkan States. von Brevern
161. **Government and Business.** (5) Historical background, constitutional limitations, restraint of trade and manipulation of prices; control of public utilities. Swygard
163. **State Government and Administration.** (5) Structure; functions; procedures; suggested reorganization. Swygard
164. **Public Policy in Governmental Planning.** (3) Historical development; legal basis of national, state, and local planning agencies; general scope of their powers and functions; policy determination; coordination with administrative departments. Swygard
167. **Introduction to Administrative Law.** (5) Creation of authorities, scope of and limitations on their powers, remedies, judicial control. Cole

**Courses for Advanced Undergraduates**

170. **Introduction to Geo-politics.** (3) Natural environment, ethnographic and social factors in the development of states. von Brevern
190. **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. Levy



- 196, 197, 198. **Problems of National Administration in Wartime.** (3, 3, 3) Administrative principles as applied to certain specific national problems especially of wartime activity, such as administrative trends and organization in wartime and in peace; wartime administrative agencies; wartime functions of permanent federal agencies; trends toward legislative centralization and administrative decentralization; impact of national administration on international affairs. Martin, Cole, Swygard

199. **Individual Conference and Research.** (2 to 5) Pr., permission.

*Courses for Graduates Only*

- 201, 202, 203. **Graduate Seminar.** (3, 3, 3) For candidates for higher degrees in political science. Martin
- 211, 212, 213. **Seminar in Political Thought.** (3, 3, 3) Writings of first importance of the masters of political thought. Cole
215. **Methods and Research in Political Science.** (3 to 5) Bibliography of general and special fields.
216. **Concepts of Political Theory: Problems in Authority and Liberty.** (3 to 5)
217. **Concepts of Political Theory: Problems of Equality and Function.** (3 to 5)
- 221, 222. **Seminar in International Organization.** (3 to 5 each quarter) 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) Research in special problems. Martin
256. **Seminar in Government and Public Law.** (3 to 5) Cole
299. **Individual Research.** Martin, Cole
- Seminar in Far Eastern Diplomacy.** See Far Eastern 225, 226.
- Constitutional Law.** See Law 119.
- Administrative Law.** See Law 121.

Not offered in 1944-1945: 61, Municipal Government; 71, Great Personalities: Europe and the Near East; 72, Great Personalities: The Near East and Asia; 101, Introduction to American Constitutional Government; 114, Oriental Political Thought; 115, Problems in Systematic Political Science; 118, Law and State; 119, Jurisprudence; 126, Politics and Military Armament; 134, Power Politics; 150, Pressure Politics; 151, Problems in American Federal Government; 156, Parliamentary Governments in Europe; 159, The British Empire; 162, Municipal Administration; 163, The Legislative Process; 166, Constitutional Law in Europe; 191, Comparative Law; 192, Introduction to Modern Civil Law.

**PSYCHOLOGY**

*Professors Smith, Guthrie, Wilson, Esper; Associate Professor Gundlach\*; Assistant Professors Horton,\* Loucks,\* Hermans.*

1. **General Psychology.** (5) Man's original nature, its alteration by use; the behavior that results. Wilson
2. **Psychology of Adjustment.** (5) Nature and formation of personality. Pr., 1.
21. **Applied Psychology.** (5) Personal efficiency, vocational guidance, scientific management, law, medicine, athletics, business, advertising. Upper-division credit for upper-division students. Pr., 1.
102. **The Neural Basis of Behavior.** (5) Action, emotion, regulatory functions, learning, thinking. Pr., 1, Zool. 1, 2, or 3-4, and permission. Esper
106. **Experimental Psychology.** (5) Pr., 108, 109, and permission. Esper
108. **Essentials of Mental Measurement.** (5) Statistical methods. Pr., 1, Math. 3 or 5, or 31, 32, 33. Guthrie
109. **Advanced Mental Measurement.** (5) Pr., 108. Guthrie
118. **Social Psychology.** (5) Language, custom, public opinion, morals, war, family, caste, nationalism, religion. Pr., 1. Guthrie
124. **Psychology of Learning.** (5) Habit formation. Efficiency in learning, transfer of training, recent experimental findings. Pr., 1. Esper
125. **Space Perception.** (2) Coordination of senses. Pr., 1. Hermans
126. **Psychology of Maladjustment.** (3) Origin and mechanism of behavior that interferes with proper adjustment, physiological pathology; psycho-therapy. Pr., 15 credits in psychology including 2. Smith
131. **Child Psychology.** (5) Individual and social development and their causes, from infancy to adult age. Pr., 1. Smith
133. **Advanced Child Psychology.** (2) Recent research. Pr., 131. Smith

\* On leave.

140. **Conditioning.** (5) Significance for the several fields of psychology. Research techniques. Pr., 10 credits in psychology. Guthrie
- 151, 152, 153. **Undergraduate Research.** (1 to 3) Pr., 106 and permission of department.

*Courses for Graduates Only*

Before a student registers for graduate courses, his topic for research must be approved by the department.

201, 202, 203. **Graduate Research.** (†)

211, 212, 213. **Seminar.** (2, 2, 2)

Not offered in 1944-1945: 111, *History of Psychology*; 112, *Modern Psychological Theory*; 116, *Animal Behavior*; 117, *Superstition and Belief*; 120, *Psychology and the Arts*; 141, *Sensory Basis of Behavior*.

### ROMANIC LANGUAGES AND LITERATURE

*Professors Nostrand, Frein, Garcia-Prada, Goggio, Helmling, Umbrey; Associate Professors Chessex, W. Wilson; Assistant Professors David, Simpson, Whitteley, C. Wilson; Instructor Creore\**

Students with less than one high-school year of preparation will normally enter course 1; with one or one and one-half years of preparation, course 3R; with two years of preparation, course 4 (or 4 and 7 in French, if the preparation is inadequate); with three years, courses 101 and 104; with four years, course 104. After a lapse of two years or more since previous instruction in a language, a student may repeat any one quarter with credit. Any other exception involving credit must be determined by the executive office of the department.

In instances where a foreign language must be taken to satisfy an entrance deficiency of two units, the requirement may be satisfied by taking French 5 (or 4 and 7); Spanish 5; or Italian 18 plus 4 or 6 credits of either 111, 112, 113, or 121, 122, 123.

#### Courses in English Translation

**French 34, 35, 36, and 134, 135, 136.** *Comparative Literature of France, Italy and Spain in English.* (3, 3, 3) Lectures and reading. The course may be counted in either French, Italian, or Spanish, or as elective credit in English major. No prerequisite. May be entered any quarter. Goggio

**Italian 181, 182.** *Dante in English.* (2, 2) *Divine Comedy* against its background of medieval philosophy and art. Goggio

**Italian 184.** *Renaissance Literature of Italy in English.* (2) Goggio

**Spanish 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

Not offered in 1944-1945: French 118, 119, 120, *Survey of French Literature and Culture in English*; Spanish 118, *Survey of Spanish Literature in English*.

#### French

1-2, 3. **Elementary.** (5-5, 5) Pr. for 3 is 2 with a grade of not less than "C." Students receiving "D" in 2 are advised to proceed to 3R.

1-2, 3X. **Elementary.** (5-5, 5) The first two years of college French in one year. For graduates and specially qualified undergraduates. No auditors.

3R. **Grammar Review.** (5) Intensive review of grammar covered in 1-2, and 3. Open to all students who cannot meet the prerequisite for 4. Students having had 3, or presenting two years of high-school French (or equivalent), may not receive credit for 3R unless there has been at least a two-year lapse in their study of French.

4, 5, 6. **Intermediate.** (5) Modern texts, composition, functional grammar. Students in need of supplementary grammar may combine 4 and 7. The same is true of 5 and 8, 6 and 9. Pr., 3 or two high-school years, or equivalent.

7, 8, 9. **Intermediate Grammar (Optional).** (2, 2, 2) Reading and composition with emphasis on functional grammar. Students not well enough prepared to elect 4 alone, but sufficiently advanced to dispense with 3R, should elect coordinated courses 4 and 7.

10. **Conversation.** (2) Pr., 3.

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. Whitteley

41. **Phonetics.** (3) Analysis of sounds, intonation, rhythm; training in correct and natural pronunciation. Principles, applicable in the development of skill and personality generally. Pr., 3 or equivalent. Upper-division students may earn upper-division credit. Nostrand

90, 190. **Supervised Study.** (†)

†To be arranged.

\*On leave.

- 101, 102, 103. *Advanced Composition and Conversation.* (2, 2, 2) Pr., 6 or equivalent.
- 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. Chessex
- 107, 108. *Themes.* (2, 2) Writing of original compositions. Pr., 102 or equivalent.
- 127, 128, 129. *Advanced Conversation.* (2, 2, 2) For majors and others admitted by the instructor. Pr., 101 or equivalent.
- 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. Whittlesey
- 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.* (3, 3, 3) 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. Nostrand
- 158, 159. *Advanced Syntax.* (2, 2, 2) From the teacher's standpoint. Should precede the teachers' course. Pr., 103 or 107 or 108.
- 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 idéologues—d'Holbach, Helvétius, de Tracy. Lectures in French and English. An essay each quarter. Pr., 6 or equivalent. David
- 171, 172, 173. *Seventeenth Century Literature.* (3, 3, 3) 171: the pre-classical period; 172: the classic generation; 173: the late classic period up to 1715. Lectures in French and English. Pr., 6 or equivalent. C. Wilson
- 194, 195, 196. *Naval and Military French.* (3, 3, 3) Vocabulary study, reading, and conversation. Pr., 6 or permission. Whittlesey
- Teachers' Course in French. (See Educ. 75K.)

*Courses for Graduates Only*

- 201, 202, 203. *French Renaissance Literature.* (2, 2, 2) 201: lyric poetry—Villon; rationalism—Commines; Italian influences on art and literature—Antoine de la Salle, Marguerite de Valois, Rabelais; 202: the *Pléiade* and the humanists; 203: philosophical criticism—Montaigne; reformation and counter-reformation—Calvin, d'Aubigné, François de Sales; the theater. Lectures in French, discussions in English. An essay each quarter. Pr., four years of French. David
- 221, 222, 223. *Old French Reading.* (2 or 3 each) 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
- 231, 232, 233. *History of Old French Literature.* (2, 2, 2) Lectures in French. Assigned reading in French, or in English. Pr., four years of French. 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
- 281, 282. *Seminar: Problems and Methods of French Literary History.* (2) Nostrand
- 291, 292, 293. *Conferences for Theses and Special Studies.* (3, 3, 3)
- Not offered in 1944-1945: 121, 122, 123, *French Prose Fiction*; 131, 132, 133, *Lyric Poetry*; 151, 152, 153, *French Literature of the Nineteenth Century*; 213, *French Stylistics*.

*Portuguese*

- 1-2, 3. *Elementary.* (5-5, 5)
- 4, 5, 6. *Intermediate.* (2, 2, 2) Modern texts, composition, functional grammar. Pr., 3 or permission.
- 90, 190. *Supervised Study.* (†)
- 154, 155, 156. *Contemporary Brazilian Literature.* (3, 3, 3) Lectures in English. Pr., 6 or permission. C. Wilson

*Provençal*

234. *Old Provençal.* (3)

Simpson

† To be arranged.

## Italian

- 1-2. Elementary. (5-5) Whitdesey  
 16, 17, 18. Intermediate. (2) Reading, composition, conversation. Pr., 2, 6, or permission.  
 Upper-division credit for upper-division students.  
 90, 190. Supervised Study. (†)  
 111, 112, 113. Modern Italian Literature. (2 or 3) Goggio

*Courses for Graduates Only*

- 251, 252, 253. Individual Conference. (2 to 5 each quarter) Pr., consent of the executive officer.

Not offered in 1944-1945: 4-5-6, Elementary Italian; 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.

## Spanish

- 1-2, 3. Elementary. (5-5, 5)  
 ✕ 3R. Grammar Review. (5) Intensive review of grammar covered by 1-2, 3. Open to students who cannot meet the prerequisite for 4. Those having had 3, or presenting two years of high-school Spanish, or equivalent, may not receive credit for 3R unless there has been at least a two-year lapse in their study of Spanish.  
 4, 5, 6. Intermediate. (3, 3, 3) Modern texts, composition, functional grammar. Pr. to 4 is 3, or two high-school years with at least average standing, or equivalent.  
 6R. Review of Intermediate Spanish. (3) For students in need of a review of grammar before entering those courses for which 6 or equivalent is prerequisite.  
 ✕ 10, 11. Spanish Conversation. (2, 2) Student discussion of items of current interest, systematic vocabulary building. Pr., Spanish 3; for 11, pr., 10 or permission.  
 90, 190. Supervised Study. (†)  
 101, 102. Advanced Composition and Conversation. (3, 3) Pr., 6 or equivalent. Garcia-Prada, W. Wilson  
 103. Spanish Themes. (3) Original compositions. Pr., 102 or equivalent. Garcia-Prada  
 104, 105, 106. Survey of Spanish Literature. (2, 2, 2) From early times to the present. Pr., 6 or equivalent. Umphrey  
 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, Umphrey  
 151, 152, 153. Spanish Literature of the Nineteenth Century. (2, 2, 2) 151: Romantic movement; 152: middle period; 153: contemporary. Pr., 6 or equivalent. W. Wilson  
 158, 159. Advanced Syntax. (2, 2) Elementary principles of philology; application to teaching of Spanish syntax, pronunciation, and orthography. Pr., 102 or equivalent. Umphrey  
 171, 172, 173. Seventeenth Century Literature. (2, 2, 2) Conducted in Spanish. Lope de Vega, Cervantes, Calderon. Pr., 6 or equivalent. W. Wilson  
 183. Spanish-American Literature. (3) General survey, twentieth century. Pr., 6 or equivalent. Umphrey  
 184. Spanish-American Literature. (3) Mexico, Central America, the Caribbean area. Pr., 6 or equivalent. Garcia-Prada  
 185. Spanish-American Literature. (3) Social and cultural life of Colombia and Venezuela. Pr., 6 or equivalent. Garcia-Prada  
 187. Spanish-American Literature. (3) Argentina and Uruguay. Pr., 6 or equivalent. Umphrey  
 194, 195, 196. Naval and Military Spanish. (3, 3, 3) Vocabulary study, reading, and conversation. Pr., 6 or permission. W. Wilson

Teachers' Course in Spanish. (See Education 75Y.)

*Courses for Graduates Only*

201. Spanish Renaissance. (5) Transition from medieval to modern literature. Umphrey  
 221. Old Spanish Literature. (5) Umphrey  
 252, 253. Graduate Spanish Studies. (5, 5)  
 291, 292, 293. Conferences for Theses and Special Studies. (3)

Not offered in 1944-1945: 121, 122, Spanish Prose Fiction; 131, Lyric Poetry; 181, 182, 186, Spanish-American Literature; 231, Epic Poetry; 241, Spanish Historical Grammar.

† To be arranged.

# SCANDINAVIAN LANGUAGES AND LITERATURE

*Professor Vickner; Instructor Arestad*

- 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) Arestad
- 180, 181, 182. Recent Scandinavian Literature in English Translation. (2) Vickner

## Courses for Graduates Only

- 205-206. Scandinavian Literature in the Nineteenth Century. (2 to 4 each quarter) 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

Not offered in 1944-1945: 201-202, Old Icelandic; 208, Scandinavian Lyric Poetry.

## SOCIAL WORK, GRADUATE SCHOOL OF

*Professor Witte\*; Associate Professor Ferguson; Assistant Professors Belzer, Crounse,\* Dorman,\* McCullough, Pritchard; Lecturers Barnett, Futterman, Hoedemaker,\* Orr\*; Field Work Supervisors Jamieson, Laugbrige, Palmer.*

Permission of School of Social Work Required Before Registration

## Non-professional Course

Field of Social Work. (See Sociol. 128.)

## Professional Courses

### 1. Social Treatment

#### A. Family Welfare.

200. Social Case Work I. (3) Basic principles and methods of the case-work process developed through discussion of case material. Professional students only.
201. Social Case Work II. (3) Emphasis is placed on the client-worker relationship, diagnostic and treatment processes. Pr., 200 I or equivalent.
202. Family Case Work. (3) The role of the case worker in family social work agencies. Pr., 200 I, II.
210. Field Work: Family I. (4) Pr., permission; 200 I concurrently.
210. Field Work: Family II. (4 or 5) Pr., 210 I or permission.
210. Field Work: Family III. (4 or 5) Pr., 210 II or permission.

\* On leave.

- 210. Field Work: Family IV. (†) Pr., 210 III or permission.
- 210. Field Work: Family V. (†) Pr., 210 IV or permission.

#### *B. Child Welfare.*

- 211. 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., 201 II or permission.
- 212. Social Case Work with Children. (3) Case work with children in their own homes. Pr., 211.
- 213. The Place of the Institution in the Treatment of Children with Behavior Problems. (2½) Pr., 201, 202.
- 215. Field Work: Child Welfare I. (4 or 5) Pr., permission.
- 215. Field Work: Child Welfare II. (†) Pr., permission.
- 215. Field Work: Child Welfare III. (†) Pr., permission.
- 215. Field Work: Child Welfare IV. (†) Pr., permission.

#### *C. Psychiatric Social Work.*

- 218. Growth and Development of the Individual I. (4) Medical and psychiatric information and knowledge of behavior as basic to social case work. Pr., 200 or permission.
- 219. Growth and Development of the Individual II. (3) Pr., 218 I.
- 220. Psychiatric Case Work. (3) Behavior problems of children and adults. Pr., permission.

#### *D. Probation and Parole Case Work.*

- 230. Field Work: Juvenile Probation and Parole I. (4 or 5) Pr., 200.
- 230. Field Work: Juvenile Probation and Parole II. (4 or 5) Pr., 230 I.
- 230. Field Work: Juvenile Probation and Parole III. (4 or 5) Pr., 230 II.

#### *E. Medical Social Work.*

- 234. Medical Social Work I. (3) Case work in the medical setting. Pr., completion of basic curriculum.
- 235. Medical Social Work II. (3) Organization, administration, and function in institutional and non-institutional settings. Pr., 234 I.
- 239. Seminar in Medical Social Work. (2) History, evolving standards, interrelationships with allied fields, current problems and trends, etc. Pr., 235 II, or permission.
- 240. Field Work: Medical Social Work I. (4 or 5) Pr., 234 I, or permission.
- 240. Field Work: Medical Social Work II. (4 or 5) Pr., 240 I.
- 240. Field Work: Medical Social Work III. (4 or 5) Pr., 240 II.
- 240. Field Work: Medical Social Work IV. (4 or 5) Pr., 240 III.

#### *F. Supervision.*

- 246. Seminar: Supervision in Social Case Work. (2 or 3) Role of supervision in developing worker's insight and skills in dealing with case situations. Pr., permission.
- 247. Field Work: Supervision I. (2 to 5) Pr., permission.
- 247. Field Work: Supervision II. (2 to 5) Pr., 247 I.

### *2. Social Welfare Administration*

- 251. Introduction to Public Welfare. (3) Development of public responsibility for care of dependent, handicapped, and delinquent persons in England and United States. Pr., permission.
- 252. Public Welfare Administration I. (3) Present-day policies, methods, and organization for administering public social services. Pr., 251 or equivalent.
- 253. Public Welfare Administration II. (3) Functions, internal organization, and policies of county welfare units. Pr., 251, 252I or permission.
- 254. Public Welfare Administration in Rural Areas. (3)
- 257. Social Aspects of the Law. (3) As it affects familial relations, child dependency, delinquency, contractual relationships, etc. Pr., permission.
- 260. Administration of Social Agencies. (3) Executive, staff, and board; policy making; budgeting; public relations; committee management. Pr., permission.

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†To be arranged.

- 266. Administration of the Social Insurances. (3) The interrelationship of insurances and public assistance programs, including health insurance. Pr., permission.
- 270. Field Work: Welfare Administration I. (4 or 5) Pr., permission.
- 270. Field Work: Welfare Administration II. (4 or 5) Pr., 270 I or permission.

**3. Group Work**

- 271. Introduction to Social Group Work. (3) Principles and procedures. Pr., permission.

**4. Community Planning and Interpretation**

- 276. Organization of Community Forces for Social Welfare. (3) Pr., permission.
- 280. Field Work: Community Planning and Interpretation I. (4 or 5) Pr., permission.
- 280. Field Work: Community Planning and Interpretation II. (4 or 5) Pr., 280 I or permission.

**5. Social Research**

- 281. Social Work Research and Statistics. (3) Administrative studies in public social services; introduction to the statistical method. Pr., permission.
- 283. Field Work: Social Research I. (4 or 5) Pr., permission.
- 283. Field Work: Social Research II. (4 or 5) Pr., 283 I.
- 288, 289, 290. Thesis Research. ((†, †, †) Pr., permission.
- 291, 293, 294. Seminar. (†, †, †) Pr., permission.

**6. History and Development of Social Work**

- 295. Current Topics in Social Work. (2) Pr., permission.
- 296. Seminar: Historical Backgrounds of Social Work. (3) Selected social welfare movements since the 16th century and their effects on present programs. Pr., permission.
- 297. Seminar in Professional Ethics. (2 or 3) Social work as a profession; its relation to other professions. Pr., permission.
- 298. Readings in Social Work. (†) Current literature. Pr., permission.

**SOCIOLOGY**

*Professors Steiner, Hayner, Schmid, Woolston; Assistant Professor Cohen\*; Instructors Cheng, O'Brien; Associate Bartlett.*

- 1. Survey of Sociology. (5) Upper-division students advised to register for 150. Cheng in charge.
- 27. Survey of Contemporary Social Problems. (5) Suicide, crime, population, unemployment, mental deficiency, mental diseases, family disorganization, etc. Pr., 1. Schmid
- 55. Human Ecology. (5) Factors and forces which determine the distribution of people and institutions. Pr., 1. Steiner
- 66. Group Behavior. (5) Conditioning factors and collective response in typical social groups. Pr., 5 credits sociology and 5 credits psychology. Woolston
- 102. Social Trends. (3) Pr., 1.
- 112. The Family. (5) The changing home; family and marriage customs, family interaction and organization; domestic discord. Pr., 1. Hayner
- 128. Field of Social Work. (3) Historical background and development; present scope, aims, methods; problems and agencies; field trips. Pr., 1.
- 131. Social Statistics. (5) Quantitative analysis applied to sociological materials. Not open to those who have had 31. Pr., 1, Math. 13.
- 132. Methods of Social Research. (5) Investigation of communities, institutions, social conditions. Field and lab. work. Pr., 31, 131, or approved equivalent. Schmid
- 135. Graphic Methods in Sociology. (3) Pr., 131 or approved equivalent. Schmid
- 141. Human Migration. (3) Determining factors and problems arising therefrom. Pr., 5 credits in sociology or economics. Steiner
- 142. Race Relations. (3) Special attention to race contacts on the Pacific Rim. Pr., 5 credits in sociology or economics. Steiner
- 152. Social Control. (5) Methods of changing individual and collective actions. Pr., 1.
- 153. Problems of Social Insecurity. (3) Historical trends; standards by which poverty is measured; attitudes and social currents which it engenders. Pr., 1.
- 155. Human Ecology. (5) Same as 55, with additional work and readings. Pr., 1, junior standing. Steiner

† To be arranged.

\* On leave.

156. **Criminology.** (5) Individual and social factors in delinquency; history and methods of criminal justice. Field trips to local penal institutions. Pr., 1. Hayner
159. **Juvenile Delinquency.** (5) Family and community backgrounds; institutional treatment; juvenile court and probation; programs for prevention. Pr., 1, 156. Hayner
165. **The City.** (5) Organization and activities of urban groups. Pr., 20 credits in social sciences. Woolston
166. **Social Factors in Marriage.** (3) Marital problems and their adjustment. Pr., 1, 112. Hayner
168. **National Traits.** (5) Traditional differences between peoples. Historic backgrounds and prejudice. Assimilation and amalgamation in America. Pr., 5 credits in psychology and 20 credits in other social sciences. Woolston
169. **Western Civilization.** (5) Institutional and cultural patterns. Pr., 20 credits in social sciences. Woolston
176. **Rural Community Organization.** (3 to 5) Methods and problems. Pr., senior standing and 10 credits in sociology. Steiner
190. **Social Attitudes.** (3) Their development and manifestations. Prerequisites, 5 credits psychology and 20 credits in other social sciences. Upper-division students may substitute for 66 with consent of instructor. Woolston

*Courses for Graduates Only*

- 210, 211, 212. **Departmental Seminar.** (2, 2, 2) Pr., permission.
240. **Demography.** (3) Population and vital statistics. Pr., 25 credits in social sciences. Schmid
242. **World Survey of Race Relations.** (3) Pr., 25 credits in social sciences. Steiner
247. **Social Criticism.** (3) Pr., 25 credits in social sciences.
255. **Advanced Human Ecology.** (3) Ecological conceptions and processes. Pr., 155, and 20 credits in social sciences. Steiner
256. **Probation and Parole.** (3) Pr., 156 and 25 credits in social sciences.
257. **Correctional Institutions.** (3) Pr., 156 and 25 credits in social sciences.
258. **Basic Crime Prevention.** (3) Pr., 156 and 25 credits in social sciences.
- 281, 282, 283. **Reading in Selected Fields.** (†) Pr., permission.
- 291, 292, 293. **Field Studies in Sociology.** (2 to 5 each) Pr., permission.

Not offered in 1944-1945: 116, Housing the Family; 134, Advanced Social Statistics; 140, Population Problems; 146, Cooperation; 150, General Sociology; 160, Penology; 170, Contemporary Social Theory; 173, Social Classes; 194, Public Opinion; 202, Schools of Sociological Theory; 203, 204, 205, Social Reforms; 220, Population Redistribution; 222, Oriental Migration; 223, Social Change in Modern Japan; 235, Methodology: Quantitative Sociology; 236, Methodology: Case Studies and Interviews; 248, 249, Social Criticism; 260, Marriage and the Family: Other Cultures; 261, 262, Marriage and the Family: United States.

**SPEECH**

*Professor Orr; Associate Professors Rahskopf, Franzke, Carrell; Assistant Professor Bird\*; Instructors Pellegrini, Balsler,\* Redding, McCrery, Stevenson; Associates Pence,\* Kuisley, Brown, Hasselman, Smid.*

- 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, Brown
19. **English Phonetics for Foreign Students.** (2) Carrell
38. **Essentials of Argumentation.** (5) Bibliographies, briefs, and oral arguments. Upper division credit for upper division students. Pellegrini
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.** (4) Removal of voice faults and development of voice modulations. Upper division credit for upper division students. Orr, Rahskopf, McCrery
44. **Voice and Articulation.** (4) 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
79. **Oral Interpretation.** (3) Techniques of analysis of, and reading aloud printed material, both prose and poetry. Required of students seeking a secondary certificate in English. Orr, Pellegrini, Stevenson
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

\* On leave.

† To be arranged.



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) Pellegrini
  141. **Advanced Public Address and Forum Leadership.** (3) Pr., permission. Franzke
  161. **Radio Speech.** (3) Announcer's copy, talks, dialogue, interviews, group discussion, etc. Pr., 40, 43, and 79. Stevenson
  162. **Radio Production Methods.** (3) Sound effects, music in broadcasts, microphone placement, studio set-up, timing, cutting of scripts. Pr., 40, 43, 79. Stevenson
  163. **Radio Program Building.** (3) Adaptation of literary, informational, and persuasive material for radio. Pr., 40, 43, and 79. Stevenson
  179. **Advanced Oral Interpretation of Literature.** (5) Pr., 79. 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. Speech Rahskopf
  187. **Voice Science.** (5) Anatomy, physiology, physics, psychology of voice production. Pr., 43 or permission. Carrell
  188. **Advanced Problems in Speaking.** (5) Audience analysis, thought organization, and delivery. Orr
  190. **Speech Correction.** (5) Nature, etiology, diagnosis of disorders of speech. Carrell
  191. **Methods of Speech Correction.** (3) Carrell
  - 193, 195, 196. **Clinical Training in Speech Correction.** (2-5 each quarter) 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.
- 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.** (†)

Not offered in 1944-1945: 50, Elementary Lip-Reading; 51, Advanced Problems in Lip-Reading; 138, Methods in Debate and Public Discussion.

**THE WORLD AT WAR**

- W.W. 1, 101. **The World at War.** (5) The background; the ideological conflict; strategy; economics and war; planning for peace. Elective credit in all colleges, schools, and departments of the University. Upper-division students must register for upper-division credit and consult with an instructor for special work. Staff
- W.W. 2, 102. **The World After the War.** (5) Factual information on the consequence of the war, from the standpoint of ideologies, economics, technological developments, social relations, and world order. Upper-division students must register for upper-division credit and consult with instructor for special work. Wiliston and Staff

**ZOOLOGY**

See Animal Biology, page 141.

† To be arranged.

**UNIVERSITY OF WASHINGTON**  
**DEGREES, DIPLOMAS AND CERTIFICATES GRANTED**

**1942-1943**

**Bachelor's Degrees**

Bachelor of Arts (College of Arts and Sciences)	480
Bachelor of Arts (College of Education)	16
Bachelor of Arts in Economics and Business	179
Bachelor of Arts in Education	8
Bachelor of Arts in Home Economics	2
Bachelor of Arts in Librarianship	10
Bachelor of Arts in Mathematics	2
Bachelor of Arts in Music	16
Bachelor of Architecture	16
Bachelor of Fine Arts	1
Bachelor of Laws	21
Bachelor of Science (College of Arts and Sciences)	166
Bachelor of Science (College of Education)	4
Bachelor of Science in Aeronautical Engineering	21
Bachelor of Science in Bacteriology	4
Bachelor of Science in Ceramic Engineering	2
Bachelor of Science in Chemical Engineering	35
Bachelor of Science in Chemistry	16
Bachelor of Science in Civil Engineering	34
Bachelor of Science in Civil Engineering and Naval Science	2
Bachelor of Science in Commercial Engineering	18
Bachelor of Science in Electrical Engineering	28
Bachelor of Science in Fisheries	4
Bachelor of Science in Food Technology	3
Bachelor of Science in Forestry	27
Bachelor of Science in Geology	1
Bachelor of Science in Home Economics	15
Bachelor of Science in Law	6
Bachelor of Science in Mathematics	4
Bachelor of Science in Mechanical Engineering	30
Bachelor of Science in Metallurgical Engineering	4
Bachelor of Science in Mining Engineering	6
Bachelor of Science in Nursing	60
Bachelor of Science in Pharmacy	24
Bachelor of Science in Zoology	2
<b>Total</b>	<b>1267</b>

**1942-1943**

**UNIVERSITY OF WASHINGTON**  
**ADVANCED AND PROFESSIONAL DEGREES**

Master of Arts	51
Master of Arts in Home Economics	1
Master of Arts in Music	1
Master of Business Administration	4
Master of Education	1
Master of Fine Arts	1
Master of Forestry	1
Master of Music	4
Master of Nursing	2
Master of Science	10
Master of Science in Ceramic Engineering	1
Master of Science in Chemical Engineering	6
Master of Science in Physical Education	3
Master of Social Work	2
Professional Degree, Engineer of Mines	2
Doctor of Philosophy	22
<b>Total</b>	<b>112</b>

**DIPLOMAS AND CERTIFICATES**

Certificate in Nursing Supervision	15
Certificate in Public Health Nursing	28
University Three-Year Secondary Certificates	122
University Six-Year Secondary Certificates	85
<b>Total</b>	<b>250</b>

**UNIVERSITY OF WASHINGTON**  
**SUMMARY OF ENROLLMENT 1942-1943**

**I. By Schools and Colleges**

SCHOOLS AND COLLEGES	SUMMER QUARTER			AUTUMN QUARTER	WINTER QUARTER	SPRING QUARTER	TOTAL INDIVID. ACAD. YR.
	1st Term	2nd Term	Entire Summer				
	1	2	3	4	5	6	7
Arts and Sciences....	1653	1511	1719	4911	4416	3470	5687
Men.....	695	666	713	2254	1870	1125	2529
Women.....	958	845	1006	2657	2546	2345	3158
Econ. and Business...	256	247	257	898	764	469	964
Men.....	231	225	231	739	619	328	780
Women.....	25	22	26	159	145	141	184
Education.....	157	116	179	55	43	42	67
Men.....	29	23	30	22	17	10	25
Women.....	128	83	149	33	26	32	42
Engineering.....	278	233	279	1222	1047	679	1333
Men.....	278	233	279	1214	1042	672	1324
Women.....	..	..	..	8	5	7	9
Forestry.....	9	8	9	96	72	32	104
Men.....	9	8	9	96	72	32	104
Women.....	..	..	..	..	..	..	..
Graduate School...	721	583	763	453	414	384	610
Men.....	294	260	305	236	218	193	307
Women.....	427	323	458	217	196	191	303
Law.....	21	20	21	45	41	35	47
Men.....	18	17	18	38	32	27	39
Women.....	3	3	3	7	9	8	8
Mines.....	12	9	12	36	30	20	38
Men.....	12	9	12	35	29	19	37
Women.....	..	..	..	1	1	1	1
Pharmacy.....	26	27	27	145	133	97	152
Men.....	20	21	21	102	88	57	106
Women.....	6	6	6	43	45	40	46
TOTALS.....	3133	2744	3266	7861	6960	5228	9002
Men.....	1586	1462	1618	4736	3987	2463	5251
Women.....	1547	1282	1648	3125	2973	2765	3751

NOTE: The number of individuals in Column 7 is based upon the classification of the Autumn Quarter to which is added the 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.

**UNIVERSITY OF WASHINGTON**  
**SUMMARY OF ENROLLMENT 1942-1943**

**II. By Classes**

CLASSES	SUMMER QUARTER			AUTUMN QUARTER	WINTER QUARTER	SPRING QUARTER	TOTAL INDIVID. ACAD. YR.
	1st Term	2nd Term	Total Individuals				
	1	2	3	4	5	6	7
Freshmen.....	435	402	441	3105	2488	1761	3651
Men.....	295	266	298	2008	1504	846	2307
Women.....	140	136	143	1097	984	915	1344
Sophomores.....	397	378	408	1740	1525	1115	1887
Men.....	255	244	262	1032	832	495	1081
Women.....	142	134	146	708	693	620	806
Juniors.....	477	442	492	1265	1267	886	1395
Men.....	281	264	284	762	766	388	812
Women.....	196	178	208	503	501	498	583
Seniors.....	652	608	676	1241	1202	1038	1338
Men.....	326	307	330	683	657	525	717
Women.....	326	301	346	558	545	513	621
Graduates.....	721	583	763	453	414	384	610
Men.....	294	260	305	236	218	193	307
Women.....	427	323	458	217	196	191	303
Specials.....	39	33	39	57	64	44	121
Men.....	10	10	10	15	10	16	27
Women.....	29	23	29	42	54	28	94
Transients.....	412	298	447	..	..	..	..
Men.....	125	111	129	..	..	..	..
Women.....	287	187	318	..	..	..	..
TOTALS.....	3133	2744	3266	7861	6960	5228	9002
Men.....	1586	1462	1618	4736	3987	2463	5251
Women.....	1547	1282	1648	3125	2973	2765	3751

NOTE: The number of individuals in Column 7 is based upon the classification of the Autumn Quarter to which is added the 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.

**TOTAL STUDENTS IN RESIDENCE**

During regular academic year..... 9,002  
During summer quarter..... 3,266  
TOTAL.....12,268  
Deduct summer duplicates..... 895  
Men.....595  
Women.....300  
Individuals (Academic year and summer) 11,373

**EXTENSION STUDENTS**

Classes.....1,506  
Men.....501  
Women.....1,005  
Home Study.....1,442  
Men.....1,037  
Women.....405  
TOTAL.....2,948

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