

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. Since the University will return to the quarter system at the earliest possible moment, the catalogue has not been rewritten in terms of the semester system. For the convenience of Registrars and other interested persons, a supplement which will make possible a comparison of quarter and semester courses is provided at the end of this catalogue.

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 semester beginning July 2 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 131 to 181 the courses which are regularly offered at the University are listed and described. The *quarter* credit is given unless otherwise indicated.

Supplement. A list of the courses offered in 1944-45, with *semester* numbers, titles, and credits appears in the Supplement at the end of this catalogue. For exact information as to semester courses to be offered in 1944-46, the Time Schedule (available about October 1, 1945) must be consulted.

Registration. The student will register for a given semester from the Time and Room Assignments Schedule (available at the adviser's office at the time of registration), which will give course numbers, class hours, and credits on the *semester* basis.

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 present or future students. Consult the calendar, page 6, for fee payment dates; page 50 regarding late registration fines.

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

(For fees not listed here, see pages 47-51. Such fees as are stated quarterly basis, if applicable to the semester system, will be increased approximately on a prorata basis.)

Resident Students¹

Type 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 Students²

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	3.75
Auditors.....	18.00	....	....	*	*	18.00	8.00
Ex-service Men or Women of World War I.....	37.50	18.75	....	6.00	3.00	62.25	9.25
Part time (max. 6 cr. hrs. exclusive of R.O.T.C.).....	75.00	3.75	....	*	*	78.75	1.75
Nursery School**.....	75.00	3.75	....	....	....	....	..

¹ 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 army, 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.

² 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 5-June 23—\$37.50 for 3 hr. per day attendance; \$52.50 for 6 hr. per day attendance.

July 2-August 24—\$20 for 3 hr. per day attendance; \$27.50 for 6 hr. per day attendance.

September 17-October 31—\$17.50 for 3 hr. per day attendance; \$24 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

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UNIVERSITY OF WASHINGTON CALENDAR—1945-1946

SUMMER SESSION A, 1945

Registration dates.....June 11 to June 30, 12 m.
All fees must be paid at time of registration
Instruction begins.....Monday, July 2, 8 a.m.
Last day to register with late fee and add a course.....Wednesday, July 4, 4:30 p.m.
Last day to withdraw and receive a "W" without grade.....Saturday, July 28, 12 m.
Instruction ends.....Friday, August 24, 6 p.m.

SUMMER SESSION B, 1945

Registration dates:
Navy V-12 enrollees.....June 6 to June 23, 12 m.
Civilians.....June 11 to June 30, 12 m.
Civilians must pay fees at time of registration
Instruction begins.....Monday, July 2, 8 a.m.
Last day to register with late fee and add a course (civilian).....Saturday, July 7, 12 m.
Last day to withdraw and receive a "W" without grade (civilian).....Saturday, August 25, 12 m.
Instruction ends.....Saturday, October 20, 6 p.m.

FIRST SEMESTER, 1945-1946

Registration dates:
Navy V-12 enrollees.....October 8 to October 20, 12 m.
Civilians.....October 11 to October 31, 4:30 p.m.
Civilians must pay fees at time of registration
Special instruction for new freshmen.....
Begins Tuesday, October 30, 9 a.m.; ends Wednesday, October 31
Instruction begins.....Thursday, November 1, 8 a.m.
Last day to register with late fee and add a course (civilian).....Wednesday, November 7, 4:30 p.m.
The President's Convocation.....Friday, November 9, 11 a.m.
Armistice and Admission Day (civilian holiday).....Monday, November 12
Last day to withdraw and receive a "W" without grade (civilian).....Saturday, December 22, 12 m.
Christmas recess begins.....Saturday, December 22, 6 p.m.
Christmas recess ends.....Monday, December 31, 8 a.m.
President's Reception to the parents of new freshmen.....Wednesday, January 9, 7:30 p.m.
Instruction ends.....Saturday, February 23, 6 p.m.

SECOND SEMESTER, 1945-1946

Registration dates:
Navy V-12 enrollees.....January 28 to February 23, 12 m.
Civilians.....January 31 to March 2, 12 m.
Civilians must pay fees at time of registration
Instruction begins.....Monday, March 4, 8 a.m.
Last day to register with late fee and add a course (civilian).....Saturday, March 9, 12 m.
Last day to withdraw and receive a "W" without grade (civilian).....Saturday, April 27, 12 m.
Honors Convocation.....Wednesday, May 15, 10 a.m.
Baccalaureate Sunday.....Sunday, June 16
Commencement.....Saturday, June 22
Instruction ends.....Saturday, June 22, 6 p.m.

HOSPITAL DIVISION OF THE SCHOOL OF NURSING EDUCATION

Summer Quarter, 1945

Instruction begins.....Monday, June 11
Instruction ends.....Friday, August 24

Autumn Quarter, 1945

Instruction begins.....Monday, September 24
Instruction ends.....Friday, December 7

Winter Quarter, 1946

Instruction begins.....Monday, December 31
Instruction ends.....Friday, March 15

Spring Quarter, 1946

Instruction begins.....Monday, March 25
Instruction ends.....Friday, June 7

LAW SCHOOL

Summer Quarter, 1945

Registration dates.....June 13 to June 23, 12 m.
All fees must be paid at time of registration

Instruction begins.....Monday, June 25, 8 a.m.
Instruction ends.....Friday, September 7, 6 p.m.

Autumn Quarter, 1945

Registration dates.....September 19 to September 29, 12 m.
All fees must be paid at time of registration

Instruction begins.....Monday, October 1, 8 a.m.
Instruction ends.....Friday, December 21, 6 p.m.

Winter Quarter, 1946

Registration dates.....December 19 to December 31, 4:30 p.m.
All fees must be paid at time of registration

Instruction begins.....Wednesday, January 2, 8 a.m.
Instruction ends.....Thursday, March 21, 6 p.m.

Spring Quarter, 1946

Registration dates.....March 18 to March 30, 12 m.
All fees must be paid at time of registration

Instruction begins.....Monday, April 1, 8 a.m.
Instruction ends.....Friday, June 14, 6 p.m.

SCHEDULE OF UNIVERSITY SENATE AND EXECUTIVE COMMITTEE MEETINGS FOR THE YEAR 1945-1946

Summer Session B, 1945

Executive Committee.....Tuesday, August 21

First Semester, 1945-1946

Senate (Election of Executive Committee).....Thursday, November 8

Executive Committee.....Tuesday, November 20

Senate.....Thursday, December 6

Executive Committee.....Tuesday, January 15

Senate.....Thursday, January 24

Second Semester, 1945-1946

Executive Committee.....Tuesday, April 2

(Senate elections begin April 8)

Senate.....Thursday, April 11

Executive Committee.....Tuesday, May 14

Senate.....Thursday, May 23

Executive Committee.....Tuesday, June 11

BOARD OF REGENTS

1944 - 1945

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Term ends March, 1947	
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Term ends March, 1950	
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VICE-PRESIDENT.....	Mrs. Russell S. Callow, B.A., 1914
VICE-PRESIDENT.....	Herbert Fovargue, 1931
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	Kirry, Agnes, " " " "
	Liddick, Dorothy, " " " "
FAMILY SOCIETY OF TACOMA	Hanson, Muriel, " " " "
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	Ballard, Zella, " " " "
	Standard, Ellen Mae, " " " "
KING COUNTY JUVENILE COURT	Erickson, Carl, " " " "
KING COUNTY WELFARE DEPT.	Hegland, Leonard L., " " " "
	Macdonald, Catherine, " " " "
	Stevenson, Frances, " " " "
PIERCE COUNTY WELFARE DEPARTMENT	Crawley, Charlotte, " " " "
RYTHER CHILD CENTER	Burns, Lillian, " " " "
	Germain, Marie, " " " "
WASH. CHILDREN'S HOME SOCIETY	Weinzirl, Elizabeth, " " " "

OFFICE OF THE REGISTRAR

TONER, ETHELYN, B.A.	Acting Registrar
WILLARD, FRANCES, B.A.	Admissions
BRUGGER, MINNIE KRAUS, B.A.	Graduation
SAUNDERS, VIRGINIA, B.A.	Recording
PAPE, EVA GENE	Registration
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.)	Curator of Biology
IVEY, MARGARET	Exhibit Clerk

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
KRUPSKI, EDWARD, B.S., M.S.	Assistant State Chemist

* On leave.

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
WIMMLER, NORMAN L., B.S. in Min.E., E.M., A.E.M.....	Mining Engineer
SKINNER, KENNETH G., M.S. in Cer.E.....	Chemical Engineer
GEER, M. R., M.S. in Min.E.....	Mining Engineer
ZANE, R. E., M.S. in Met.E.....	Chemical Engineer
*DAVIES, BEN, M.S. in Cer.E.....	Engineer
FATZINGER, ROBERT W., M.S. in Min.E.....	Metallurgical Engineer
KELLY, HAL J., B.S. in Min.E.....	Metallurgical Engineer
CRUMMET, DUANE O.....	Chemist
CRAWFORD, CLYDE L., B.S.....	Chemist
KEATING, HENRY T.....	Principal Clerk
STRONG, WILLIE V.....	Clerk-Stenographer
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

BUREAU OF BUSINESS RESEARCH, COLLEGE OF ECONOMICS AND BUSINESS

ENGLE, NATHANAEL H., A.B., M.A., Ph.D.....	Director
BURD, HENRY A., B.S., M.A., Ph.D.....	Chairman, Advisory Committee
BUTTERBAUGH, GRANT I., A.B., M.B.A., Ph.D.....	Advisory Committee
GREGORY, HOMER E., A.B., M.A.....	Advisory Committee
PRESTON, HOWARD H., B.S., M.A., Ph.D., LL.D.....	Advisory Committee
BLACKBURN, MRS. A. K.....	Research Librarian
HERRING, JOHN P., Ph.D.....	Statistician

BOARDS AND COMMITTEES† 1944 - 1945

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.

Board on Veterans' Problems—Chairman, Burd; A. V. Eastman, Steiner; Registrar, secretary.

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

Traffic Judge—J. Grattan O'Bryan.

Executive Committee of University Senate

J. B. Demmery, E. O. Eastwood, D. D. Griffith, C. E. Quainton, C. Utterback, C. P. Wood; Registrar, secretary.

Committees of the Faculty, 1944-1945

Adult Education—Chairman, Vail; Burd, Guthrie, Lauer, McMinn, Mander, Powers, Schram, Tartar; Director of the Extension Service, ex officio.

Athletics—Chairman, Nottelmann; Corbally, Griffith, Lauer, D. H. Mackenzie, May, Wilcox; Manager of Athletics, ex officio.

Budget—Chairman, W. E. Cox; Carpenter, D. H. Mackenzie, Tymstra, Wood; Comptroller, ex officio.

Building Needs—Chairman, McMinn; Carlson, Goodspeed, Isaacs, Lawrence, H. M. Martin, Olschewsky, Van Horn; 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.

Graduation—Chairman, Grondal; Coombs, O. E. Draper, A. V. Eastman, Munro, Ray, Clotilde Wilson; Registrar, ex officio.

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

Library—Chairman, C. W. Smith; Benham, Gallagher, Guthrie, Hayner, Marekworth, Preston, Rising, Thomson, C. T. Williams, Winslow.

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

* On leave.

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

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

Public Lectures and Concerts—Chairman, Harrison; Gunther, Hutchinson, Isaacs, McKay, Mander, Nostrand, Quainton, Savage, Savery, Wood; Director of Student Affairs, ex officio.

Public Relations—Chairman, Burd; H. K. Benson, T. R. Cole, Everest, C. E. Martin; Comptroller, ex officio; Director, University News Service, ex officio; Secretary, Alumni Association, ex officio.

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

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

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

Rules—Chairman, Falknor; Hennes, Lorig, Stirling, Thomson, Weiser; Registrar, ex officio; University Editor, ex officio.

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

Student Campus Organizations—Chairman, A. L. Miller; E. H. Adams, Bash, Hansberry, Schaller, F. G. Smith, Zillman.

Student Discipline—Chairman, Schmid; Edna Benson, Stephen Brown, K. C. Cole, Edwards, Ray, Reeves, Wilcox.

Student Welfare—Chairman, Marckworth; Carrell, Edgar Draper, Engel, Garfield, Hansberry, Newhouse, Walters, Ruth Wilson; Registrar, ex officio.

Tenure and Academic Freedom—Chairman, Steiner; H. K. Benson, Falknor, Goodspeed, Mund, Pearce, Rowntree, C. T. Williams, G. S. Wilson, Winther.

Graduate School Committees

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

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

UNIVERSITY SENATE FOR 1944-1945

A. Humanities

- I. **LETTERS.** *Terms expire spring, 1947:* Brents Stirling, *English*; David Thomson, *Classics*; William C. E. Wilson, *Romanic Languages*. *Terms expire spring, 1946:* Dudley D. Griffith, *English*; Horace G. Rahskopf, *Speech*; William M. Read, *Classics*; Lawrence Zillman, *English*. *Terms expire spring, 1945:* Harvey B. Densmore, *Classics*; E. H. Eby, *English*; Joseph B. Harrison, *English*; Curtis C. D. Vail, *German*.
- II. **ART.** *Term expires spring, 1947:* George F. McKay, *Music*. *Terms expire spring, 1946:* Edna Benson, *Art*; Kathleen Munro, *Music*. *Terms expire spring, 1945:* Walter F. Isaacs, *Art*; Carl P. Wood, *Music*.

B. Science

- III. **GENERAL.** *Terms expire spring, 1947:* George Goodspeed, *Geology*; Rex Robinson, *Chemistry*. *Terms expire spring, 1946:* C. Leo Hitchcock, *Botany*; Herman V. Tartar, *Chemistry*. *Terms expire spring, 1945:* Roy Winger, *Mathematics*; Clinton Utterback, *Physics*.
- IV. **TECHNOLOGY.** *Terms expire spring, 1947:* Fred S. Eastman, *Aero. Engr.*; Bryan T. McMinn, *Mech. Engr.*; Gordon Shuck, *Elect. Engr.*. *Terms expire spring, 1946:* Eric Barr, *Naval Science*; Austin V. Eastman, *Elect. Engr.*; Robert G. Hennes, *Civil Engr.*; Elgin R. Wilcox, *General Engr.*. *Terms expire spring, 1945:* Joseph Daniels, *Mines*; Everett O. Eastwood, *Mech. Engr.*; L. Wait Rising, *Pharmacy*; Robert B. Van Horn, *Hyd. Engr.*

C. Social Studies

- V. **GENERAL.** *Term expires spring, 1947:* Verne Ray, *Anthropology*. *Terms expire spring, 1946:* Linden A. Mander, *Pol. Sci.*; Melville Jacobs, *Anthropology*; Everett Nelson, *Philosophy*. *Terms expire spring, 1945:* Charles Martin, *Pol. Sci.*; C. Eden Quainton, *History*.
- VI. **APPLIED.** *Terms expire spring, 1947:* Henry M. Foster, *Physical Education for Men*; Donald Mackenzie, *E. & B.*; Rudolph Nottelmann, *Law*. *Terms expire spring, 1946:* Arthur Lorig, *E. & B.*; John E. Corbally, *Education*; Joseph Demmery, *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*.

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
COHEN, JOSEPH, 1932 (1941).....	Assistant Professor of Sociology
COREY, C. R., 1907 (1929).....	Associate Professor of Mining Engineering and Metallurgy
CORNU, DONALD, 1928 (1943).....	Associate Professor of English
COSTIGAN, GIOVANNI, 1934 (1942).....	Associate Professor of History
CRAIN, RICHARD W., 1936.....	Instructor in Mechanical Engineering
CRAMLET, CLYDE M., 1920 (1934).....	Associate Professor of Mathematics
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.....	Assistant Professor of Social Work; Supervisor of Field Work, Graduate School of Social Work
DILLE, JAMES M., 1936 (1941).....	Professor of Pharmacology
DORMAN, HELEN THOMPSON, 1933 (1942).....	Assistant Professor of Social Work; Supervisor of Field Work, Graduate School of Social Work
DVORAK, AUGUST, 1923 (1937).....	Professor of Educational Research and Statistics
ETHEL, GARLAND, 1927.....	Instructor in English
FARQUHARSON, F. B., 1925 (1940).....	Professor of Civil Engineering
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
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
HERMANS, THOMAS G., 1929 (1940).....	Assistant Professor of Psychology
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
KIRSTEN, FREDERICK K., 1915 (1923).....	Professor of Aeronautical Engineering
KUNDE, NORMAN FREDERICH, 1930 (1937).....	Assistant Professor of Physical Education
LEAHY, KATHLEEN M., 1927 (1943).....	Associate Professor of Nursing Education; Director of Public Health Nursing Field Work
LOCKLING, WILLIAM BRUCE, 1939.....	Assistant Professor of Economics
LOUCKS, ROGER B., 1936 (1939).....	Assistant Professor of Psychology
LOUGHBRIDGE, DONALD H., 1931 (1942).....	Professor of Physics
McDUFFEE, ALICE ELLA, 1941.....	Instructor in Nursing Education
McGOWND, JANE, 1924 (1928).....	Assistant Professor of Physical Education
McKENZIE, VERNON, 1928.....	Professor of Journalism
MACKIN, J. HOOVER 1934 (1940).....	Associate Professor of Geology
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

NORRIS, ALBERT R., 1940 (1941).....Instructor in Anatomy
NOSTRAND, HOWARD L., 1939.....Professor of Romanic Languages;
Executive Officer of the Department of Romanic Languages
NYGREEN, GLEN T., 1942 (1943).....Instructor in Physics; Counselor for Men
PEEK, CLIFFORD, 1938.....Assistant Professor of Physical Education
PENCE, ORVILLE LEON, 1941.....Associate in Speech
PENINGTON, RUTH, 1928 (1943).....Associate Professor of Design
PRATT, DUDLEY, 1925 (1941).....Associate Professor of Sculpture
RADER, MELVIN MILLER, 1930 (1944).....Associate Professor of Philosophy
RICHARDS, JOHN W., 1931 (1937).....Professor of Law
ROMAN, HERSCHEL, 1942.....Assistant Professor of 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
WILSON, WILLIAM R., 1919 (1929).....Professor of Psychology
WITTE, ERNEST F., 1939.....Professor 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

1945-1946†

LEE PAUL SIEG, 1934.....	President of the University B.S., 1900, M.S., 1901, Ph.D., 1910, Iowa; LL.D., 1934, Pittsburgh; 1941, Iowa
ADAMS, EDWIN HUBBARD, 1939 (1942).....	Instructor in English B.A., 1927, M.A., 1931, Washington State
AHNQUIST, GERHARD, M.D., 1942.....	Lecturer in Nursing Education B.S., 1926, Washington State; M.D., 1933, New York University
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.....	Instructor in Pharmaceutical Chemistry B.S., 1938, M.S., 1940, Washington
ASHE, EUGENE G., Corporal, U.S.M.C., 1944.....	Associate in Naval Science and Tactics
ASTEL, GEORGE B., 1943.....	Assistant Professor of Journalism B.A., 1923, Washington
AUERNHEIMER, AUGUST A., 1928 (1937).....	Assistant Professor of Physical Education B.P.E., Normal College; M.A., 1932, Columbia
AUSTIN, H. C., C.B.M., U.S.N., 1944.....	Instructor in Naval Science and Tactics
AYER, LESLIE JAMES, 1916.....	Professor of Law B.S., 1899, Upper Iowa; J.D., 1906, Chicago
BAILEY, ALAN JAMES, 1939 (1942).....	Associate Professor of Lignin and Cellulose Research B.S.F., 1933, M.S.F., 1934, Ph.D., 1936, Washington
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.S., 1932, Washington
BANGS, NAN, 1944.....	Acting Associate in Art B.A., 1937, State Teachers College, Wayne, Nebraska
BARNABY, JOSEPH THOMAS, 1934.....	Lecturer in Fisheries B.S., 1929, Washington; M.S., 1932, Stanford
BARNETT, ARTHUR GORDON, 1944.....	Lecturer in Social Work B.S., 1932, Washington
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
BATTIN, PATRICIA BUSH, 1942.....	Instructor in Nursing Education B.S., 1936, Washington
BEAL, MAUD L., 1933 (1941).....	Instructor in English B.A., 1926, M.A., 1929, Washington

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

† Revised as of March, 1945.

- BEAUMONT, ROSS A., 1940 (1944).....Assistant Professor of Mathematics
A.B., 1936, M.S., 1937, Michigan; Ph.D., 1940, Illinois
- 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
- BERES, ARTHUR WARREN, Sgt., U.S.M.C., 1944.....Associate in Naval Science and Tactics
- BERRY, JAMES ALEXANDER, 1938.....Lecturer in Bacteriology
M.S., 1917, Michigan State
- BINGHAM, E. M., Lt. Commander, U.S.N.(Ret.), 1944.....Assistant Professor of Naval Science and Tactics
B.S., 1931, Naval Academy
- BIRNBAUM, WILLIAM ZYGMUNT, 1939.....Assistant Professor of Mathematics
LL.M., 1925, Ph.D., 1929, University of Lwow
- BLACKMAN, HELEN MARIE, 1943.....Instructor in Nursing Education
R.N., 1929, St. Luke's, Iowa; B.S. in Nursing, 1942, Washington
- BLANKENSHIP, RUSSELL, 1932 (1943).....Professor of English
A.B., 1914, Missouri; M.A., 1929, Ph.D., 1935, Washington
- BLISS, A. JEANNETTE, 1922 (1937).....Associate Professor of Home Economics
B.A., 1906, Washington; M.A., 1917, Columbia
- BLIVEN, PAUL, 1941.....Lecturer in General Engineering
B.S. in M.E., 1927, Minnesota; LL.B., 1933, Georgetown
- BOEHMER, HERBERT, 1937.....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
- BOSTWICK, IRENE NEILSON, 1930 (1942).....Assistant Professor of Music
B.M., 1922, Washington
- BRAKEL, HENRY LOUIS, 1905 (1936).....Professor of Engineering Physics; Executive Officer of the Dept. of Physics
B.S., 1902, Olivet College; M.A., 1905, Washington; Ph.D., 1912, Cornell
- BRANDT, EDNA, 1944.....Instructor in Nursing Education
B.S., 1939, Washington
- BRANNON, VIRGINIA GARRISON, 1945.....Acting Associate in Women's Physical Education
B.S., 1939, Washington; M.S., 1941, Oregon
- BRASTED, MARY JUNE, 1944.....Associate in Physical Education
A.B., 1940, Willamette; M.S., 1944, Wellesley
- BRAZIER, SUSAN H., 1944.....Associate in Speech
B.A., 1941, Washington
- BRONSON, BEULAH, 1944.....Instructor in Nursing Education
B.S., 1938, Washington
- BROOKS, LEE M., 1945.....Professor of Sociology
A.B., 1925, Boston University; M.A., 1926, Ph.D., 1929, North Carolina
- 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
- 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
- BURMEISTER, VIOLA, 1943 (1944).....Instructor in Speech
B.A., 1929, Washington
- BURN, JUNE, 1944.....Instructor in English
B.S., 1914, University of Oklahoma
- 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
- CARPENTER, ALLEN FULLER, 1909 (1926).....
Professor of Mathematics; Executive Officer of the Department of Mathematics
A.B., 1901, Hastings College; A.M., 1909, Nebraska; Ph.D., 1915, Chicago;
D.Sc., 1937, Hastings College
- CARELL, JAMES AUBREY, 1939 (1941).....Associate Professor of Speech
A.B., 1927, Nebraska Wesleyan; M.A., 1929, Ph.D., 1936, Northwestern
- CEDARLEAF, JUNE, Lt.(jg) SC(W), U.S.N.R., 1944.....Associate in Naval Science and Tactics
B.S., 1938, University of Minnesota
- 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
- CHENG, CH'ENG-K'UN, 1942 (1943).....Instructor in Sociology
B.A., 1931, Yenching University (Peiping); M.A., 1937, Washington
- CHESSEX, JEAN CHARLES WILLIAM, 1928 (1934).....Associate Professor of Romanic Languages
B.A., 1920, B.D., 1922, M.A., 1925, Lausanne (Switzerland)
- CHITTENDEN, HIRAM MARTIN, 1923 (1936).....Assistant Professor of Civil Engineering
B.S. in C.E., 1920, C.E., 1935, Washington
- CHRANE, CHARLES L., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
B.S., 1937, Daniel Baker University
- CHUKE, LING, 1944.....Research Associate in Economics and Business
B.S., 1940, Chiao-Tung University, Shanghai, China
- CHURCH, PHIL E., 1935 (1943).....Associate Professor of Geography and Meteorology
B.S., 1923, Chicago; M.A., 1932, Clark University
- 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
- CLEMENTS, JACK C., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
- COCHRAN, LYALL BAKER, 1923 (1943).....Associate Professor of Electrical Engineering
B.S. in E.E., 1923, E.E., 1936, Washington
- CODD, JAMES EMMETT, 1944.....Acting Associate in History
B.A., 1938, 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)
- COLE, KENNETH C., 1924 (1936).....Professor of Political Science
B.Lit., 1924, Oxford; Ph.D., 1930, Harvard
- COLE, THOMAS RAYMOND, 1930.....Professor of Educational Administration and Supervision
M.A., 1902, Upper Iowa; Ph.B., 1904, DePauw; LL.D., 1931, Upper Iowa

- COLLIER, IRA LEONARD, 1919.....Assistant Professor of Civil Engineering
B.S. in C.E., 1913, C.E., 1917, Washington
- COLTON, AGNES LOUISE, 1941.....Associate in English
B.A., 1925, Whitman; M.A., 1928, Oregon; Ph.D., 1939, Washington
- COMPTON, ELIZABETH BATES, 1944.....Instructor in Nursing Education
B.S., 1943, Washington
- CONDON, HERBERT T., 1903.....Dean of Students
B.A., 1892, Oregon; LL.B., 1894, Michigan
- CONWAY, JOHN ASHBY, 1927 (1943).....Associate Professor of Drama
B.A., 1927, Carnegie Institute of Technology
- COOK, THOMAS I., 1939.....Associate Professor of Political Science
B.S., 1928, London University; Ph.D., 1938, Columbia
- COOMBS, HOWARD A., 1935 (1943).....Associate Professor of Geology
B.S., 1929, M.S., 1931, Ph.D., 1935, Washington
- COOPER, LEMUEL BROWNING, 1939 (1943).....Assistant Professor of Mechanical Engineering
B.S. in M.E., 1931, Washington
- 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
- 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
- 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
- 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
- CROSS, W. C., Commander, U.S.N., 1944.....Associate Professor of Naval Science and Tactics
B.S., 1922, U. S. Naval Academy
- 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
- DAVIDSON, LUCY W., 1944.....Acting Assistant Professor of Physical Education
B.A., 1919, University of Wisconsin; M.A., 1923, Columbia
- DAVIS, ERMA NELSON, 1926.....Associate in History
B.A., 1918, Denver; M.A., 1924, Utah
- DEHN, WILLIAM MAURICE, 1907 (1919).....Professor of Organic Chemistry
A.B., 1893, A.M., 1896, Hope; Ph.D., 1903, Illinois
- DEMERY, 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

- DE ROIN, HURLEY, 1944.....Associate in Physical Education
B.S., 1934, Washington
- deVRIES, MARY AID, 1921 (1939).....Associate Professor of Physical Education
B.A., 1920, Wisconsin
- DOBIE, EDITH, 1926 (1937).....Associate Professor of History
B.A., 1914, Syracuse; A.M., 1922, Chicago; Ph.D., 1925, Stanford
- DONALDSON, LAUREN R., 1935 (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
- 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
- DUCHOW, ESTHER, 1940.....Associate in Bacteriology
B.S., 1934, Washington
- DUNLOP, HENRY A., 1931.....Lecturer in Fisheries
B.A., 1919, M.A., 1922, British Columbia
- DURANDO, VIRGIL G., Lt.(jg), U.S.N.R., 1944.....Assistant Professor of Naval Science and Tactics
B.A., 1943, University of California
- 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 Dept. of Electrical Engineering
B.S. in E.E., 1922, M.S., 1929, Washington
- EASTMAN, FRED S., 1927 (1943).....Professor of Aeronautical Engineering
B.S. in E.E., 1925, Washington; MS., 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
- EDWARDS, ALLEN L., 1944.....Associate Professor of Psychology
B.A., 1937, Central College, Chicago; M.A., 1938, Ohio State; Ph.D., 1940, Northwestern
- EGGERS, ROLF VAN KERAL, 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
- ELLERMEIER, LOUIS M., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
B.A., 1940, Nebraska State Teachers College
- EMERY DONALD WILLIAM, 1934 (1943).....Instructor in English
B.A., 1927, M.A., 1928, Iowa
- ENGEL, ERNEST DIRCK, 1934 (1941).....Assistant Professor of General Engineering
B.S. in E.E., 1930, Washington

- ENGLE, NATHANAEL HOWARD, 1941.....
 Professor and Director of Bureau of Business Research
 B.A., 1925, M.A., 1926, Washington; Ph.D., 1929, Michigan
- ENGLEMANN, JOSEPH, C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
- ERWIN, EVALYN, 1944.....Associate in Nursery School
 B.S., 1934, Iowa State; M.S., 1938, Tennessee
- ESPER, ERWIN ALLEN, 1927 (1934).....Professor of Psychology
 B.A., 1917, M.A., 1920, Ph.D., 1923, Ohio State
- ETHEREDGE, SAMUEL N., Lt., MC-V(G), U.S.N.R., 1944.....
 Lecturer in Naval Science and Tactics
 M.D., 1937, University of Virginia
- EVEREST, HAROLD P., 1940 (1943).....
 Associate Professor of Journalism; Director, School of Journalism
 B.A., 1939, Washington
- FALKNER, JUDSON F., 1936.....Professor of Law; Dean of the School of Law
 B.S., 1917, LL.B., 1919, Washington
- FELTON, VIRGINIA ELLEN, 1943.....Instructor in Nursing Education
 B.S., in Nursing, 1942, Washington
- FERGUSON, GRACE BEALS, 1941 (1943).....
 Associate Professor of Medical Social Work; Director, Graduate School of Social Work
 A.B., 1917, Minnesota; M.A., 1930, Indiana
- 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
- 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
- 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)
- FRANZ, JANE MONTGOMERY, 1945.....Acting Associate in Women's Physical Education
 B.S., 1940, Oregon; M.S., 1942, Washington
- FRANZKE, ALBERT L., 1936 (1939).....Associate Professor of Speech
 B.A., 1916, M.A., 1933, Lawrence
- FREEMAN, GEORGE WILLIAM, M.D., 1942.....Lecturer in Nursing 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
- FROST, VERNON, 1945.....Assistant Professor of Journalism
 B.A., 1926, Washington
- FRYE, THEODORE CHRISTIAN, 1903.....Professor of Botany
 B.S., 1894, Illinois; Ph.D., 1902, Chicago
- FULLER, MAX E., Lt., 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
- FUTTERMAN, SAMUEL, M.D., 1943.....Lecturer in Social Work
 B.S., 1930, College of the City of New York; M.D., 1935, Geneva
- GALLAGHER, MARIAN GOULD, 1944.....Law Librarian and Associate Professor of Law
 B.A., 1935, LL.B., 1937, B.A. in L.S., 1939, Washington
- GARCIA-PRADA, CARLOS, 1925 (1939).....Professor of Spanish
 A.B., 1918, Colombia (South America); A.M., 1924, Michigan;
 Ph.D., 1929, Bogota (South America)
- GARFIELD, VIOLA, 1937 (1943).....Instructor in Anthropology
 B.A., 1928, M.A., 1931, Washington; Ph.D., 1939, Columbia

- GARLICK, CLAIRE, 1944.....Associate in Music
- 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
- GILLETTE, ALLETTA MARIA, 1912.....Instructor in English
B.S., 1907, Smith; M.A., 1911, Washington
- GILLETTE, DONALD LEON, Lt., SC(S), U.S.N.R., 1944.....Lecturer in Naval Science and Tactics
- 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
- 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
- GORDON, MAURICE ERSKINE, 1943.....Instructor in Nursing Education
B.S., 1937, Washington
- 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
- GRAHN, HOWARD EDWARD, Lt. Commander, U.S.N.R., 1944.....Associate Professor of Naval Science and Tactics
B. Arch., 1936, Washington
- GRAVES, DORSETT V., 1922.....Associate in Physical Education
- GREEN, ANNA MATILDA, 1943.....Instructor in Nursing Education
B.S. in Nursing, 1936, Washington
- GREEN, MILTON D., 1944.....Professor of Law
B.A., 1926, J.D., 1928, University of Michigan; LL.M., 1938, J.D.Sc., 1943, Columbia
- GREGORY, HOMER EWART, 1920 (1933).....Professor of Management and Accounting
A.B., 1914, Washington State; M.A., 1917, Chicago
- 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, IOLA H. BROWN, 1944.....Associate in Speech
B.A., 1941, Washington
- GUBERLET, MURIEL LEWIN, 1943.....Associate in English
A.B., 1910, Bethany; A.M., 1928, Washington
- GULLIKSON, ALBERT CLARENCE, 1942.....Instructor in General Engineering
B.S. in M.E., 1924; M.E., 1938, Washington
- GUNDLACH, RALPH, 1927 (1937).....Associate Professor of Psychology
B.A., 1924, M.A., 1925, Washington
- 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
- HAKOLA, MARGARET, 1945.....Acting Associate in Women's Physical Education
B.S., 1936, Washington

- 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
- HALLER, MARY E., 1931 (1941).....Assistant Professor of Mathematics
B.A., 1924, M.S., 1931, Ph.D., 1934, Washington
- HAMACK, FRANK HARTMOND, 1921 (1942).....Lecturer in Economics and Business
LL.B., 1916, Georgetown
- HAMILTON, MALCOLM, Chief Gunner, U.S.N. (Ret.), 1943.....
Instructor in Naval Science and Tactics
- HANSBERRY, MARY EVELYN, 1943.....Associate Director of Student Affairs
B.A., 1940, Washington
- HARRINGTON, DONAL FRANCIS, 1938 (1943).....Assistant Professor of Drama
B.A., 1928, Montana; M.A., 1933, Columbia
- HARRIS, CHARLES WILLIAM, 1906 (1924).....Professor of Hydraulic Engineering
B.S. in C.E., 1903, Washington; C.E., 1905, Cornell
- HARRIS, ESTHER KITE, 1942.....Assistant Professor and Director of the Nursery School
A.B., 1932, Cornell; M.A., 1937, Smith
- HARRIS, MORGAN, 1944.....Instructor in Zoology
A.B., 1938, Ph.D., 1941, California
- HARRISON, JOSEPH BARLOW, 1913 (1933).....Professor of English
B.A., 1910, Washington; A.B., 1913, Oxford
- HARSCH, ALFRED E., 1930 (1940).....Professor of Law
B.A., 1926, LL.B., 1928, Washington
- HART, THOMAS A. E., Lt. U.S.N.R., 1945.....Assistant Professor of Naval Science & Tactics
B.A., 1930, M.A., 1933, Wesleyan; Ph.D., 1940, Michigan
- HARWICK, PAUL M., Captain, Q.M.C., 1942 (1943).....
Assistant Professor of Military Science and Tactics
B.S. in B.A., 1933, Southern California; M.S. in B.A., 1936, New York;
Diploma, 1942, Quartermaster School
- HATCH, MELVILLE H., 1927 (1941).....Professor of Zoology
B.A., 1919, M.A., 1921, Ph.D., 1925, Michigan
- HAUAN, MERLIN JAMES, 1928.....Lecturer in Civil Engineering
B.S. in E.E., 1925, Washington
- HAWTHORN, GEORGE EDWARD, 1924 (1937).....Associate Professor of Civil Engineering
B.S. in C.E., 1915, C.E., 1926, Washington
- HAYDEN, ALICE HAZEL, 1942.....Assistant Professor of Educational Research
Ph.C., 1928, B.S., M.S., 1929, Oregon State College; Ph.D., 1932, Purdue
- HAYNER, NORMAN SYLVESTER, 1925 (1937).....Professor of Sociology
B.A., 1920, Washington; A.M., 1921, Ph.D., 1923, Chicago
- HEJTMANEK, VIOLA, 1940.....Instructor in Nursing Education
R.N., 1931, Seattle General Hospital; B.S. in Nursing, 1939, Washington
- HEMLINGE, CHARLES LOUIS, 1911 (1940).....Professor Emeritus of Romanic Languages
B.Ph., 1911, Berea; M.A., 1915, Washington
- HENDERSON, JOSEPH E., 1929 (1942).....Professor of Physics
B.S., 1922, Wooster; Ph.D., 1928, Yale
- HENNES, ROBERT G., 1934 (1941).....Associate Professor of Civil Engineering
B.S. in C.E., 1927, Notre Dame; M.S.(C.E.), 1928, Massachusetts Institute of Technology
- HENRY, DORA PRIAULX, 1932.....Research Associate in Oceanography and Zoology
Ph.D., 1931, California
- HENSLEY, MERDECES H., 1939.....Instructor in Art
B.F.A., 1930, M.F.A., 1938, Washington
- HERRMAN, ARTHUR PHILIP, 1923 (1937).....
Professor of Architecture; Executive Officer of the School of Architecture
B.A.(Arch.), 1920, Carnegie Institute of Technology
- HICKS, PAUL LEONARD, Lt. DC, U.S.N.R., 1944.....Lecturer in Naval Science and Tactics
D.D.S., 1929, University of California

- HIERSTEIN, HELEN MARY ELIZABETH, 1943**.....Instructor in Nursing Education
B.S. in Nursing, 1939, Washington
- HIGGS, PAUL McCLELLAN, 1926 (1939)**.....Assistant Professor of Physics
B.S., 1919, Washington
- HIGMAN, BEATRICE KAUFFMAN, 1945**.....Associate in Music
B.A., 1934, Washington
- HILL, RAYMOND L., 1927 (1934)**.....Associate Professor of Painting
Rhode Island School of Design, 1913
- HILL, WILLIAM RYLAND, JR., 1941**.....Assistant Professor of Electrical Engineering
B.S. in E.E., 1934, Washington; M.S. in E.E., 1938, E.E., 1941, California
- HILLIS, NORMAN DOUGLAS, 1941**.....Associate in General Engineering
B.S., 1934, Washington
- HILSENBERG, ERNEST B., First Lieut., Infantry, 1942**.....Assistant Professor of Military Science and Tactics
B.A., 1934, Washington
- HINES, HAROLD, 1944**.....Counselor for Men
A.B., 1939, Washington
- HITCHCOCK, C. LEO, 1937 (1944)**.....Professor of Botany; Executive Officer of the Department of Botany
A.B., 1927, A.M., 1929, Pomona; Ph.D., 1931, Washington University (St. Louis)
- HITCHMAN, JEAN, 1945**.....Instructor in Nursing Education
B.S.N., 1944, Washington
- HOARD, GEORGE LISLE, 1920 (1941)**.....Professor of Electrical Engineering
B.S. in E.E., 1917, M.S. in E.E., 1926, Washington
- HOCKETT, ASAH EL J., M.D., 1944**.....Director of Medical Instruction, King County Hospital
B.S., 1926, M.D., 1929, Oregon
- HOFFMAN, KATHERINE JANET, 1942**.....Instructor in Nursing Education
B.A., 1929, College of Puget Sound; R.N., 1934, Tacoma General School of Nursing;
M.N., 1941, Washington
- HOFFSTADT, RACHEL EMILIE, 1923 (1939)**.....Professor of Bacteriology
B.S., 1908, Hanover; M.S., 1913, Chicago; Ph.D., 1915, D.Sc., 1921, Johns Hopkins
- HOLMES, HARLAN B., 1931**.....Lecturer in Fisheries
B.A., 1922, M.A., 1931, Stanford
- HOOLHORST, ROBERT A., Lt. Commander, U.S.N.R., 1944**.....Assistant Professor of Naval Science and Tactics
B.S., 1938, California
- HORNE, DORTHALEE, 1944**.....Assistant Professor of Physical Education
B.S., 1930, Missouri; M.S., 1939, Oregon
- HORSFALL, FRANK, 1935**.....Associate in Music
- HOTSON, JOHN WILLIAM, 1911 (1936)**.....Professor of Botany
A.B., 1901, A.M., 1902, McMaster; Ph.D., 1913, Harvard
- HUGHES, GLENN, 1919 (1930)**.....Professor of English; Director of the School of Drama
B.A., 1916, Stanford; M.A., 1921, Washington
- HUSTON, FRANCES, 1944**.....Acting Associate in English
B.A., 1931, Reed College
- HUTCHINSON, MARY GROSS, 1919 (1936)**.....Professor of Physical Education;
Executive Officer, Department of Physical Education for Women
A.B., 1912, Goucher College; M.A., 1915, Columbia
- 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
- JACOBS, MELVILLE, 1928 (1937)**.....Assistant Professor of Anthropology
A.B., 1922, New York; A.M., Ph.D., 1931, Columbia
- JACOBSEN, PHILIP A., 1927 (1939)**.....Assistant Professor of General Engineering
B.S., 1926, Washington
- JACOBSEN, THEODOR S., 1928 (1941)**.....Associate Professor of Astronomy and Mathematics;
Executive Officer of the Department of Astronomy
B.A., 1922, Stanford; Ph.D., 1926, California

- JACOBSON, BERTHE P., 1937 (1939).....Associate Professor of Music
Graduate Conservatory of Geneva; Diploma Schola Cantorum, Paris; Diploma Dalcroze
Institute of Geneva
- JAMIESON, ANN NORRELL, 1943...Supervisor of Field Work, Graduate School of Social Work
B.S. in Education, 1926, Minnesota
- JENNINGS, G. W., CSM, U.S.N.R., 1944.....Instructor in Naval Science and Tactics
- JENSEN, ALFRED, 1930 (1939).....Assistant Professor of General Engineering
B.S. in C.E., 1925, M.S. in C.E., 1937, Washington
- JERBERT, ARTHUR RUDOLPH, 1921 (1937).....Associate Professor of Mathematics
B.S., 1916, M.S., 1923, Ph.D., 1928, Washington
- JESSUP, JOHN H., 1926 (1927).....Associate Professor of Educational Sociology
A.B., 1920, Earlham College; M.A., 1924, Iowa
- JOHNSON, B. PAULINE, 1941.....Assistant Professor of Art
B.A., 1929, Washington; M.A., 1936, Columbia
- JOHNSON, CHARLES WILLIS, 1903 (1904).....Professor of Pharmaceutical Chemistry;
Dean Emeritus of the College of Pharmacy
Ph.C., 1896, B.S., 1900, Ph.D., 1903, Michigan
- JONES, AMORETTA, 1944.....Assistant Professor of Community Organization,
Graduate School of Social Work
B.A., 1921, Wisconsin; M.A., 1938, Chicago
- JONES, ROBERT WILLIAM, 1920 (1934).....Professor of Journalism
B.A., 1906, LL.B., 1913, Missouri; M.A., 1918, South Dakota
- JOSEPH, HENRY BURTON, Lieutenant Colonel, C.A.C., 1941 (1943).....
Professor of Military Science and Tactics; Commandant, 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
- KARLIN, J. ALEXANDER, 1944.....Acting Instructor in History
B.S., 1936, Georgetown University; M.A., 1937, North Carolina; Ph.D., 1940, Minnesota
- KASTNER, ETHEL DEVER, 1943.....Associate in the Far Eastern Department
B.A., 1943, Washington
- KELLER, JEAN PAUL, 1945.....Instructor in Romanic Languages
B.A., 1933, Heidelberg, Ohio; 1940, Ohio State
- KENNEDY, FRED WASHINGTON, 1909 (1938).....Associate Professor 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
- KIDWELL, KATHRO, 1939 (1944).....Assistant Professor of Physical Education
B.S., 1927, Nebraska; M.A., 1928, Wisconsin
- KIMMEL, EDWARD, Colonel, U.S. Army, retired, 1932 (1939).....Lecturer in History
B.S., 1897, M.A., 1907, Washington State College
- KINCAID, TREVOR, 1899 (1901).....Professor of Zoology
B.S., 1899, M.A., 1901, Washington; D.Sc., College of Puget Sound
- KING, ARDEN ROSS, 1944 (1945).....Instructor in Anthropology
B.A., 1938, Utah
- KING, J. C., CTC, U.S.N., 1944.....Instructor in Naval Science and Tactics
- 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
- KIPPLE, 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
- 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

- KNORR, E. C., 1945.....Associate in Sociology
B.A., 1929, M.A., 1930, Washington State College
- KOCHER, PAUL, 1938 (1942).....Assistant Professor of English
B.A., 1926, Columbia; J.D., 1929, M.A., 1932, Ph.D., 1936, Stanford
- KOHLER, ELLEN LUCILE, 1942.....Acting Associate in Classical Languages
B.A., 1938, M.A., 1942, Washington
- KORNGOLD, JANET FENIMORE, 1944.....Assistant Professor of Nursing Education
A.B., 1910, Earlham College; M.A., 1929, Northwestern;
R.N., 1924, Presbyterian Hospital, Chicago
- KRENZ, EDWARD B., 1944.....Associate in Music
B.A., 1941, Washington
- KRUPSKI, EDWARD, 1944.....Assistant State Chemist
B.S., 1939, M.S., 1941, Washington
- KUHN, BERTHA M., 1940.....Associate in English
B.A., 1916, M.A., 1917, North Dakota; Ph.D., 1940, Washington
- LAFROMBOISE, CLARENCE B., 1944.....Lecturer in Journalism
B.A., 1926, 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
- LAUER, EDWARD HENRY, 1934.....
Professor of Germanic Languages and Literature; Dean of the College of Arts and Sciences
A.B., 1906, A.M., 1909, Ph.D., 1916, Michigan
- LAWRENCE, CHARLES WILSON, 1926 (1934).....Associate Professor of Music
B.M., 1918, Oberlin; M.A.(Music), 1930, Washington
- LAWSON, JANE SORRIE, 1922 (1939).....Associate Professor of English
M.A., 1906, St. Andrews (Scotland)
- LEE, ALBERT FRANCIS, M.D., 1943.....Lecturer in Nursing Education
B.S., 1935, College of Puget Sound; M.D., 1937, Duke
- 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
- LISTON, ETHEL, 1945.....Associate Counselor in Student Affairs
B.A., 1927, Washington
- LLOYD, FLORENCE, 1944.....Instructor in Home Economics
B.S., 1932, M.S., 1934, Montana State
- LOEW, EDGAR ALLAN, 1909 (1923).....Professor of Electrical Engineering;
Dean of the College of Engineering; Director of the Engineering Experiment Station
B.S.(E.E.), 1906, E.E., 1922, Wisconsin
- LONGWOOD, ROSEMARY, 1944.....Associate in Psychology
B.S., 1943, Washington
- LORIG, ARTHUR N., 1934 (1941).....Associate Professor of Accounting
B.A., 1922, Wisconsin; C.P.A., 1927; M.A., 1932, Stanford; Ph.D., 1936, Chicago
- LUCAS, HENRY STEPHEN, 1921 (1934).....Professor of History
A.B., 1913, Olivet; A.M., 1915, Indiana; Ph.D., 1921, Michigan
- LUTEY, WILLIAM GLEN, 1934 (1940).....Instructor in Liberal Arts
B.A., 1930, M.A., 1931, Washington
- LYNCH, JAMES E., 1931 (1943).....Professor of Fisheries
B.A., 1917, M.A., 1921, Nebraska; Ph.D., 1929, California
- McADAMS, LAURA ELIZABETH, 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
- McCONAHEY, JAMES M., 1921.....Lecturer in Accounting
B.S., 1896, M.S., 1899, Washington and Jefferson; LL.B., 1899, Northwestern; C.P.A., 1914

- McCONNELL, JANE FOSTER, 1945.....Instructor in Nursing Education
B.N., 1935, Yale School of Nursing; B.A., 1936, Reed College
- McCULLOUGH, WILLIAM HAYWORTH, 1943.....Assistant Professor of Social Work
A.B., 1932, DePauw; A.M., 1940, Chicago
- McFARLAN, LEE HORACE, 1927 (1934).....Associate Professor of Mathematics
B.S., 1917, Kansas State Teachers' College; A.M., 1921, Ph.D., 1924, Missouri
- McGEE, L. A. CY, U.S.N.R., 1944.....Instructor in Naval Science and Tactics
B.A., 1935, Northwestern State College, Alva, Oklahoma
- McGRAW, HOWARD T., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
- 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
- McMAHON, THERESA SCHMID, 1901 (1929)....Professor Emeritus of Economics and Labor
B.A., 1899, M.A., 1901, Washington; Ph.D., 1909, Wisconsin
- McMINN, BRYAN TOWNE, 1920 (1939).....Professor of Mechanical Engineering
B.S. in M.E., 1918, Oregon State; M.S. in M.E., 1926, M.E., 1931, Washington
- MACDONALD, CATHERINE JOAN, 1945.....Supervisor of Field Work, Graduate School of Social Work
B.A., 1936, Washington
- MACKENZIE, DONALD H., 1929 (1944).....Professor of Management and Accounting
B.B.A., M.B.A., 1925, Washington; C.P.A.
- MACKIN, ROBERT W., Lt., U.S.N.R., 1945....Assistant Professor of Naval Science and Tactics
B.A., 1936, North Dakota State; M.A., 1941, North Dakota
- MacLEAN, DOROTHY, 1936 (1943).....Assistant Professor of Physical Education
B.S., 1933, Oregon; M.S., 1938, Washington
- MAGNUSSON, HARRISON WILLARD, 1942.....Lecturer in Fisheries
M.A., 1939, Wyoming
- MALLICOAT, SAMUEL H., Lt., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics
- MANDER, LINDEN A., 1928 (1937).....Professor of Political Science
M.A., 1921, Adelaide (Australia)
- MARCKWORTH, GORDON DOTTER, 1939.....Professor of Forest Management; Dean of the College of Forestry
B.S.F., 1916, Ohio; M.F., 1917, Yale
- MARK, SARA N., 1937.....Associate in English
B.A., B.S., 1911, M.A., 1929, Washington
- MARSHALL, HARRIET, 1944.....Instructor in Nursing Education
B.S., 1940, Washington
- MARTIN, ARTHUR W., 1937 (1943).....Associate Professor of Physiology
B.S., 1931, College of Puget Sound; Ph.D., 1936, Stanford
- MARTIN, CHARLES EMANUEL, 1924.....Professor of Political Science; Executive
Officer of the Department of Political Science
B.L., 1914, A.M., 1915, California; Ph.D., 1917, Columbia; LL.D., 1942, Southern California
- MARTIN, HOWARD HANNA, 1930 (1940).....Professor of Geography; Executive Officer of the Department of Geography
B.S., 1922, Pennsylvania; M.A., 1923, Ph.D., 1929, George Washington;
Sc.D., 1937, Monmouth
- MARTIN, VICTOR J., 1937 (1942).....Associate Professor of Aeronautical Engineering
B.S., 1934, California; M.S. in M.E., 1935, M.S. in A.E., 1936,
California Institute of Technology
- MASON, MARY LUCILE, 1943.....Acting Associate in English
B.A., 1923, Grinnell
- MAXEY, LOUISE HENRIETTA.....Instructor in Nursing Education
B.S., 1944, Washington
- MAY, CHARLES CULBERTSON, 1912 (1929).....Professor of Civil Engineering and
Architecture; Superintendent of Buildings and Grounds
B.S. in C.E., 1910, Washington
- MEISNEST, FREDERICK WILLIAM, 1906.....Professor of Germanic Literature
B.S., 1893, Ph.D., 1904, Wisconsin

- MEYER, BETTY, 1944.....Lecturer in Graduate School of Social Work
B.A., 1934, Wisconsin
- MEYER, HERMAN CARL H., 1934 (1942).....Associate Professor of Germanic Languages
B.A., 1924, Capital University (Ohio); Ph.D., 1936, Chicago
- MICHAEL, FRANZ HENRY, 1942 (1943).....Associate Professor of Far Eastern History;
Acting Executive Officer of the Far Eastern Department
D.J.U., 1933, Freiburg
- MICKEL, MARION, 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
- MITTELSTAEDT, LESTER, 1944.....Associate in Anatomy
B.S., 1944, Washington
- MODINI, HAZEL MARIAN, 1944.....Instructor in Nursing Education
B.S., 1941, Washington
- MONROE, DAY, 1943.....Acting Professor of Home Economics
A.B., 1908, Washburn; 1916, Teachers College, Columbia; Ph.D., 1930, Chicago
- MORE, CHARLES CHURCH, 1900 (1912).....Professor of Structural Engineering
C.E., 1898, Lafayette; M.C.E., 1899, Cornell; M.S., 1901, Lafayette
- MORITZ, HAROLD KENNEDY, 1928 (1939).....Associate Professor of Civil Engineering
B.S.(M.E.), 1921, Massachusetts Institute of Technology
- 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
- MULLEMEISTER, HERMAN, 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
- MURPHY, CAMPBELL GARRETT, 1945.....Lecturer in Graduate School of Social Work
B.A., 1936, Swarthmore; M.A., 1943, Washington
- MYERS, MARGARET, 1944.....Acting Instructor in Home Economics
B.S., 1939, M.S., 1940, Illinois
- NELSON, EVERETT J., 1930 (1941).....Professor of Philosophy
B.A., 1923, M.A., 1925, Washington; M.A., 1928, Ph.D., 1929, Harvard
- NELSON, OLIVER, 1945.....Instructor in Speech
B.A., 1933, M.A., 1939, Washington
- NEWHOUSE, DEAN SCHOLFIELD, 1934.....Director of Student Affairs
B.A., 1930, Washington
- NEWKIRK, PAUL RICHARD, M.D., 1944.....Lecturer in Nursing Education
M.D., 1909, Heidelberg
- 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, Macalaster 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
- NORTHROP, MARY W., 1931.....Instructor in Nursing Education
A.B., 1920, Vassar; M.S., 1923, Columbia
- NOTTELMANN, RUDOLPH H., 1927.....Professor of Law
A.B., 1912, Monmouth; M.A., 1913, Illinois; LL.B., 1922, Yale
- 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
- OBST, FRANCES, 1944.....Assistant Professor of Home Economics
B.S., 1934, M.A., 1938, Minnesota
- 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
- OLSON, KENNETH, M.D., 1944.....Lecturer in Nursing Education
B.S., 1929, Washington; M.D., 1933, Harvard Medical School
- ORDAL, ERLING J., 1937 (1943).....Associate Professor of Bacteriology
A.B., 1927, Luther; Ph.D., 1936, Minnesota
- ORR, FREDERICK WESLEY, 1925 (1928).....Professor of Speech; Executive Officer of the Department of Speech
B.L., 1901, Drury; G.C.D., 1905, Boston School of Expression; M.A., 1925, Lawrence College
- OSBURN, WORTH J., 1936.....Professor of Remedial and Experimental Education
A.B., 1903, Central College; A.M., 1904, Vanderbilt; B.S.(Educ.), 1908, Missouri;
Ph.D., 1921, Columbia
- PALMER, VINSON LE ROY, 1943.....Acting Instructor in Electrical Engineering
B.S. in E.E., 1940, Washington
- PALMQUIST, EMIL EUGENE, M.D., 1944.....Lecturer in Nursing Education
B.A., 1930, Gustavus Adolphus College; M.D., 1937, Northwestern;
M.P.H., 1942, Michigan
- PATTERSON, AMBROSE, 1919 (1939).....Professor of Painting
Melbourne National Gallery, Victoria, Australia; Julien, Colorossi and Delocluse Academies,
Europe
- 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
- 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
- PLATT, VIRGINIA PROVINE, 1945.....Associate in Mechanical Engineering
- PLEIN, ELMER M., 1938 (1943).....Assistant Professor of Pharmacy
Ph.C., B.S., 1929, M.S., 1931, Ph.D., 1936, Colorado
- POREDA, FRANK P., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
- POSELL, EDWARD A., M.D., 1938.....Lecturer in Nursing Education
B.S., 1923, City of New York; M.D., 1927, Boston
- POTTER, EMERSON, 1944.....Acting Associate in English
B.A., 1935, Washington
- POWELL, SARGENT, 1919 (1943).....Professor of Chemistry
B.S., 1913, M.S., 1916, Washington; Ph.D., 1919, Illinois
- 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
- 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

Alphabetical List of the Faculty

- PRITCHARD, CLYDE SUMMERFIELD, 1941 (1943).....Assistant Professor of Social Work
B.A., 1932, Washington; M.A., 1939, Chicago
- 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
- RADFORD, ETHEL SANDERSON, 1919.....Associate in Chemistry
B.A., 1925, McGill
- RAHSKOPF, HORACE G., 1928 (1944).....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
- RAUDABAUGH, JOSEPH N., Lt., U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics
B.A., 1932, M.A., 1937, Iowa State College
- 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
- REAUGH, DANIEL M., 1945.....Lecturer in Law
B.L., 1936, Washington; D.L., 1940, Yale
- REEVES, GEORGE SPENCER, 1935 (1939).....Assistant Professor of Physical Education
B.S., 1933, M.S., 1938, Oregon
- RHODES, FRED H., JR., 1927 (1943).....Associate Professor of Civil Engineering
B.S., (C.E. and M.E.), 1926, C.E., 1935, Washington
- 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
- RIVENBURGH, VIOLA, 1944.....Acting Associate in English
B.A., 1919, Nebraska; M.A., 1926, University of Hawaii
- 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
- ROSEN, MORITZ, 1909 (1928).....Professor of Music
Graduate, Warsaw Conservatory, Russia
- ROWNTREE, JENNIE IRENE, 1925 (1932).....Professor of Home Economics
B.S., 1918, Wisconsin; M.S., 1924, Chicago; Ph.D., 1929, Iowa
- RULIFSON, LEONE HELMICH, 1926 (1943).....Associate Professor of Physical Education
B.S., 1922, M.A., 1935, Washington
- RUTHERFORD, FREDERICK WARNER, M.D., 1942.....Lecturer in Nursing Education
A.B., 1930, Illinois; M.D., 1935, Harvard Medical School
- ST. CLAIR, LAURA P., 1937.....Associate in English
A.B., 1915, West Lafayette; M.A., 1917, Adrian College, Michigan
- ST. JOHN, PHYLLIS, 1944.....Instructor in Nursing Education
B.S., 1938, Washington
- SAMSON, VICTOR J., 1937.....Lecturer in Fisheries
B.S., 1930, Washington
- SANDERMAN, LLEWELLYN ARTHUR, 1928 (1944).....Assistant Professor of Physics
B.S., 1923, Linfield; M.S., 1931, Ph.D., 1943, Washington
- SANDS, JOHN P., Captain, Cavalry, 1944.....Instructor in Military Science and Tactics
B.S., 1934, University of Arizona
- SANDS, R. B., CGM, U.S.N., 1944.....Instructor in Naval Science and Tactics
- 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
- SCHALER, GILBERT SIMON, 1922 (1937).....Professor of Mechanical Engineering
B.S., 1916, Illinois; M.B.A., 1925, Washington

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- SCHARDT, L. ALVIN, 1944.....Associate in Music
- 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
- SCHRAG, CLARENCE, 1944.....Associate in Sociology
B.A., 1939, Washington State College
- 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
- SEELEY, JEAN ISABEL, 1945.....Instructor in Nursing Education
B.S.N., 1944, Washington
- SELFIDGE, 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
- SHATTUCK, EVELYN RENNIE, 1941.....Instructor in Nursing Education
R.N., 1936, Good Samaritan Hospital, Oregon; B.S., 1940, Washington
- SHEARER, ALLEN E., Lt. D-V(S), U.S.N.R., 1943.....Assistant Professor of Naval Science and Tactics
B.A., 1924, Lincoln Memorial; M.S., 1928, Mercer;
Ph.D., 1937, George Peabody College for Teachers
- SHEFFELMAN, 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
- SHIH, YU-CHING (VINCENT).....Assistant Professor in the Far Eastern Department
- SHOLLEY, JOHN BURRILL, 1932 (1939).....Professor of Law
LL.B., 1932, Washington; J.S.D., 1937, Chicago
- SHUCK, GORDON RUSSELL, 1918 (1937).....Professor of Electrical Engineering
E.E., 1906, Minnesota
- SIDNEY, THOMAS KAY, 1903 (1927).....Professor Emeritus of Latin and Greek
A.B., 1891, Toronto; Ph.D., 1900, Chicago
- SIMPSON, LURLINE VIOLET, 1924 (1944).....Associate Professor of French
B.A., 1920, M.A., 1923, Ph.D., 1928, Washington
- SIVERTZ, VICTORIAN, 1926 (1936).....Assistant Professor of Chemistry
B.S., 1922, Washington; M.S., 1924, West Virginia; Ph.D., 1926, McGill
- SKINNER, MACY MILLMORE, 1916 (1928).....Professor of Foreign Trade
A.B., 1894, A.M., 1895, Ph.D., 1897, Harvard
- 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, HAZEL MARTHA, 1944.....Acting Instructor in Home Economics
B.S., 1927, Oregon
- SMITH, JANE KINNEY, 1943.....Instructor in Nursing Education
B.S. in Nursing, 1943, Washington
- 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
- SMOKER, MARGARET DAY, 1944.....Instructor in Nursing Education
B.S. in Nursing, 1939, 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;
D.Sc., Montana State College, 1944
- SPECTOR, IVAR, 1931 (1942).....Associate Professor of Russian Language and Literature
B.A., 1915, Yekaterinoslav (Russia); M.A., 1919, Teachers Seminar (Russia);
M.A., 1926, Northwestern; Ph.D., 1928, Chicago
- SPERLIN, OTTIS BEDNEY, 1921 (1923).....Lecturer in English
A.B., 1903, Indiana; Ph.M., 1908, Chicago
- STANDARD, ELLEN MAE, 1944....Field Work Supervisor in Graduate School of Social Work
B.A., 1930, Northwest Nazarene College; M.A., 1931, Willamette
- STANSBY, MAURICE E., 1938.....Lecturer in Fisheries
B.S., 1930, M.S., 1933, Minnesota
- STARTUP, E. JUSTINE, 1945.....Instructor in Nursing Education
B.A., 1942, Santa Barbara State College
- STEELE, WARREN M., C.Sp., U.S.N.R., 1944.....Associate in Naval Science and Tactics
- 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, FABER, 1944.....Lecturer in Social Work
A.B., 1925, Westminster; M.A., 1927, Columbia
- STIRLING, BRENTS, 1932 (1943).....Associate Professor of English
LL.B., 1926, Ph.D., 1934, Washington
- STONE, EDWARD NOBLE, 1910 (1940).....Professor Emeritus of Classical Languages
A.B., 1891, M.A., 1893, Olivet
- 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
- STULTS, N. BAUMANN, Lt. D-V(L), U.S.N.R., 1945.....Assistant Professor of Naval Science and Tactics
A.B., 1932, Washington and Lee
- 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
- 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
- SWANSON, LT. HARRY R., U.S.N.R., 1945..Assistant Professor of Naval Science and Tactics
B.S.F., 1940, Oregon State
- TARTAR, HERMAN VANCE, 1917 (1927).....Professor of Chemistry; Director of Chemical Laboratories
B.S., 1902, Oregon State; Ph.D., 1920, Chicago
- *TAYLOR, EDWARD AYERS, 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.....Acting Instructor in Geography
B.A., 1933, M.A., 1937, Washington
- TERRELL, MARGARET ELMA, 1928 (1944).....
Professor of Home Economics; Director of Commons; Business Director of Dining Halls
B.A., 1923, Penn College; M.A., 1927, Chicago
- TERRY, MIRIAM, 1930 (1937).....Assistant Professor of Music
B.M., 1926, Washington
- THIEL, SERRETA, 1945.....Acting Instructor in Music
- THOMAS, HARLAN, 1926
Professor of Architecture; Director Emeritus of the School of Architecture
B.S., 1894, Colorado State College
- 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
- THWING, WILLIAM HAROLD, 1942.....Instructor in General Engineering
B.S., 1941, Washington
- TRUAX, ARTHUR, 1924.....Lecturer in Finance
- TSCHUDIN, MARY STICKELS, 1942 (1944).....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, MABEL ALEXANDRA, 1941.....Instructor in Librarianship
A.B., 1926, Oregon; B.S. in L.S., 1931, Columbia
- TUSTIN, WHITNEY, 1935.....Associate in Music
- TYLER, RICHARD G., 1929.....Professor of Sanitary Engineering
C.E., 1908, Texas; B.S. in C.E., 1910, Massachusetts Institute of Technology
- TYMSTRA, SYBREN RUURD, 1929 (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 Marcos (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;
Executive 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 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., 1943.....Associate in Naval Science and Tactics
- VEALE, PAUL G., Lt. (jg), U.S.N.R., 1944.....Assistant Professor of Naval Science and Tactics
B.B.A., 1942, Texas College of Arts and Industries
- VICKNER, BERTHA ALMEN, 1920.....Associate in English
B.A., 1910, Gustavus Adolphus; M.A., 1917, Washington
- VICKNER, EDWIN JOHN, 1912.....Professor of Scandinavian Languages;
Executive Officer of the Department of Scandinavian Languages
A.B., 1901, A.M., 1902, Ph.D., 1905, Minnesota
- VINCENT, ELEANOR MAY, 1943.....Associate in Journalism
B.A., 1934, Whitman

- VON BREVERN, MAXIM, 1934 (1942).....Associate Professor of Political Science
Graduate, Imperial and Royal Maria Theresian Military Academy, Wienerneustadt, Austria,
1907; Ph.D., 1935, Washington
- WADE, ARTHUR E. M.D. 1928.....Lecturer in Home Economics
B.S., Cornell College; M.D., 1905, Sioux City College of Medicine
- WALTERS, MARGARET C., 1929 (1940).....Instructor in English
B.A., 1917, Mills; M.A., 1919, Yale
- WALZ, PATRICIA KANE, 1944.....Instructor in Nursing Education
B.S., 1944, Washington
- 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, 1944.....Instructor in Home Economics
B.A., 1936, Morningside College
- WATERS, ELLEN H., 1944.....Acting Assistant Professor of Physical Education
B.A., 1927, Washington; M.A., 1940, Columbia
- 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
- WEITZ, MORRIS, 1944.....Acting Assistant Professor of Philosophy
B.A., 1938, Wayne University; Ph.D., 1943, University of Michigan
- 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
- WESTBY-GIBSON, DOROTHY, 1944.....Acting Associate in Sociology
B.A., 1940, Bucknell; M.A., 1942, New School of Social Research, N.Y.C.
- 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
- WILEY, JANE, 1944.....Instructor in Nursing Education
B.S., 1942, 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, ROBERT WHITNEY, C.Sp., U.S.N.R., 1943.....Associate in Naval Science and Tactics
A.B., 1940, Oklahoma A. & M.
- 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.....Associate Professor in the Far Eastern Department
A.B., 1922, Ohio Wesleyan; M.A., 1926; Ph.D., 1935, Chicago
- 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
- 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 Emeritus of the College of Forestry
B.S., 1902, Wisconsin; M.F., 1907, Yale
- 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
M.D., 1900, Birmingham School of Medicine
- WORDEN, RUTH, 1926 (1937).....
Professor of Librarianship; Director of the School of Librarianship
B.A., 1911, Wellesley
- WRIGHT, FLORENCE PIERCE, 1943.....Acting Associate in English
B.S., 1926, M.A., 1938, Minnesota
- WULFEOETTER, GERTRUDE, 1944.....Assistant Professor of Librarianship
B.A., 1917, M.A., 1939, Cincinnati; B.L.S., 1923, Univ. of Illinois Library School
- YAGGY, ELINOR MAY, 1943.....Acting Associate in English
B.A., 1929, M.A., 1939, Idaho
- YANG, C. K., 1944.....Instructor in the Far Eastern Department
B.A., 1933, M.A., 1934, Yenching University; Ph.D., 1939, Michigan
- YATES, ELMER HOWARD, 1943.....Instructor in Mathematics
A.B., 1913, Whitman
- YOUNG, MARTHA ELIZABETH, 1944.....Associate in Home Economics
B.S., 1943, Washington
- 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, HERBERT SAMUEL, 1939 (1943).....Assistant Professor of Mathematics
B.S., 1932, California Institute of Technology; M.S., 1934, Chicago;
Ph.D., 1936, California
- ZWOLSMAN, RALPH OTTO, C.Sp., U.S.N.R.....Associate in Naval Science and Tactics

Walker-Ames Professors and Lecturers

- CORWIN, EDWARD S., 1945 (Summer).....Professor of Political Science
Professor of Politics, Princeton University
- KROGMAN, WILTON M., 1944 (Summer).....Professor of Anthropology
Department of Anthropology and School of Medicine, University of Chicago
- LUNDBERG, GEORGE A., 1945 (Jan., Feb.).....Lecturer in Sociology
Professor of Sociology, Bennington College, Vermont
- MACCORNACK, WALTER R., 1944 (November).....Lecturer in School of Architecture
Vice-President of American Institute of Architects and Chairman of Its Committee on
Postwar Reconstruction
- NILES, JOHN JACOB, 1945 (April 23).....Lecturer in School of Music
Singer of American Folk Music
- PARES, SIR BERNARD, 1945 (April, May, June).....Lecturer in Modern Russian History
Head of School of Slavonic Studies, University of London
- RIPPY, J. FRED, 1945 (Spring Semester).....Professor of Latin American History
Professor of History, University of Chicago

SPECIAL WARTIME FACULTY, 1945-1946

- ALLER, CURTIS, 1944.....Lecturer in Economics and Business
B.A., 1942, Washington
- ALLISON, MARY, 1944.....Associate in Romanic Languages
B.A., 1926, College of Idaho; M.A., 1928, Northwestern
- BOYER, HARVEY K., 1943.....Instructor in Mathematics
B.A., 1902, Wheaton
- BRAUNSCHWEIGER, T. E., 1945.....Lecturer in Economics and Business
A.B., 1925, University of Rochester; M.S., 1927, New York University
- BROWN, MALCOLM, 1944.....Acting Associate in English
B.A., 1931, Washington
- BUECHEL, HENRY THEODORE, 1941 (1944).....
Acting Assistant Professor of Economics and Business
B.A., 1929, M.A., 1937, Washington State
- BURMEISTER, VIOLA H., 1943 (1944).....Instructor in Speech
B.A., 1929, Washington
- BURRUS, MARY EMMA, 1943.....Lecturer in Economics and Business
B.A., 1935, L.L.B., 1937, Washington
- BUTLER, RALPH H. R., 1942.....Acting Instructor in Physics
B.S., 1940, Washington
- CARR, KENNETH M., 1944.....Acting Associate in Drama
B.A., 1942, Eastern Washington College of Education
- CARTER, DUDLEY C., 1944.....Acting Instructor in Art
- CLARK, STEPHEN CUTTER, III, 1943.....Acting Instructor in Physics
B.A., 1941, Washington
- COPELAND, SIDNEY, 1944.....Acting Associate in Journalism
- CORNELL, KENNETH HALL, 1943.....Acting Instructor in Far Eastern Department
B.S., 1926, U.S. Naval Academy; M.S. Ed., 1941, Bonaventure
- DAVIS, BETTY JANE, 1944.....Associate in Political Science
B.A., 1944, Stanford University
- EASTMAN, FLOREEN GLOVER, 1943.....Associate in Mathematics
A.B., 1923, Nebraska
- ENQUIST, LUCILLE, 1944.....Associate in Speech
B.A., 1937, Washington
- ERICKSON, LORNA SMITH, 1945.....Instructor in School of Home Economics
B.S., 1929, Washington
- ERIKSEN, GOSTA, 1942.....Associate in Physical Education
B.A., 1939, Washington
- EVANS, ELEANOR, 1944.....Acting Assistant Professor of Nursery School
B.S., 1934, Illinois; M. Educ., 1936, Winnetka
- EVANS, STELLA L., 1944.....Acting Associate in Art
B.A., 1936, Washington
- FRIZZELL, HARRIET EXLINE, 1943.....Instructor in Zoology
B.A., 1930, Reed; M.S., 1932, Ph.D., 1936, Washington
- GAMBLE, WILLIAM S., 1944.....Acting Associate in Art
B.A., 1939, Washington
- GEISENDORFER, MIRIAM, 1944.....Associate in Psychology
B.S., 1944, Washington
- GIFFORD, GILBERT LEE, 1942.....Acting Assistant Professor of Transportation
B.B.A., 1930, Washington State; M.B.A., 1938, Washington
- GRAVES, LUCIUS WALLIS, 1943.....Lecturer in Economics and Business
B.B.A., 1922, Washington; M.A., 1923, California
- HAMMILL, FRANK, 1944.....Acting Associate in English
B.A., 1939, University of Michigan; M.A., 1942, Ohio State
- HELBERG, BRUCE FREDERICK, 1943.....Associate in Journalism
B.A., 1936, Washington
- HENDERSON, EVELYN C., 1943.....Acting Instructor in Physics
B.A., 1922, Acadia; Ph.D., 1927, Yale
- HODGES, KATHRYN H., 1944.....Acting Associate in Art
B.A., 1940, Washington
- HSU, W. SIANG, 1944.....Instructor in Botany, Zoology, and the Far Eastern Dept.
B.S., 1922, Illinois; M.S., 1923, D.Sc., 1928, Harvard

- JACOBSEN, BERNE SELVIG, 1943.....Associate in Journalism
B.A., 1931, Washington
- JOHNSON, CARL GUSTAF, 1943.....Acting Instructor in Physics
B.S., 1926, Washington
- KELLEY, TIM, 1944.....Acting Instructor in Geography
B.A., 1936, M.A., 1940, Washington
- KELLY, MOLLY R., 1945.....Instructor in Nursing Education
B.S., 1944, Washington
- KIRKLAND, ERIC BROOKS, 1942 (1943).....Instructor in Physical Education
B.S., 1937, Washington
- KOEHLER, JOHN GRIFFITH, 1944.....Acting Associate in Art
B.A., 1939, Washington
- KONIRSH, SUZANNE G., 1944.....Associate in Journalism
Ph.D., 1923, University of Vienna
- LINE, ROBERT, 1944.....Lecturer in Economics and Business
B.A., 1910, Montana; M.A., 1911, Harvard
- McCLAY, MARY BEAR, 1943.....Associate in Mathematics
B.Ed., 1937, Eastern Illinois State Teachers College; M.A., 1941, Illinois
- McCRERY, LESTER LYLE, 1943.....Instructor in Speech
B.A., 1933, M.A., 1940, Washington
- McKINNON, STEWART, 1944.....Lecturer in Economics and Business
B.A., 1921, M.A., 1941, University of Wisconsin
- MacNEAL, JAMES NEAL, 1943.....Acting Instructor in Physics
B.S., 1939, St. Joseph's
- MATHY, LEONARD G., 1945.....Acting Instructor in Economics and Business
A.B., 1941, M.A., 1943, Illinois
- MILLER, RICHARD, 1944.....Acting Associate in English
B.A., 1936, Oregon; M.A., 1937, Columbia
- MILLS, CASWELL ALBERT, 1942 (1943).....Instructor in Physical Education
B.A., 1935, Minot Teachers College
- MOUNT, JAMES N., 1943.....Acting Instructor in Physics
B.Ed., 1920, M.A., 1922, Washington
- MUHLBERG, HENRY CLINTON KRESS, 1943.....
Instructor in Mathematics and General Engineering
B.S., 1908, U. S. Military Academy
- MURTON, CLARENCE CHARLES, 1943.....Associate in Journalism
B.A., 1924, Washington
- NEWCOMB, WILBUR KENNETH, 1945.....Associate in Economics and Business
B.S., Ed., 1923, State Teachers College, Ada, Oklahoma; M.S. Ed., 1929, Oklahoma
- OSTROTH, JEAN CONNELL, 1944.....Instructor in Nursing Education
B.S., 1936, Washington
- PATTERSON, LILLIAN B., 1944.....Acting Assistant Professor of Nursing Education
B.A., 1942, M.A., 1943, Washington
- PERKS, LILIAN CHARLOTTE, 1942.....Associate in Mathematics
M.A., B.S., 1906, University of St. Andrews, Edinburgh, Scotland
- REDDING, WILLIAM CHARLES, 1943.....Instructor in Speech
A.B., 1936, A.M., 1937, Denver
- SCHEER, ALFRED E., 1943.....Acting Instructor in Physics
Ph.B., 1911, Hamline; M.S., 1917, Washington
- SCOTT, DAVID BROWN, 1943.....Acting Instructor in Physics
B.S., 1938, Seattle Pacific College; B.S., 1940, Washington
- SHOOP, AMY JOHNSON, 1944.....Instructor in Nursing Education
B.S., 1940, Oregon
- SIMPSON, FLOYD ROBERT, 1943.....Acting Assistant Professor of Economics and Business
B.A., 1933, M.A., 1938, Ph.D., 1943, Minnesota
- SMITH, LOUIS E., JR., 1943.....Acting Instructor in Physics
A.B., 1938, San Diego State College
- SPELLACY, ADELE, 1945.....Acting Associate in School of Art
B.A., 1934, Washington
- SPRAGG, AMOREL M., 1944.....Acting Associate in Art
B.A., 1934, Washington

- SWYGARD, KLINE R., 1943.....Associate in Political Science
B.A., 1935, Washington
- SYLVESTER, HOWARD E., 1943.....Acting Associate in English
B.A., 1937, M.A., 1941, New Mexico
- THAYER, THEODORE, 1944.....Assistant Professor of History
B.A., 1934; M.A., 1937, University of Buffalo; Ph.D., 1940, Pennsylvania
- TWEDDELL, COLIN ELLIDGE, 1943.....Associate in Far Eastern Studies
- VAN ARKEL, G. HARVEY, 1943.....Acting Instructor in Physics
B.S., 1930, M.S., 1934, Washington
- VICTOR, ANN PAZEMIS, 1944.....Associate in School of Music
- VILLESVIK, IDA, 1945.....Instructor in School of Home Economics
B.S., 1922, M.S., 1944, Washington
- WAGNER, CHARLOTTE F., 1940.....Associate in Speech
B.A., 1937, Washington
- WATSON, MARIGALE OSBORNE, 1943.....Associate in Mathematics
B.S., 1936, M.S., 1940, Washington
- WHITE, NANCY P., 1944.....Acting Associate in Drama
B.A., 1933, Washington
- WINNERS, ELSA, 1943.....Associate in Economics and Business
Ph.D., 1933, University of Berlin

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.

Bureau of Business Research. The University of Washington maintains, in the College of Economics and Business, a Bureau of Business Research which has the responsibility of applying scientific research methods to problems of economics and business in the State and throughout the Pacific Northwest. This Bureau cooperates with other departments of the University, with the Washington State Planning Council, and with local, state, and national business and professional groups interested in research in business and economic problems. The Bureau issues a monthly

journal, *Pacific Northwest Industry*, which contains basic statistical data, bibliography, and timely articles. From time to time the Bureau publishes reports on its researches.

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

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

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

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

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

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

Military Training Programs. Military training has been given at the University of Washington since 1875 with the exception of a brief period early in the present century. During peacetime the University maintains a Department of Military Science and Tactics and a Department of Naval Science and Tactics. During the present war the University has been used as a training school for both the Navy V-12 program and the Army Specialized Training Program.

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 *Penitence 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.*

D. *The College of Engineering.*

C. *The College of Education.*

E. *The College of Forestry.*

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

G. *The School of Law.*

I. *The College of Pharmacy.*

H. *The College of Mines.*

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.

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

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

SECTION I.—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

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 44. In administering this requirement the following reservations and exceptions are made:
 - (1) The 16 units cannot include any unit which received a grade lower than the minimum passing grade as defined by the high school itself.
 - (2) Less than a unit in one foreign language will not be counted.
 - (3) Students who are unable to meet the specific subject requirements of the college to which they seek entrance may petition the Board of Admissions for permission to enter with *provisional standing*, provided that they offer at least 3 units in English and 6 additional units in academic fields. *Provisional standing* continues until the student has satisfied the entrance requirements of the college in which he is enrolled. A student in this classification will not be permitted to file an application for a degree. Deficiencies may be made up with university credit if college courses covering the high school material are available, 10 college credits being considered the equivalent of one high-school unit. University credits earned by removing a deficiency cannot be used to satisfy group

*To count as a unit, a subject must be taught five times a week, in periods of not less than forty-five minutes, for a high school year of thirty-six weeks. The maximum allowance toward University entrance, for junior high school study, is four units.

†A 2.0 grade-point average means a "C" average, in terms of the standard grading system of the State of Washington.

MINIMUM UNIT ADMISSION REQUIREMENTS

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

For other recommendations see statement of college concerned.

College	English	Mathematics	For. Lang.	Lab. Sci. ¹	Soc. Sci.	Other Academ. Subj. ²	Free Elective
1. Arts and Sciences ³	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	2 of one*	1*	1	0	7
2. Economics & Business.....	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	0	0	1 (U.S. Hist. & Civics)	Minimum of 3	7
3. Education***	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	***	1*	1	Minimum of 2	7
4. Engineering..	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geom.)	0	1 (Chem.) ⁴ 1 (Phys.) ^{1a}	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.) ⁴ 1 (Phys.) ^{1a}	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.) ⁴ 1 (Phys.) ^{1a}	1	0	5

¹ Approved Laboratory sciences: Biology, Botany, Chemistry, Geology, Physics, Zoology.

*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.

² Typical academic subjects are: English, foreign language, mathematics, science, history, economics. Some non-academic subjects are: commercial courses, manual training, home economics, band.

³ Includes also Schools of Art, Architecture, Drama, Fisheries, Home Economics, Journalism, Music, Nursing Education, and Physical Education.

⁴ 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.

^{1a} 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*.

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

*** Students interested in teaching enter College of Arts and Sciences. They may request transfer to the College of Education when they have earned 45 credits in academic subjects with a grade average of 2.20 or better. A deficiency in foreign language may be removed by substituting 20 credits in language and literature.

requirements (see page 65). 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 53.

- a. For admission the student must present a scholarship record equivalent to that required of resident students at the University of Washington.
- b. No advanced credit will be given for work done in institutions whose standing is unknown, except upon examination. For fee, see page 51.
- c. Transfer of credit from institutions accredited for less than four years will not be accepted in excess of the accreditation of the school concerned.

3. *College of Education and School of Law.* See pages 96 and 111.

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 112 and 129.

- ✓ 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 45.
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 119. See Senior Year Residence Rule, page 53.

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,

* 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 at the time of registration.

Exemptions

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

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

All honorably discharged service men or women who served in the military or naval service of the United States during World War I, between April 6, 1917, and November 11, 1918, classified as residents, are exempt from the tuition fee. Under this exemption a reduction of one-half of the 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

FEES FOR RESIDENT STUDENTS¹

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

Notice: The right is reserved to change any or all fees without notice to present or future students. Consult University Calendar for fee payment dates. See page 50 regarding late registration fines.

Type of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. FEE			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$15	\$12.50		\$5	\$2.50	\$2.50	\$32.50	\$30.00	\$30.00
Fresh. & new soph..	15	12.50	\$25 **	5	2.50	2.50	57.50	30.00	30.00
Graduate.....	15	12.50		*	*	*	27.50	27.50	27.50
Law School.....	15	12.50	† 10	5	2.50	2.50	42.50	40.00	40.00
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service 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								

¹A 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.

FEES FOR NON-RESIDENT STUDENTS¹

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

Type of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. FEE			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$50	\$12.50		\$5	\$2.50	\$2.50	\$67.50	\$65.00	\$65.00
Fresh. & new soph..	50	12.50	\$25 **	5	2.50	2.50	92.50	65.00	65.00
Graduate.....	50	12.50		*	*	*	62.50	62.50	62.50
Law School.....	50	12.50	† 10	5	2.50	2.50	77.50	75.00	75.00
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service 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								

¹A 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 57.

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

Military Uniform. See page 109 for details.

Financial Obligations

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

Living Costs

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

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.

Military Science (See also page 109)

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 who are not citizens of the United States.
- f. 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.
- g. Students who claim credit for military science taken elsewhere than at the University. The student must make his claim when he registers in the department and all such credit allowed must be recorded by the Military Registration Secretary and the evidence must be filed in the student's permanent record file in the Military Registration Office. 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.

- h. Men who, because of physical condition, are exempted by the University Health Officer or are classified as 4F by the Selective Service.
- i. 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 page 109)

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

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 56.

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

Application for Degree

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

NOTE: Late 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 43.

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

Degrees—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 55). In all other cases of absence from examination, a grade of "E" or "UW" shall be given.

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

Cheating

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

1. An instructor 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 64-130.

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

III. DISMISSAL, WITHDRAWAL, AND ABSENCE REGULATIONS

Honorable Dismissal

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

Withdrawal

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

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

NOTE: A student is not permitted to have a withdrawal from required courses in freshman English, military science, 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 48-49. The fee gives each student a membership in the corporation, including a free subscription to the University of Washington *Daily* and free or reduced admission to such football, basketball, and baseball games, tennis, track, and wrestling meets, crew regattas, debates, oratorical contests, and musical concerts as may be designated.

STUDENT WELFARE

Housing

The University, 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 51.)

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.

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

University Health Center

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

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

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

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

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

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

Personal and Vocational Guidance

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

ALUMNI ASSOCIATION

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

SCHOLASTIC HONORS

Honor Awards

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

Honor Societies

Phi Beta Kappa
Sigma Xi

Tau Beta Pi
Order of the Coif

FELLOWSHIPS, SCHOLARSHIPS, PRIZES, AND AWARDS

(See the following three pages.)

Fellowships and Scholarships for Graduates

(Subject to sufficiency and availability of funds)

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

NAME	No.	PAY	DEPARTMENT
University Teaching Fellowships....	*	\$210 Qtr. ¹	any
University Graduate Scholarships....	*	\$45 Qtr. ¹	any
University Honorary Fellowships....	3	none	any
Sarah Loretta Denny Fellowships ² ...	3	*	any
E. C. Neufelder Scholarship ³	1	*	any
Seattle Branch of Am. Ass. of U. Wom. Scholarship ⁴	1	\$100	any
Alpha Chi Omega Alumnae Scholarship ⁴	1	\$100	any
Arthur A. Denny Fellowships ^{2 5}	6	....	C.E., Ed., Eng., Hist., Mining E., Pharm. Drama
School of Drama Scholarships.....	*	\$91.50	
Agnes Healy Anderson Research Fellowships.....	*	*	Forestry
Research Fellowships.....	4	\$720 Yr. ⁶	Mines
Wom. Aux. of Am. Inst. of Min. and Metal. Eng.....	*	*	Mines
National Research Fellowships.....	*	\$1800 Yr.	Physics, Chem.
Arlien Johnson Scholarship ⁷	1	\$150	Social Work
Family Society of Seattle Fellowships ⁷	3	\$77.50 Mo.	Social Work
Wash. Children's Home Society Fellowship ⁷	1	\$60 Mo.	Social Work
Ryther Child Center Fellowships ⁷ ...	2	\$50 Mo. and Maintenance	Social Work
King County Welfare Department Fellowships.....	*	*1	Social Work
Rhodes Scholarship ⁸.....	..	....	.....

* Variable.

¹In addition to exemption from tuition and incidental fees.²Not to be awarded in 1945-1946.³Open to graduate of U. of W. after one quarter of graduate work.⁴Open only to women; consult Office of Student Affairs.⁵Open only to residents of the state of Washington.⁶Holder to be on duty for twelve months.⁷Holder may arrange to work for equivalent of tuition charges.⁸Not 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. ¹	1	\$100	entering freshman
Pi Lambda Theta.....	1	tuition	entering freshman woman
Isabella Austin Memorial.....	3	fees, 1 qtr.	entering freshman woman
Julius and Louisa Bornstein.....	1	varies	freshman, preferably

II. FOR OTHER UNDERGRADUATES

DONOR	No.	AMOUNT	RECIPIENT
Isabella Austin Memorial.....	1	\$100	sophomore woman
Sigma Epsilon Sigma.....	2 or more	\$25	sophomore woman
Bob Doble Memorial.....	1	\$150	junior in Journalism
Helen Nielson Rhodes Memorial....	1	\$50	junior or senior in Art
William Mackay Memorial.....	1	\$250	junior or senior in Mines
City Panhellenic Association.....	1	\$100	{fraternity woman with 3 or 4 years at U. of W.
U. of W. Alumnae Association....	1	\$100	woman entering senior yr.
Advertising Club.....	1	\$25	major in advertising
Frederick and Nelson.....	10	\$250*	students in retailing
Iota Sigma Pi.....	1	\$100	woman major in Chem.
School of Drama.....	varies	\$91.50	students in Drama
T. F. Murphy.....	1	tuition	student in Drama
Evergreen Theatres.....	1	\$500	student in Drama
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.....	1	*	man in Music
Frances Dickey Memorial.....	1	*	woman in Music
Beecher Keifer Memorial.....	1	\$37.50	man violin student
Wealthy Ann Robinson Memorial....	1 or 2	\$100	graduate nurses
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

¹ From a Washington but not a Seattle high school; apply by April 13.² This amount is disbursed over a period of one and one-half academic years. The recipients accept part-time paid work at the store and receive University credit for service-training work.

* One lesson a week in vocal or instrumental study.

Prizes and Awards
(Subject to sufficiency and availability of funds)

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

NAME	NATURE	AWARDED FOR OR TO:
Alpha Rho Chi.....	medal	graduating senior in Architecture
Am. Institute of Architects.....	medal	graduating senior in Architecture
Architecture Alumni.....	books	two graduating seniors in Architecture
	\$100	{ divided among 4th and 5th year students in Architecture
Ruth Nettleton Memorial.....	cash	student in Art
Phi Sigma.....	medal	student in Biology
Phi Lambda Upsilon.....	books	soph. man in Chem. or Chem. Engineering
Phi Mu Gamma.....	statuettes	one man and one woman in Drama
Zeta Phi Eta.....	plaque and medallion	one man and one woman in Drama
	silver cup	one man and one woman in Speech
A. S. U. W.....	medallion	four years' service on Varsity Discussion Squad
Alpha Kappa Psi.....	\$15	man entering senior year in College of Econ. and Bus.
Beta Gamma Sigma Alumnae....	cup and certificate	freshman woman in College of Econ. and Bus.
Beta Gamma Sigma.....	plaque and certificate	junior woman in College of Econ. and Bus.
Phi Delta Kappa.....	plaque	sophomore man in College of Econ. and Bus.
Pi Alpha.....	book & plaque	man and woman graduating from the College of Education with highest scholastic records
Paul H. Johns, Jr., Memorial ¹ ...	\$100 each	graduating senior in Far Eastern Department
Charles Lathrop Pack Memorial.	\$25	junior and senior in Forestry
Delta Phi Alpha.....	book	essay on subject in Forestry
Robert T. Pollard Memorial....	cash or loan	senior in German
Italian Club.....	medal	student in Far Eastern
Sigma Delta Chi.....	plaque or certificate	best student in Italian 2
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 ²
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 1 year	best junior in each unit in M. S.
Quartermaster Corps Award.....	cup	junior honor students in Coast Art. and Inf.
Leadership Prizes.....	officer's saber	best student in Quartermaster Corps Unit
		student in Quartermaster Corps Unit
		cadet Captain in Coast Artillery and Infantry

¹Not offered in 1945-1946.

²Essay shall "counteract the tendency of students to succumb to the specious arguments of advocates of subversive doctrines."

SECTION II.—ANNOUNCEMENT OF CURRICULA

COLLEGE OF ARTS AND SCIENCES

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

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

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

Student Counselling

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

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-51. 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 three-credit *academic* course, must be taken by all women during the freshman year.

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

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

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

CURRICULA

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

GROUP I	GROUP II	GROUP III
<i>Humanities</i>	<i>Social Sciences</i>	<i>Sciences</i>
Architecture	Anthropology	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 75, 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 117.

ANIMAL BIOLOGY

ARTHUR SVIHLA, Executive Officer, 234 Johnson Hall

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

Elective Curriculum

DEGREE: Bachelor of Science

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

Prescribed Curriculum

DEGREE: Bachelor of Science in Anatomy

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

DEGREE: Bachelor of Science in Physiology

Consult the Division of Physiology before planning a major in this field. Fifty credits in the Department of Animal Biology will be required for graduation. These must include Zoology 1 and 2, 105 and 125, 126, or 127-128; Anatomy 111; Physiology 151, 2, 3, and 163 or 173. Also required are Chemistry 161 and 162, which will count towards the 50 credits.

DEGREE: Bachelor of Science in Zoology

Fourteen additional U D hours in Animal Biology beyond the 36 hours set forth in the elective curriculum will be required for graduation with this degree. Botany 108 and Fisheries 101, 102, 103, will count toward this degree. Not more than 10 credits in one, or 15 hours in both anatomy and Physiology will be allowed to apply on this degree.

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

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

A Minor requires 20 credits including the 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.

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

ARCHITECTURE

HARLAN THOMAS, *Director Emeritus*, Physiology Hall

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

Member of Association of Collegiate Schools of Architecture

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

* 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	Arch. 1.....	2	Art 20. Modern Sculpture...	2
Art 53, 54, 55. Design.....	9	Art 103, 104, or 157, 158....	6	Art 101. Elementary	
Art 56, 57, 58. Drawing		Art 126. Hist. of Painting... 2		Interior Design.....	2
and Painting.....	9	Art 160, 161, 162. Life.....	9	Art 150. Illustration.....	5
Art 72. Sculpture.....	3	Approved Design.....	3	Art 163 or 164. Composition.	5
Electives.....	19	Econ., Pol. Sci., or Soc.....	5	Electives.....	31
		Laboratory Science.....	10		
		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	Arch. 1.....	2	Art 103, 104, or 157, 158....	6
Art 9, 10, 11. Design.....	9	Art 12. History of Art.....	5	Art 105, 106.....	6
English 4, 5, 6. Composition.	9	Art 53, 54, 55. Design.....	9	Art 160 or 161 or 162. Life..	3
Educ. 1. Orientation.....	2	Art 56, 57, 58. Dr. and Ptg..	9	Sculpture (3) or Cost. Des.	
Social Science.....	5	Lab. Science.....	10	(2) plus Electives.....	12
Electives.....	11	Psych. 1. General.....	5	Educ. 9, 60, 70, 90.....	13
		Electives.....	7	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: Arch. 1; 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: Arch. 1; Art 20, 107, 108, 109, 126; Approved Design, six credits; Econ., Pol. Sci., or Soc., five credits; laboratory science, ten credits; electives, eleven credits.

Fourth Year: Art 160, 161, 162, 163, 164; electives, twenty-six credits.

Sculpture

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

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

Fourth Year: Art 132, 133, 134, 136, 137, 138, 160, 161, 162; 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 20, 101, 102, 103, 104 or 157, 158; 105, 106, 126—a total of twenty credits.

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

The minor for 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.

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

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

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

Elective Curriculum

DEGREE: Bachelor of Science

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

Prescribed Curriculum

DEGREE: Bachelor of Science in Bacteriology

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

FIRST YEAR

	Autumn	Winter	Spring	
Eng.	1	2	...	Comp.
Chem.	1, 21	2, 22	23	General
Zool.	1 or 3	2 or 4	...	Intro.
Psych.	...	...	1	
Soc.	...	...	1	

SECOND YEAR

	Autumn	Winter	Spring	
Chem.	131	132	...	Organic
Chem.	...	...	111	Quant. Anal.
Physics	1 or 4	2 or 5	...	General
Bact.	...	...	100	Fundamentals
Elective	5 cr.	5 cr.	...	

THIRD YEAR

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

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Bact. 105. 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	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	5
				Elective.....	5

FOURTH YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Bact. 110. Pathology.....	5	Bact. 121. Applied.....	5	Elective.....	5
Elective.....	5	Electives.....	5		
<i>Group Option</i>					
(a) Chem. 161. Physiological 5	5	(a) Chem. 162. Physiological 5	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	Bact. 132. Industrial....	5
				Bact. 122. Applied.....	5

BASIC MEDICAL SCIENCE

See Pre-Medicine, page 89.

BOTANY

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

DEGREE: Bachelor of Science

The elective major requires 40 credits, including courses 1, 3, 101; 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*, 101 Bagley Hall

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

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

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

Prescribed Curriculum**DEGREE: Bachelor of Science in Chemistry**

The requirements of the prescribed curriculum are:

First Year: Chem. 1 or 21, 2 or 22, 23; Math. 4, 5, 6; English 1, 2.
 Second Year: Chem. 109, 110, 101; Math. 107, 108, 109; Physics 1, 2, 3.
 Third Year: Chem. 131, 132, 133; 10 credits in German or French.
 Fourth Year: Chem. 181, 182, 183; Chem. 190.

All electives must be approved by the department.

Teaching Major or Minor in the College of Education

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

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

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

CLASSICAL LANGUAGES AND LITERATURE

(Greek and Latin)

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

DEGREE: Bachelor of Arts

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

Teaching Major or Minor in Latin in the College of Education

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

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

DRAMA**GLENN HUGHES, Director, 410 Denny Hall****DEGREE: Bachelor of Arts**

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

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

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

ECONOMICS**H. H. PRESTON, Dean, College of Economics and Business, 210 Commerce Hall****DEGREE: Bachelor of Arts**

A major requires 50 credits including E.B. 1-2, 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, 167 or 144, 177 or 174, 161 or 162, and twenty-five English elective credits of which twenty are earned in upper-division literature or creative writing courses. These upper-division credits may be used to complete the survey of English and American literature or to provide concentrations in certain periods 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.

* 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

DEGREE: Bachelor of Arts

Majors are offered in one general and four specialized curricula of which the student is required to select one. F.E. 10 is required of all majors. The general major requires a further 45 credits in Far Eastern studies. The major in Japanese, Chinese, and Slavic studies requires 30 credits in 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; 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		
Group Option		Group Option			
(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..	5
		Bact. 107. Spoilage.....	5	Bot. 115. Yeasts and Molds..	5
Group Option		Group Option		Group Option	
(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 (C. Garcia-Prada, chairman). It normally includes the following courses; Anthropology 52 (Social), 65 (Peoples of the World); Economics 4 (Survey), 131 (Foreign Trade); Geography 7 (Economic), 105 (South America), 109 (Middle America); History 41, 42 (Latin-America and the Caribbean); Political Science 128 (Foreign Relations, U. S. and Americas); Spanish 101, 102, 103 (Composition and Conversation; Commercial); 104, 105, 106 (Survey) and 12 elective credits in Latin-American literature.

GEOGRAPHY

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

DEGREE: Bachelor of Arts

Major in Geography

A major requires 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 in 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
Elective (men).....	2	P.E. 15 (Men).....	2	G.E. 3. Drafting Problems... 3	

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	Geol. 124. Petrography and Petrology..... 5	Geol. 125. Petrography and Petrology..... 5
Pol. Sci., Soc., Geog., or other Group 2 electives... 5	Geol. 130. Paleontology..... 5	Geol. 132. Invertebrate Paleontology..... 5
Foreign Language..... 5	Foreign Language..... 5	Foreign Language..... 5

FOURTH YEAR

Geol. 101. History of Geol... 3	Geol. 127. Ore Deposits..... 5	Geol. 144. Field Methods.... 5
Geol. 126. Sedimentary Petrography..... 5	Geol. 142. Structural Geol... 5	Geol. 190. Thesis..... 5
Pol. Sci., Soc., Geog., or other Group 2 electives... 5	*Professional electives..... 5	*Professional electives..... 5
*Professional electives..... 3		

* Depending on field of interest. A fifth year may be necessary for the completion of the above 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 6 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, 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 6 quarters of physical education as scheduled in the first four years in the Teacher-Training curriculum.

This curriculum requires the completion of 225 credits plus 6 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 Arts 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

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

DEGREE: Bachelor of Arts

Admission. Students, to qualify as third-year majors in journalism, must complete 90 scholastic credits, 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 eight 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, 51, 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 65), 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.

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

In addition to the general requirements of the University (see pages 52-54) and the group requirements of the College of Arts and Sciences (see page 65), fifty-two credits in approved music courses are required, including eighteen in Literature and History (see Classification of Courses above); sixteen in Materials and Composition; six in Ensembles.

Prescribed Curricula

DEGREE: Bachelor of Arts in Music

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

Fifteen credits must be earned in ensemble courses, not less than four being in choral groups nor less than six in instrumental groups. As 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.

In addition to the general requirements of the University (see pages 52-54), 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 or 132, 193, History and Literature; 52, Score Reading, or exemption; 98, Choral Music; 109, Counterpoint; 112, Form; twenty credits in Group II, including Philosophy 129,* Philosophy of Art; ten credits in Group III, including Physics 50, Sound.

Specific requirements for the respective majors are as follows:

I. MAJOR IN VOCAL OR INSTRUMENTAL MUSIC

A. Piano: Music 33, 34, 35, 83, 84, 85, 133, 134, 135, Repertory; 73, 74, 75, 173, 174, Transposition and Improvisation; 138, Accompanying; 139, Ensemble; 165-166-167, Piano Teaching, or 199, Senior Recital; 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; 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; 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; 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.

III. MAJOR IN MUSIC EDUCATION

Music 40, 41, 42, 62, Orchestral Instruments; 43, School Orchestra; 113, 116, Elementary and Junior High School Music; 136, 180, Conducting; 143, Orchestration; eighteen credits in vocal and instrumental music; Education 1, Orientation; 9, Secondary; 70, High School Procedure; 75R, Senior High School Music; twenty credits in Group II, including Psychology 1 (General) and History 164 (Northwest).

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

Teaching Major or Minor in the College of Education

For the teaching major the departmental requirements for the first four years are the same as III above, except that Music 112, 143, 193, and six credits in orchestral instruments, totalling 21 credits, may be either omitted or counted as one of the teaching minors. In the fifth year 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, 195, Choral Conducting; six credits in vocal music beginning with 48C, totalling 23 credits.

C. Instrumental Music: Courses 40, 41, 42, Orchestral Instruments; 51, Harmony; 98, Choral Music; 136, 180, Conducting, totalling 24 credits.

* Except for Music Education majors.

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							

* Preferred elective.

Six quarters of physical education activity, P.E. 10, and twenty elective credits approved by the department must be presented.

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. 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, 150, 162, 163, 164; Soc. 1; Social Work 192, 196; Bact. 103; Psych. 1. A total of 60 quarter credits is required.

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 40 credits in Philosophy including courses 2 or 3, 5, 101-102-103. Fifty per cent of the credits must be in upper-division courses.

PHYSICAL AND HEALTH EDUCATION FOR MEN AND WOMEN

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, 105-106, 160-161.

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

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

SECOND YEAR

	Autumn Qtr.	Winter Qtr.	Spring 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 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 consists of 50 credits, distributed as follows:

Political Science 1.....	5
One of the following intermediate courses: 52, 54, 56, 58, 74.....	5
Required upper-division courses:	
111 or 118.....	5
127 or 136.....	5
145	5
153	5
155	5
Approved electives, preferably in the field of concentration.....	15
	<hr/> 50

Teaching Major or Minor in the College of Education

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

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

PRE-EDUCATION

FRANCIS F. POWERS, Executive Officer, 114 Education Hall

(See College of Education section, page 96, 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 111. 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 64-65. 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 112.

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

GEORGE H. CADY (216 Bagley Hall), EARL R. NORRIS (122 Bagley Hall), ARTHUR W. MARTIN (202 Physiology Hall), LLEWELLYN A. SANDERMAN (302 Physics 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). A copy of the three-year University of Washington pre-medical curriculum may be obtained upon application to the Advisory Board. 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. A general grade-point average of 2.5 must be maintained by all students in these fields.

BASIC MEDICAL SCIENCE

Advisers: Pre-Medical Committee (See Pre-Medicine)

DEGREE: Bachelor of Science in Basic Medical Science

This curriculum is intended to provide the bachelor's degree for students who enter medical school at the completion of their third year of pre-medical work and wish to apply their first year's credit gained at medical school to obtain the degree of Bachelor of Science in Basic Medical Science from the University of Washington.

The requirements for this degree are that the student shall satisfy the first three years of the University of Washington "Pre-medical curriculum," and the first year of a medical school or dental school curriculum.

Credit in subjects taught in the first year's curriculum of any Class A medical school, as rated by the A.M.A. (or dental school associated with any Class A medical school), may be applied toward the degree. Since Bacteriology 102, 103, 104, 105, 110, 112, Anatomy 105, 106, 107, Chemistry 161, 163, and Physiology 151 and 153 are

considered to duplicate similar courses in medical and dental school, credit gained in these courses will not be accepted toward the degree. Not more than 6 quarter credits in general human anatomy dissection taken as an undergraduate course will be accepted toward the degree.

Further requirements are that the student shall have spent at least two years (of which one year must be the third year) of his pre-medical work in full residence at the University of Washington, and shall present an over-all grade-point average of 2.5 or above.

The curriculum also serves those students in pre-dentistry who satisfy the University of Washington three-year curriculum in pre-medicine.

PRE-SOCIAL WORK

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

For detailed information, see page 129; see also *Education for Social Work* bulletin.

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.

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

PSYCHOLOGY

STEVENSON SMITH, *Executive Officer*, 338 Philosophy Hall

DEGREE: Bachelor of Science

A major requires 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)

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

DEGREE: Bachelor of Arts

Majors are offered in French, Spanish, and Italian. Majors and minors for the 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 45¹ credits, and a minor with 33 credits, namely courses 4, 5, 6; 41; 101, 102, 103; 104, 105, 106; 107, or 108²; 158, 159; plus 12 elective credits³ and some directed reading for the major. A Spanish major may be met with 43¹ credits, and a minor with 31 credits, namely courses 4, 5, 6; 101, 102; 103; 104, 105, 106; 158, 159; plus 15 elective credits³ and some directed reading for the major.

¹Beyond 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.

²In 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.

³Any 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 Hall

DEGREE: Bachelor of Arts

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

Majors must maintain a general grade-point average of 2.0, and a 2.5 average in Sociology courses; they must offer 36 credits, including courses 1, 31, 55 or 155, and 66 or 166.

Teaching Major or Minor in the College of Education

The major is the same as in the College of Arts and Sciences, except that 166 may be substituted for 66.

The minor requires 25 credits, including courses 1 together with 140 and 166 or approved equivalents.

SPEECH

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

DEGREE: Bachelor of Arts

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

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

Teaching Major or Minor in the College of Education

Speech 40 and 43 are prerequisite to all work for the normal diploma with a major or a minor in Speech.

Other required courses:

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

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

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

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 43-51. 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 60.

* 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.

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 six quarters of physical education activities, plus Physical Education 10.

3. Continuation in the College of Economics and Business will depend upon the student's demonstration of general fitness for work in that college, including the maintenance of satisfactory academic performance. See Scholarship Rules, page 56. The same rules apply to a major in economics in the College of Arts and Sciences.

Lower-Division Requirements

FIRST YEAR

SECOND YEAR

	<i>Credits</i>		<i>Credits</i>
E.B. 1-2. Principles of Economics.....	10	†E.B. 54, 55. Business Law.....	10
Geography 7. Economic Geography.....	5	E.B. 60. Statistical Analysis.....	5
*English Composition 1, 2, 3.....	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. Secretarial Training: E.B. 115, 116, 117, 118, 167; Engl. 60.
15. Transportation: 20 credits or more approved by the adviser chosen from E.B. 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 111. 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 in economics and business 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 92.
- (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, 117, and 118.
- (e) Thirty-three credits of education courses, including Educ. 75E and Educ. 75F. See College of Education section, page 96.
- (f) A teaching major and two teaching minors in commercial education have been provided also in the College of Education. See page 96.

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 scholar-

ship with a sound philosophy of government and a scientific attitude and method of approaching social and economic problems. Not later than the end of the third year the student will select a field of interest for specialization in the fourth and graduate years.

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

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

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

FIRST AND SECOND YEAR

English 1 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

E.B. 103, 105, 171 plus a choice of five credits from E.B. 170, Sec. 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 YEARS

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

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

Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 117.

Announcement of Courses

For announcement of courses offered by the College of Economics and Business, see page 144.

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 60.

Requirements for Graduation

During the first two years the candidate must meet certain group requirements as outlined on page 65 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 or degree.

Specific requirements for graduation:

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

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

Requirements for the Three-Year Secondary Certificate

The University Three-Year Secondary Certificate, based on a degree from the University of Washington, is valid for three calendar years from date of issue. 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 approved substitute.....	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 112.)

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 117.

Professional Degrees. For requirements for professional degrees, see page 120.

Fellowships, Scholarships, Prizes. See page 60.

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-51. In addition to the all-University entrance requirements, the College of Engineering requires one unit[†] each of elementary algebra, plane geometry, physics[‡], and chemistry, and one-half unit each of advanced algebra and solid geometry.

Students planning to major in chemical engineering should include two units of German in high school. 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.

[†]A "unit" is applied to work taken in high school. To count as a unit a subject must be taught five times a week in periods of not less than forty-five minutes, for a school year of thirty-six weeks.

[‡]The high school 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 chosen 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.)

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
†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

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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				

College of Engineering

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.B. 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

Credits		Credits	
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. Internal Combustion Engines..... 3			

II. LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AERONAUTICAL ENGINEERING AND NAVAL SCIENCE

FRESHMAN

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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	

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:

	Credits		Credits
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

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

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
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. Alt. Currents..... 4		E.B. 110. Accounting Analysis and Control.... 5	
E.E. 102. Direct Cur. Lab... 2		E.E. 122. Alt. Current Lab... 2		C.E. 142. Hydraulics..... 5	
E.B. 54. Business Law..... 5		E.B. 63. Prin. of Account... 5		Electives.....	5
E.B. 62. Prin. of Account... 5		Electives.....	6		

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. Engin. Calculus... 3		Math. 42. Engin. 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 52)

Military training has been given at the University of Washington since 1875 with the exception of a brief period early in the present century.

The present Reserve Officers' Training Corps functions under the provisions of the National Defense Act of June 4, 1920, and directives of the War Department based on that Act.

Military Training Certificate. A military training certificate is issued upon request to each student completing instruction in the Basic Course, R.O.T.C. This certificate shows the course pursued and the military qualifications attained.

Uniforms

The regulation R.O.T.C. uniform is issued for use at the University of Washington. Each R.O.T.C. student makes a \$25.00 uniform deposit to the University. From this deposit the University collects the cost of articles lost by the student, or of damage to them due to other than fair wear and tear while in his possession. In case the student after registration is excused from military science, his deposit, less the cost of any article lost or damaged, is returned to him upon presentation of a properly authenticated slip to the University cashier.

Unless otherwise directed the uniform is worn at all military formations.

Uniforms are returned to the Department of Military Science and Tactics at the end of the academic year by those students who have not terminated residence earlier. The latter return their uniforms at withdrawal.

DEPARTMENT OF NAVAL SCIENCE AND TACTICS

For the duration of the war, the Department of Naval Science and Tactics is on a war footing. Students are qualified as Naval Reserve Midshipmen. They are selected from qualified young men in the enlisted forces of the Navy after recommendation by their commanding officers and a comprehensive qualifying examination.

The Department of Naval Science and Tactics is therefore not at present open to civilian students.

COLLEGE OF FORESTRY

GORDON D. MARCKWORTH, *Dean*, 206 Anderson Hall

For detailed information concerning University fees, expenses, and admission requirements, see pages 43-51. 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 60.

Requirements for Graduation

Undergraduate Work. For the degree of bachelor of science in forestry the student must complete, in addition to required subjects outlined in the curriculum, enough electives to make a total of 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 117.

Lower-Division Curriculum

FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
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 5. 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.

Upper-Division Curricula

Beginning with the third year, the student will, with the approval of his faculty adviser, elect to follow one of the specialties in forestry. (See prerequisites under description of courses.)

Forest Management Curriculum

THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 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

*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.

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.

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 88 and 93.

For scholarship rules, see page 56.

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 43-51. 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 56.

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 117.

Professional Degrees. For requirements for professional degrees, see page 120.

Fellowships, Scholarships, Prizes. See page 60.

*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

(Freshman and sophomore years the same in all curricula)

FRESHMAN

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 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
C.E. 91. Mechanics.....	3	C.E. 92. Mechanics.....	3	E.B. 3. Gen. Economics....	3
Elective*.....	3			Elective*.....	3

Metallurgical practice in summer vacation.

SENIOR

Met. 155. Iron and Steel....	3	Met. 163. Metallography....	3	Met. 166. Adv. Non-ferrous.	3
Met. 162. Physical Metal'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
				Chem. 141. Elem. Physical..	3

Ceramics practice in summer vacation.

SENIOR

Cer. 121. Cer. Prod. Lab....	5	Cer. 122. Cer. Prod. Lab....	5	Cer. 123. Cer. Prod. Lab....	5
Min. 191. Thesis.....	3	Min. 103. Mine Rescue Tr...	1	Min. 107. Mine Excursion...	1
Met. 162. 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 167.

COLLEGE OF PHARMACY

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

Entrance Requirements

For detailed information concerning University admission requirements, fees, and expenses, see pages 43-51. 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 117.

Fellowships, Scholarships, Prizes. See page 60.

Curricula

Three four-year curricula are outlined below, each leading to the degree of Bachelor of Science in Pharmacy. The student must complete a total of 180 academic credits and meet the all-University requirements for graduation.

The first two years of all curricula are the same:

FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Pharm. 1. General.....	3	Pharm. 2. General.....	3	Pharm. 3. General.....	3
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 one of the following curricula:

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

THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology 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

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology and Toxicology..... 3		Ph'col. 102. Pharmacology and Toxicology..... 3		Ph'col. 103. Pharmacology and Toxicology..... 3	
Ph. Chem. 195. Pharmaceutical Chemistry..... 5		Ph. Chem. 196. Pharmaceutical Chemistry..... 5		Ph. Chem. 197. 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

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph'col. 101. Pharmacology and Toxicology..... 3		Ph'col. 102. Pharmacology and Toxicology..... 3		Ph'col. 103. Pharmacology and Toxicology..... 3	
Mod. Foreign Language..... 5		Mod. Foreign Language..... 5		Mod. Foreign Language..... 5	
Zoology 1 or 3..... 5		Zoology 2 or 4..... 5		English 2. Composition..... 5	
Approved elective..... 2		Approved elective..... 2		or 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 174.

THE GRADUATE SCHOOL

Including the Graduate School of Social Work

ADMINISTRATIVE OFFICERS

Lee Paul Sieg, Ph.D., LL.D.....*President of the University*
 Edwin Ray Guthrie, Ph.D.....*Dean of the Graduate School*

Graduate Council: Dean Guthrie, *chairman*; Professors F. Eastman, Eby, Harrison, Hitchcock, Kerr, Mander, Marckworth, A. W. Martin, Powers, Ray, Robinson, Vail, Van Horn; Mrs. Wentworth, *secretary*.

Graduate School Publications Committee: Dean Guthrie, *chairman*; Professors Carpenter, K. Cole, Goodspeed, Griffith, Mund, Gunther, Rigg, 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 take the Graduate Record Examination and be approved by a committee appointed by the dean of the Graduate School, which shall also constitute the advisory committee to oversee the student's subsequent work. Unless the committee is already sufficiently acquainted with the candidate's capacity and attainments, there shall be a conference of the committee and the candidate, the purpose of which is twofold:

(a) To determine whether the student has the quality of mind and the attitude toward advanced work which would justify his going on for an advanced degree.

(b) To satisfy the major and minor departments and the graduate council that the student has the necessary foundation in his proposed major and minor subjects. If he lacks this foundation, he will be required to establish it through undergraduate courses or supervised reading.

An undergraduate major is normally prerequisite to candidacy for a graduate major in any department, and an undergraduate minor to a graduate minor.

If the student is from a college or university which falls below a satisfactory standard in curriculum, efficiency of instruction, equipment, or requirements for graduation, he may be required to take other undergraduate courses in addition to those required as a foundation in the major and minor subjects.

As soon after matriculation as feasible a candidate for an advanced degree must file with the dean of the Graduate School an outline of his proposed work. This outline is submitted to the advisory committee for acceptance or modification. After the student has taken the Graduate Record Examination, the outline is approved by the Graduate School, and the student is notified. He will then be regarded as a candidate for a degree. Information concerning the Graduate Record Examination may be obtained at the office of the Graduate School.

Scholarship. A student shall be dropped from the Graduate School when, in the opinion of the dean and the departments concerned, his work does not justify his continuance.

Students on the Staff. Assistants, associates, or others in the employ of the University are normally permitted to carry a maximum of six 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

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 not less than two quarters before the final examination.

The Final Examination. An oral, or oral and written examination, before the same committee as above, on the field of the thesis and such courses as were taken subsequent to the qualifying examination. However, if the qualifying examination did not meet with the clear approval of the committee, the candidate's entire program, or such parts thereof as may have been designated by the committee, shall be subject to review.

If there is a division of opinion in the committee in charge of either examination, the case shall be decided by the Graduate Council, with right of appeal to the Graduate Faculty.

5. The preparation of a thesis, as stated above, embodying the results of independent research. If the thesis is of such a character, or falls in such a department, that it requires library or laboratory facilities beyond the resources of the University, the student will be required to carry on his investigation at some other university, at some large library, or in some special laboratory. This thesis must be approved by a committee, appointed by the major department, of which the instructor in charge of the thesis shall be a member.

Two copies of the thesis in typewritten form (or library hand) shall be deposited with the librarian for permanent preservation in the University archives at least two weeks before the date on which the candidate expects to take the degree. Printed instructions for the preparation of thesis manuscripts are available at the library. One copy shall be bound at the expense of the candidate. At the same time a digest of the thesis, not to exceed 3,000 words, must be filed in the office of the Graduate School.

The thesis, or such parts thereof, or such a digest as may be designated by the Council, shall be printed. The candidate shall contribute \$25 to the publishing fund for theses, for which he shall receive 50 copies of his thesis if it is printed entire, or 50 copies of a digest of his thesis. From this fund the library is provided with 400 copies.

6. A statement certifying that all courses and examinations have been passed and that the thesis has been accepted and properly filed in the library shall be presented to the dean at least one week before graduation. This statement must bear the signature of all major and minor instructors in charge of the student's work, and of the committee appointed by the major department to pass on the thesis.

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 fields conform to the general requirements for these degrees:

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

The degree of *Doctor of Philosophy* is given in the following fields:

Anatomy, bacteriology, botany, chemistry, economics and business, education, English, fisheries, forestry, geography, geology, Germanic languages and literature, history, mathematics, pharmacy, philosophy, physics, political science, psychology, Romanic languages and literature, and zoology. Some of these departments have special requirements for the degree. (See below.)

Special Requirements in Certain Departments

ART. A student who has received a bachelor's degree with a major in art and who has maintained a grade average of "B" or better in his major while doing creditable work in other subjects, may become a candidate for the degree of *Master of Fine Arts*. All of the courses for this degree are taken in the School of Art. In lieu of the usual thesis, the candidate may undertake a problem of a professional character in painting, sculpture, or design.

CLASSICAL LANGUAGES AND LITERATURE. A major in Greek or Latin for the degree of *Master of Arts* requires a reading knowledge of French or German and selection of courses from those numbered above 105.

The requirements for a graduate minor in Latin or Greek are the same as the requirements for an undergraduate major.

ECONOMICS AND BUSINESS. The department of economics and business awards two master's degrees, the *Master of Arts* and the *Master of Business Administration*.

1. For the *Master of Arts* in economics, the special requirements are as follows:

- a. A broad preparation in the allied social sciences.
- b. Completion of a course of study in three fields arranged in consultation with the student's advisory committee. One of the fields shall be economic theory. If a field is selected outside of economics and business, a minimum of 12 credits of approved graduate work in that field is necessary in addition to satisfying the background requirements prescribed by the minor department. With such a minor, at least 10 credits of the required work in economics and business must be in courses listed for graduates only.
- c. If all 45 credits are taken in economics and business, 15 of the credits (exclusive of the thesis) shall be in the courses listed for graduates only.

2. For the *Master of Business Administration*, the special requirements are:

- a. Background subjects must include training in accounting, statistics, and business law. Other background work may be approved or required.
- b. All of the graduate work must be taken in economics and business, except that the student's committee may permit some course work outside of the department.
- c. The candidate's examination must cover three fields approved by his advisory committee.

- d. At least 15 credits must be in advanced work (exclusive of 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:

A. Educational psychology	G. History and philosophy of education and comparative education
B. Educational sociology	H. College problems
C. Educational administration and supervision	I. Curriculum
D. Elementary education	J. Guidance and extracurricular activities
E. Secondary education	K. Remedial and special education
F. Classroom techniques	
- b. Specialization in two or more fields (selected from the six fields required above), so that the total credits in education, including the thesis and required courses (Educ. 291, and 287 or 290), shall be not less than thirty-six credits.

- c. The completion of a minimum of eighteen credits of advanced courses outside the department of education. Of these eighteen credits at least five must be in strictly graduate courses.

3. The special requirements for the degree of *Doctor of Philosophy* with a major in education are:

- a. Completion of seventy credits in graduate courses in education, including Educ. 287, 288, 289 (five to nine credits), 290, 291.
- b. Specialization in three educational fields (see list of fields under *Master of Education*, 2a), with approximately fifteen credits in each field.
- c. A thesis of thirty to forty-five credits.
- d. One minor in a department other than education with thirty-five credits in graduate courses, or two minors in allied departments with twenty credits of graduate work in each.

If a candidate wishes to minor in education for the degree of *Doctor of Philosophy*, he must present a minimum of thirty-five approved credits of graduate work in education.

4. The degree of *Doctor of Education* is a professional degree intended primarily for administrators and teachers. It provides for study in all fields of education, as well as training in the major academic disciplines necessary to administration and teaching, with modern emphasis on correlation and integration. A candidate must show adequate background, training, and promise of success in the profession of education.

- a. The candidate shall offer a minimum of 135 credits as follows:

- A. Education (see fields listed under *Master of Education*, 2a).

- (1) One major field (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.

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 129-130.

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, *Director*, 300-F Commerce Hall

The Graduate School of Social Work, organized in 1934, maintains a two-year curriculum which conforms to the standards of the American Association of Schools of Social Work, of which the School is a member. Among the types of positions to which this training may lead are: family case work, child welfare work, social work in the schools, medical 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 and summer quarters.

Requirements for admission are: (1) graduation from an accredited college or university with the equivalent of a "B" average; (2) well-rounded undergraduate preparation that has included at least 36 quarter credits in the social sciences, such as economics, political science, sociology, anthropology, psychology; (3) a year of biology. Personal qualifications including health, scholarship, and indications of probable success in social work are also considered by the admissions committee.

Persons under 21 or over 35 are not encouraged to begin preparation for the profession. References are consulted and a personal interview is required whenever possible.

Curriculum. The curriculum is planned to lead to the 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, Social Aspects of the Law, Social Work Research and Statistics, Field Work I and II, and Community Organization.

During the second year, emphasis is placed on preparation in the area of the student's field of interest (child welfare, family, medical, etc.), with additional courses required in Administration of the Social Insurances, Historical Backgrounds of Social Work, Professional Ethics, and Social Research.

Students unable to remain longer than one year can complete in that time the basic curriculum, prescribed by the American Association of Schools of Social Work, which is outlined above. Upon securing employment, they are then eligible to apply for admission to the American Association of Social Workers.

Medical Social Work Curriculum. The course plan (see courses of study) is based on the educational requirements of the American Association of Medical Social Workers. The medical social work sequence begins in the autumn and spring quarters of each year and requires three additional quarters to complete beyond the time required for the basic curriculum.

The Master of Arts Degree. A graduate student who has satisfactorily completed three quarters of professional work in residence, and who has an acceptable thesis subject and plan of research, may, upon approval of the faculty of the Graduate School of Social Work, file an application for admission to candidacy.*

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 61.)

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.

* Detailed instructions regarding procedures in fulfilling degree requirements may be obtained from the secretary.

SECTION III—ANNOUNCEMENT OF COURSES

EXPLANATION OF SECTION III

This section contains a list of all courses of study offered in the University. The departments are arranged in alphabetical order.

The University reserves the right to withdraw temporarily any course which has not an adequate enrollment at the end of the sixth day of any quarter. No fee will be charged for changes in registration made necessary by the withdrawal of a course.

The four-quarter plan has been adopted to enable the University to render larger service. It is more flexible than the semester plan and adds 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.

SPECIAL NOTE

The University is temporarily on a semester basis, but the course numbers, credits, and descriptions in the following section apply to *quarter* courses, except where the letter "s" follows the course number. This indicates a *semester* course for which there is no equivalent quarter course.

A list of the *semester* courses offered in 1944-45, with semester numbers, titles, and credits appears in the Supplement at the end of this catalogue. For exact information as to *semester* courses to be offered in 1945-46, the Time Schedule (available about October 1, 1945) must be consulted.

SECTION III.—ANNOUNCEMENT OF COURSES

AERONAUTICAL ENGINEERING

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

- 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 1945-1946: 83, General Aeronautics; 84, Aerodynamics; 107, Advanced Wind Tunnel Laboratory; 121, Airships; 151, Special Aeronautical Designs; 173, Aircraft Structural Mechanics; 181, Advanced Airplane Structures.

ANIMAL BIOLOGY

Professors Svibla, Hatch, Kincaid, Worcester; Associate Professor Martin; Instructors Crescitelli, Harris, Frizzell, Hsu*

Anatomy

- 100. Anatomy Lectures. (3) Worcester
- 101, 102, 103. General Human Anatomy. (3 or 6 each quarter.) Pr., Zool. 1 and 2, or equivalent. Worcester
- 104. Topographic Anatomy. (4) Cross and sagittal sections for correlation. Pr., 101, 102, 103. Worcester
- 105. Histology. (3 or 6) Normal and abnormal microscopic anatomy; 3 credits for Harborview students. Pr., Zool. 1 and 2, or equivalent. Worcester
- 106. Embryology. (6) Human developmental anatomy. Pr., Zool. 1 and 2, or equivalent. Worcester
- 107. Neurology. (6) Dissection of the human brain, cord, special organs of sense; comparative developmental history of the central nervous system; microscopic study of the nuclei and fibre tracts. Pr., Zool. 1 and 2, or equivalent. Worcester
- 108. Special Dissections. (†) Pr., 104 or equivalent. Worcester
- 110. Anatomy. (3) General study of whole human body. Dissection on human cadavers. No prerequisite. Worcester
- 111. Anatomy. (5) General study of whole human body. Dissection on human cadavers. Pr., Zoology 1 and 2 or equivalent. Worcester

Course for Graduates Only

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

† To be arranged.
* On leave.

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. Martin
 53, 54. Intermediate Physiology. (5, 5) Martin
 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. Staff
 210, 211, 212. Seminar. (1, 1, 1)

Not offered in 1945-1946: Physiology 155, 156, 157, Elementary Problems.

Zoology

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

Courses for Graduates Only

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

ANTHROPOLOGY

Professor Gunther; Assistant Professors Jacobs, Ray; Instructors Garfield, King

- §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

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

† To be arranged.

65. *Peoples of the World.* (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. 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
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 1945-1946: 114, *Peoples of Central and Northern Asia*; 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
- 152-153. *Theory of Architecture.* (2-2) Design theory, composition, scale, planning. Pr., Arch. Design, Gr. II. Herrman
151. *History of Architecture.* (2) From the middle of the eighteenth century to the present. Pr. 103. Herrman

* On leave.

- 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 1945-1946: 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; Instructor 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)
 51. Figure Sketching. (†) Sketching from the posed model in different mediums. Koehler
 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
 107, 108, 109. Portrait Painting. (3, 3, 3) Patterson
 110, 111, 112. Interior Design. (5, 5, 5) For majors. General students by permission. Pr., 7, Foote
 11. Art 62 to be taken with 110.
 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

† To be arranged.

* 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

- 207, 208, 209. *Portrait Painting.* (3, 3, 3) Isaacs, Patterson
 250, 251. *Advanced Design.* (3 or 5 each quarter)
 260, 261, 262. *Advanced Life Painting.* (3 or 5 each quarter) Isaacs, Patterson
 263, 264. *Composition.* (3 or 5 each quarter) Isaacs

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. Weiser
 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. *Advanced Bacteriology.* (†)
 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. Hitchcock
 2. Elementary Botany. (5) Structure and relationships of the major plant groups. Pr., 1 or one year high school botany. Frye
 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
 25. Plant Propagation. (3) Grafting, budding, cuttings, and general greenhouse practice. Pr., permission. Muhlick
 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. (½)
- 205, 206. Physiology of Marine Plants. (3, 3) Rigg
220. Advanced Fungi. (2 to 5 each quarter) Hotson, Stuntz

* On leave.

† To be arranged.

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 1945-1946: 210, 211, Phyto-plankton.

CERAMIC ENGINEERING—Pottery techniques. See Mining, Metallurgical and Ceramic Engineering, page 167.

CHEMISTRY AND CHEMICAL ENGINEERING

Professors Benson, Debn, 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. 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. McCarthy
 174. Chemical Engineering Calculations. (3) Pr., 182. McCarthy

* 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, 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) Not offered in 1945-1946. Tartar
 Alternates with 204, 215, 216. Pr., 182.
 204. Chemistry of Colloids. (3) 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) Alternates with 214. Pr., 182. Lingafelter
 214. The Phase Rule. (3) Not offered in 1945-1946. Alternates with 213. Pr., 182. Sivertz
 215, 216. Advanced Theoretical and Physical Chemistry. (3, 3) Alternates with 202, 203. Tartar, Lingafelter
 Pr., 182.
 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 1945-1946.
 238. Chemistry of High Polymers. (3) Pr., 132, 182. McCarthy
 241, 242, 243. Advanced Unit Operations. (3, 3, 3) Theory. Alternates with 244, 245, 246. Pr., 173.
 244, 245, 246. Advanced Unit Operations. (3, 3, 3) Theory. Not offered in 1945-1946. Alternates with 241, 242, 143. Pr., 173.
 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 Hawtorn, Hennes, Moritz, Rhoads, Sergev, Smith; Assistant Professors Chittenden, Collier; 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; superelevation 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.
 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 or 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. Collier
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, Sergev
- 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; 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
 104. Drama. (3) Densmore
 106. Lyric Poetry. (3) 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 1945-1946, 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.
 22. Camillus. (5) Pr., as for 21.
 100. Livy. (5) Pr., 21, 23, 25, or permission. Thomson
 101. Horace. (5) Pr., as for 100. Thomson
 106. Syntax and Prose Composition. (3) Pr., 100 or equivalent.
 153. Augustine: Confessions. (3) Pr., 100, 101. Read
 154. Lucretius. (3) Pr., as for 153. Read
 160, 161, 162. Major Conference. (1, 1, 1) Discussion with members of the staff of various features of Greek and Roman life and literature not specifically dealt with in other courses. Required of all majors.
 Teachers' Course in Latin. (See Educ. 75P.)

****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).**

Courses for Graduates Only

200. Research. (†)
 207. Seneca: Moral Essays. (3) Thomson
 211. Latin Novel. (3) Read
 287. Medieval Latin. (3) Pr., permission. Benham

III. Courses in Classical Antiquities, Given in English

Greek

13. Greek Literature. (5)
 17. Greek and Roman Art. (5)
 18. Greek and Roman Mythology. (3)
 111. Greek Civilization. (5) Research for advanced students. Pr., permission. Densmore
 113. Greek Drama. (5)

Latin

113. Masterpieces of Latin Literature. (5) Pr., upper-division standing or permission. Thomson
 Not offered in 1945-1946: *Greek* 101, 102, 103, History; 105, Drama; 122, Grammar and Composition 151, 152, 153; Plato; 211, 212, Hellenistic Literature. *Latin* 23, Virgil: Georgics and Bucolics; 24, Sallust; 25, Ovid: Metamorphoses; 102, Tacitus: Germania and Agricola; 103, Plautus and Terrence; 104, Martial: Epigrams; 107, Cicero: Letters; 190, Pliny: Letters; 156, Horace: Satires and Epistles; 165, Cicero: De Finibus; 166, Satire; 204, Tacitus: Histories; 214, Suetonius: Augustus; 218, Cicero: De Natura Deorum; 220, Elegy; 285, 286, Vulgar Latin; 288, Medieval Latin. *Antiquities in English*: Greek 11, Greek Civilization; Latin 11, Roman Civilization; Latin 13, Literature.

DRAMA

Professor Hughes; Associate Professor Conway; Assistant Professor Harrington; Acting Associates Carr, White; Theatre Assistants Bell, Johnson, Valentiniati, Dakan.

- 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) White, Carr
 51, 52, 53. Acting. (3, 3, 3) Theory and practice. Includes pantomime, improvisation, and characterization. Pr., 46, 47, 48. Harrington in charge
 103. Scene Construction. (3) Principles and actual construction of stage scenery and properties. Johnson
 104. Scene Design. (3) Pr., 103 Conway
 105. Theatrical Costume Design and Construction. (3) Dakan
 106. Make-up. (3) Conway
 107, 108, 109. Puppetry. (2, 2, 2) Design, construction, costuming, stringing, and manipulation of puppets. With permission of department, this course may be repeated for credit.
 111, 112, 113. Playwriting. (3, 3, 3) Professional course. Pr., one quarter of English 74, 75, 76, or permission. Hughes
 114. Stage Lighting. (3) Survey course, non-technical in character. Conway, Johnson
 115. Advanced Stage Lighting. (3)
 117, 118, 119. Advanced Theatre Workshop. (2, 2, 2) Pr., one of: 103, 104, 105, or 115 or permission.
 121, 122, 123. Advanced Acting. (3, 3, 3) Group acting. Styles in acting: tragedy, comedy; period, modern. Pr., 51, 52, 53. Harrington
 127, 128, 129. History of the Theatre. (2, 2, 2) The Orient, Europe, and America. The physical playhouse, methods of production, great actors, stage machinery, scenery, lighting, costumes, and masks. Conway
 131. Projects in Drama. (1-4) Stuff
 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

† To be arranged.

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, Demmery, Engle, Farwell, Gregory, Hall,* Mackenzie, Mund, Skinner, Smith; Professor Emeritus McMabon; Special Research Professor Griffin; Associate Professors Brown, Butterbaugh, Huber,* Kerr, Lorig, Miller; Assistant Professors Bartels,* Cberikov,* Gifford, Lockling,* Mikesell,* Simpson; Acting Assistant Professor Thayer; Lecturers Draper, Graves, Hamack, McConabey, McKinnon, Truax; Instructors Fordon,* Matby, Sheldon,* Sutermeister*; Associates Cbuke, Goebing, Winners.*

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

X 1-2. Principles of Economics. (5-5) Organization of our economic life and the fundamental principles underlying it; war economy and post-war stabilization.

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. Simpson

Economic Geography. (See Geography 7.)

12, 13, 14. Typewriting. (1, 1, 1) Students who present one or more units of typewriting as entrance credits may not receive credit for E.B. 12.

16-17-18. Shorthand. (3-3-3) Students who present one or more units of shorthand as entrance credits may not receive credit for E.B. 16.

19. Office Machines. (5) Laboratory instruction and practice in the operation of selected office machines, calculators, duplicating machines, filing equipment and devices. No prerequisite.

20. Shorthand and Typewriting Review. (5) Open to all students who for any reason are not qualified to meet the prerequisites for E.B. 116. Students having had E.B. 18, or having presented more than one unit of shorthand for entrance credits, may not receive credit for E.B. 20.

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

60. Statistical Analysis. (5) Statistical methods and their application to practical economic and business problems. Pr., 1 and 2. Butterbaugh

X 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.

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

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

* On leave.

† To be arranged.

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, 117. Secretarial Training. (5, 5) Advanced shorthand and typewriting. Speed studies in taking dictation, and transcription. General office practice and procedures.
118. Office Supervision. (5) Office organization; supervision of office functions; office personnel problems.
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.
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.
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 1945-1946.

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.
144. Water Transportation. (5) Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104.
145. Highway Transportation. (5) Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104.
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.

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
167. **Personnel Administration.** (5) Policies and techniques designed to achieve proper placement of individuals according to their interests, abilities and skills; development in them of interest, efficiency, and cooperation.
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.
182. **Economic Problems of the Far East.** (5) Commercial policies, exchange and finance, distribution, transportation, labor, reconstruction problems, industrialization, relation of government to business, agriculture, the problems of a "dependent" economy. Pr., 107 or consent.
183. **Economic Problems of China.** (5) Agricultural production; agrarian reform problems; local market economy; industrialization; taxation; currency and banking; foreign cooperation in Chinese development. Yang
185. **Advanced Economics.** (5) A study of markets, the making and control of prices, pricing formulas for industrial products, the laws of cost, and application of price analysis to wages, rent, interest, and profit. Pr., 120 university credits. Mund
187. **History of Economic Thought.** (5) The rise of modern capitalism, and the development of thought on the system of free enterprise. Special attention is given to the Mercantilists, the Physiocrats, Adam Smith, Ricardo, the Socialists, and to recent economic thought. Pr., 185, or senior standing and permission. Mund

Research Courses for Undergraduates and Graduates

- 193A, B, C. **Problems in Wholesaling, Retailing, and Advertising.** (5, 5, 5) Individual and group study. Required business contacts. Compiling, organizing, and interpreting data from original and library sources. Each student will specialize in one of the three fields. Pr., 134, 135, 136, permission. Burd
- 194A, B. **Research in Transportation.** (3, 3) Open only to qualified students in transportation who will be placed in part-time contact with transportation agencies. Pr., permission.
- 195A, B, C. **Research in Management and Accounting.** (3, 3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Gregory
- 196A, B, C. **Research in Public Utilities or Public Finance.** (3, 3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Hall
- 197C. **Research in International Trade.** (3) Open to qualified undergraduate and graduate students. Pr., permission.
- 199B, C. **Research in Real Estate and Business Fluctuations.** (3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Demmery

Courses for Graduates Only

- 200A, B, C. Thesis Seminar. (No credit)
- 202B. Graduate Seminar in Finance. (5 to 7) Pr., permission. Preston
- 205C. Graduate Seminar in Public Finance. (5 to 7) Pr., permission. Hall
- 206B. Graduate Seminar in Labor. (5 to 7) Theories and problems. Pr., one advanced course in labor and permission. Kerr
- 208A. Graduate Seminar in Economics. (5 to 7) Systematic review of the theories of value, price, and distribution; special reference to recent developments. Pr., permission. Mund
- 210A, C. French and German Economists. (3, 3) Pr., permission. Skinner
- 214A. Graduate Seminar in International Economics. (5 to 7) Pr., permission.
258. Graduate Seminar in Accounting. (5) Pr., permission. McConahey
- Teachers' courses in Economics and Business. (See Educ. 75E, 75F.)

Not offered in 1945-1946: 3, General Economics; 57, Business Law; 88, Introduction to Insurance; 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; 169, Real Estate II; 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, Dvorak, Osburn, Stevens, Williams; Associate Professor Jessup; Assistant Professor Hayden.*

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. Powers
30. Washington State Manual. (0) For all applicants for Washington teaching certificates. Corbally, Jessup
60. Principles of Secondary Education. (3) Pr., 1, 9, 70, 71-72, 75, 90. Draper
70. Introduction to High School Procedures. (5) Pr., 1, 9. Williams, Jessup
- 71-72. Cadet Teaching. (Semester basis, 5-3) Course 72 may precede or follow 71. 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) Pr., 1, 9, 70. Hayden

II. Intermediate Courses (Upper-Division and Graduate Credit)

101. Educational Psychology. (3) Theoretical principles and experimental backgrounds. Powers
104. Psychology and Training of Exceptional Children. (5) Atypical children studied from the point of view of the teacher. Hayden
120. Educational Sociology. (3) Problems of education related to process of social evolution. Jessup
121. Remedial Teaching. (3) Osburn
125. Teaching Reading and Remedial Reading. (3) Osburn
133. Elementary School Organization and Administration. (3) Jessup
140. School Supervision. (4) The improvement of school work through the in-service education of teachers. Jessup
- 145V. Principles and Objectives of Vocational Education. (3) Corbally
146. Extracurricular Activities. (3) Pr., 60. Draper
147. Principles of Guidance. (3) Corbally

*On leave.

148. Use of Tests in Personnel Work. (2) Stevens
 180, 181, 182. History of Education. (3, 3, 3) Social interpretation of the historic beginnings of education. Jessup
 183. Historical Backgrounds of Educational Methods. (3) Williams
 184. Comparative Education. (5) Modern education in foreign countries. Jessup
 188. Philosophy of Education. (3) Jessup
 191. Advanced Educational Measurements. (3) Pr., 90 or equivalent. Hayden
 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
 235-236-237. Organization of Supervisory and Administrative Programs. (5, 5, 5) Types of schools and changes being made in them. Supervision of instruction, and pupil accounting. Cole
 247. Seminar in Guidance. (5) Corbally
 260-261. Seminar in Secondary Education. (2-2) Draper
 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, 271. Problems in Modern Methods. (3, 3) Williams
 275. Improvement of College Teaching. (5) Stevens
 287, 288, 289. Seminar in Philosophy of Education. (3, 3, 3) Williams
 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)
 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. B. Draper
 75F. Commercial Course, Shorthand and Typewriting. (5) Hamack
 75H. English. (5) Two credits as Education and three as English.
 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

† To be arranged.

- 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 teachers' course.)
- 75P. Latin. (2) Must be taken in combination with Latin 106. Pr., 20 credits of college Latin.
- 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

Not offered in 1945-1946: 122, Diagnosis in Education; 141, Supervision of Elementary School Subjects; 145B, Principles and Objectives of Safety Education; 153, Elementary School Curricula; 158A, Investigations in Reading; 164-165, Principles and Techniques of Curriculum Making; 175, Improvement of Teaching; 193, Character Education; 222, Seminar in Diagnostic and Remedial Education.

ELECTRICAL ENGINEERING

Professors A. V. Eastman, Loew, Hoard, Shuck, G. S. Smith; Associate Professors Cochran, Lindblom; 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 1945-1946: 152, Electrical Machine Design; 163, Alternating Currents; 164, Alternating-current Laboratory.

ENGLISH

Language and Literature: Professors Griffith, Benham, Blankenship, Cox, Harrison, Hughes, Taylor, Winter; Associate Professors Cornu,* Eby, Stirling, Zillman; Assistant Professors Bostetter,* Burns,* Kabin, Kocher; Instructor Eibel; 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, Burn, Emery, Gillette, Nix, Person, Walters; Associates V. Anderson, Colton, Guberlet, Kubn, McKinlay, Mark, Norlin, St. Clair, Stubbs, Vickner. Temporary Appointments: Acting Associates M. Brown, Hammill, Huston, Mason, R. Miller, Potter, Rivenburgh, Sylvester, Wright, Yaggy. 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
- 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, Winter
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
70. Advanced English. (3) For students in Nursing Education at Harborview Hospital.
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
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

* On leave.

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.
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 1945-1946; 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.
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., 170 for 171 and/or 172. Taylor
- 174, 175. Late Nineteenth Century Literature. (5, 5) Pr., 174 for 175. Winther
- 177, 178. Early Nineteenth Century Literature. (5, 5) Pr., 177 for 178. Cox, Zillman
- 180, 181, 182. Old English Language. (5, 5, 5) Anglo-Saxon classics in the original. Butterworth
- 184, 185, 186. 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
187. English Grammar. (3)
191. Major Conference. (†)
- 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. (5, 5, 5) Benham
- 217, 218, 219. Shakespeare. (5, 5, 5) Taylor
- 221, 222, 223. Seventeenth Century Literature. (5, 5, 5) Benham
- 224, 225, 226. American Literature. (5, 5, 5) Eby
- 230, 231, 232. 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*; Associate Professors Michael, Schultheis,* Spector, Williston; Assistant Professors Creel, Shib, Tatsumi*; Instructors Bacon,* Yang, Gershevsky, Sunoo; Associates C'eb, Kastner, Maki.*

10. Survey, Problems of the Pacific. (5) Michael
40. Chinese Civilization. (5) Social, intellectual, institutional life; recent changes. Michael

* On leave.

† To be arranged.

42. Korean Civilization. (3) Sunoo
 90. History of China. (5) Upper-division credit to upper-division students. Yang
 91. History of Japan. (5) Upper-division credit to upper-division students. Steiner
 113. Civilization of Southeastern Asia. (5)
 126. Development of Modern Japan. (5) Economic. Williston
 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) Open to all students. Spector
 143. Chinese Peoples. (5) Population problems, social institutions, transformation. Yang
 170. Literature of China in Translation. (5)
 180. Modern Chinese History. (5) Pr., 90 or upper-division standing. Yang
 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.
 191. Contemporary Japan. (†) Williston
 194. Tokugawa Period. (†) Williston
 196. Russian Expansion and Colonization in Asia. (3) Ivan IV to 1917. Pr., permission. Spector
 199. Seminar on China. (2) Development of postwar China. Yang
 See also: Anthro. 142; Art 182, 183, 184; Geog. 103, 132; History 132; Pol. Sci. 129, 132,
 147, 166, 169; Economics 182, 183; and Sociology 41.

Chinese

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

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 109.
 109. Japanese Language. (10) Intensive B. 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 B. Sunoo
 176, 177, 178. Advanced Korean Language. (5) Sunoo

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 162. Gershevsky
 162. Russian Language. (10) Intensive B. Spector
 167, 168, 169. Advanced Russian Language. (5)

† To be arranged.

Courses Primarily for Graduates

220. Seminar in Eastern Asia. (2)
 222. Seminar in Western Asia. (2) History, religion, and literature.
 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 1945-1946: 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 1945-1946: 125, Spawning Habits of Game and Other Fishes; 126, Early Life History of Fishes.

FORESTRY AND LUMBERING

Professors Marchworth, Grondal, Pearce, Winkenwerder; Assistant Professors Schrader, Wangaard,* Zumwalt**

- 1a, 1b. Dendrology. (3, 3) Identification, classification, distribution of the trees of North America. Winkenwerder
 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 presuppression, 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. Pearce
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.
105. Wood Preservation. (3) Classification and control of wood-destroying agencies; mechanical properties of treated wood. Pr., 111.
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. Grondal
115. Forest Protection. (3) Fire plans; relation of forestry practice in the control of insect and fungus attacks. Pr., 4. Winkenwerder
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.
158. Forest Utilization. (5) Secondary and derived forest products. Pr., 111.
- 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.
171. Forest Geography. (4) Economic geography of the forest regions of world. Pr., senior standing. Grondal
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.
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. Pearce
187. Senior Logging Engineering Field Trip. (16) Development of a complete logging plan and cost analysis in a large operation. Pearce
188. Theory and Practice of Kiln Drying. (3) Wood-liquid relationships and hygrometry; application of gas laws. Problems in the design of dry kilns. Pr., 111, 158. Grondal
189. Wood Pulp. (5) Design of waste conversion plants; wood pulp manufacture. Pr., 111, 158, 183, 188. Grondal

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 1945-1946: 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 Professors Brown, Rowlands*; Assistant Professors Engel, Jacobsen, Jensen; Instructor Boehmer, Douglass, Gulikson, Thwing; 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
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
- 47-48. Elementary Theory of Construction. (3-3) Application of statics and strength of materials to problems in structures. (For architecture majors only.) Jensen
151. Inventions and Patents. (1) Law and procedure for patenting inventions, employer-employee relationship, trademarks. Pr., junior standing. Bliven

Not offered in 1945-1946: 9, Engineering Drawing.

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; Russell Blankenship (English); Viola Garfield (Anthropology); N. S. Hayner (Sociology); A. R. Jerbert (Mathematics); Kathleen Munro (Music); 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.
- 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^a
- 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^a
- 191, 192, 193. Senior Study. (†) Pr., permission.

^aM. Jacobs (Anthro.), R. Penington (Art), V. Sivertz (Chemistry), D. Thomson (Classics), C. Kerr, V. Mund (Economics), C. T. Williams (Education), R. G. Tyler (Engineering), J. B. Harrison (English), F. H. Michael, F. Williston (Far East.), H. B. Densmore (General Studies), H. S. Lucas (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), 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
- X 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. Church
121. Regional Climatology. (5) Climatic characteristics of continents. Controls, types, distribution, and classification. Pr., 11, 111, or permission. Church
122. Aeronautical Meteorology. (3) The troposphere. Radiation, temperature, clouds, fog, thunderstorms, ice formation on aircraft. Engineering juniors and seniors only. Sherman
125. Geographic Background of American History. (3) Pr., 10 credits of history or geography. Martin
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. Church
- 153, 154. Meteorological Laboratory. (3) Weather charts based on frontal and isentropic methods. Church
155. Influences of Geographic Environment. (5) Theory of occupancy; urbanization; human adjustment. Pr., 20 credits of geography, or permission. Earle
156. Weather Instruments and Observations. (†) Pr., 112.
160. Cartography. Map projections, areal distribution, scales, sketch mapping, block diagrams. Pierson
162. Advanced Cartography. (†) Pr., 160. 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. Church
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.)

† To be arranged.

Courses for Graduates Only

200. Seminar. (5)	Martin
201. Research. (†)	
207. World Resources and Industries. (†)	Martin
211. Research in Meteorology. (†)	Church
220. Land Utilization. (†)	Pierson
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 foreign languages are necessary for graduate work in geology.

201. Advanced Petrography and Petrology of Igneous Rocks. (†) Goodspeed
 202. Advanced Petrography and Petrology of Metamorphic Rocks (†) Goodspeed
 212. Advanced Studies or Field Work in Physiography. (†) Mackin
 220. Advanced or Research Work in Mineralogy, Petrography, and Petrology. (†) Goodspeed, Coombs
 227. Advanced or Research Work in Economic Geology. (†) Goodspeed
 230. Advanced or Research Work in Paleontology and Stratigraphy. (†) Weaver
 240. Advanced Studies in Structural Geology. (†)

Not offered in 1945-1946: 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, Lawer, 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)
 1R, 2R, 3R. First Year Reading Course. (5, 5, 5)
 1S, 2S, 3S. First Year Speaking Course. (5, 5, 5)
 1X, 2X, 3X. First Year Intensive Course. (10, 10, 10)
 3. First Year Reading. (5) Pr., 1-2 or one year of H. S. German.
 4. Second Year Reading. (5) Pr., 3 or two years of H. S. German.
 5. Second Year Reading. (3) Pr., as for 4; not open to those who have had 4.
 6. Second Year Reading. (2) Pr., as for 4; not open to those who have had 4.
 7. Second Year Grammar Review. (3) Especially valuable as preparation for 120, 121, 122. Pr., 4, 5, or 6. Wesner
 10. Advanced Second Year Reading. (3) Pr., 4, 5, or 6.
 30. Conversation Based on Rapid Reading. (3) For students interested primarily in acquiring a speaking knowledge. Pr., 4, 5, or 6. Ankele
 60. Lower-division Scientific German. (3) 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
 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.

- 180, 181, 182. Nineteenth Century Literature. (3, 3, 3) Pr., 130 or equivalent. Alternates with Eckelman
183, 184, 185.
183, 184, 185. History of German Literature. (3, 3, 3) To the age of Goethe. Pr., 130 or
equivalent. Alternates with 180, 181, 182. Not offered in 1945-1946. Wilkie
198. Studies in German Philology. (1 to 5) Pr., 130, or equivalent.
199. Studies in German Literature. (1 to 5) Pr., 130, or equivalent.
Teachers' Course in German. (See Educ. 75L.)

Courses in English Translation

No knowledge of German required. Open to all students.

- **100. Masterpieces of German Literature. (5) The Middle Ages to the 19th century.
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 depart-
ment 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 1945-1946: 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 Castigan,* Dobie, Gates, Katz,* Quainton;
Assistant Professor Thayer; Lecturer Kimmel; 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.
X 7. A Survey of the History of the United States. (5) By special work, upper-division students
may receive upper-division credit. Thayer
21-22-23. American Social Trends. (5-5-5) Survey of social trends from the earliest times to
the present. Gates, Blankenship
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.

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

*On leave.

114. The Culture of the Renaissance. (5)	Lucas
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.	Pr., Kimmel
140. American Colonial History. (5)	Thayer
141. American Revolution and Confederation. (5)	Thayer
144. History of the United States, 1789-1829. (5)	Thayer
149. History of the United States, 1877-1920. (5)	
150. Twentieth Century America. (5)	
155. History of Canada. (5) Canadian development to the present time.	Dobie
158. The United States in World Affairs: 1776-1861. (5)	
159. American Diplomatic History, 1776 to Present. (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
188. History of Australia. (3)	Dobie
189. History of New Zealand and Pacific Islands. (2)	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:

201. Historiography. (5) Required of all majors and minors.	Staff
218, 219. British Empire. (3, 3)	Dobie
225-226. American History. (3-3)	Gates
227-228. American History. (3-3)	Thayer
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 1945-1946: 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.

† To be arranged.

HOME ECONOMICS

Professors Raft, Denny, Monroe, Payne, Rowntree, Terrell; Associate Professors Bliss, Dresslar; Assistant Professors Obst, Storvick; Lecturer Wade; Instructors Lloyd, McAdams, Myers, Smith, Warning.

7. Introduction to Home Economics. (2) Function, history, present status in technological and relational aspects, place in curriculum, professional opportunities, personal accounts and budgets. Raft
9. Nutrition for Student Nurses. (6) For student nurses only. Pr., Chem. 1 or 21. Bliss
12. Costume Design and Construction. (5) Payne
13. Clothing and Textiles. (5) Students who show proficiency may arrange with the instructor to be excused from part of H.E. 112. Obst, Warning
15. Food Preparation. (3 or 5) Students who present 2 years of home economics credit from high school may, with the consent of instructor, omit the laboratory work and receive 3 credits. Dresslar
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
83. Euthenics. (5) Cooking, nutrition, and management. For non-majors. Rowntree
84. Euthenics. (5) Sewing; selection of clothing; home furnishing. For non-majors. Warning
- 101, 102. Needlecraft. (2, 2) Historic laces and embroideries of various nationalities; application of authentic and original designs. Pr., 12, Art 9. Payne
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, 113. Costume Design and Construction. (3, 3) Flat pattern designing for wool dresses; problems in lingerie; handling of rayon; discussion of clothing production. Payne
114. Costume Design and Construction. (3) Basic principles of coat and suit construction; comparative costs of ready-to-wear. Pr., 113.
115. Food Preparation. (3) Introduction to investigation methods. Pr., 15, Chem. 1-2, or 21-22, Physiol. 7. Dresslar
116. Advanced Food Preparation. (2) Application of economic nutritional principles to meal preparation. Pr., 115, 108, 181. Dresslar
120. Advanced Food Preparation. (3) For institution administration majors. Pr., 115.
121. Institution Food Preparation. (5) Laboratory study and institution practice in large-quantity food preparation and control. Pr., 120. Terrell, Smith
122. Institution Food Purchasing. (3) Market organization; food selection and care; planning of kitchen layout and specifications of equipment. 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. Terrell, Myers
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, Myers
126. Demonstration Cookery. (3) Its usefulness as an effective method in teaching and business. Pr., 116 or 120. Dresslar
131. Clothing Selection. (2) Emphasizes appropriateness to personality and occasion as well as judgment of quality and cost. No credit to those who take 12.

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. Lloyd
144. **Income Management.** (4) 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
146. **Home Furnishing and Textiles.** (5) Economic and esthetic values; historical and modern furniture, pictures, rugs, tapestry, china, glass, silver; textile fabrics and their uses and care. Three lectures and two two-hour labs. Section B is required for institution administration majors. Denny
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. Lloyd
- 160, 161. **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
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.** (4) 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, Wade
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, 147, 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
245. **Social and Economic Problems of the Consumer.** (†) Pr., 144, 145, 181. Monroe

[†]To be arranged.

250. Thesis. (9)

Not offered in 1945-1946: 110, Food Study for Technology; 111, Nutrition for Technology; 175, Institutional Management.

JOURNALISM

Professors McKenzie,* Jones; Associate Professors Benson,* Christian,* Everest, Kennedy; Assistant Professors Frost, Mansfield,* Astel; Associates Copeland, Helberg, Jacobsen, Konirsch, 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, Green, Harsch, Levy, Nottelmann, O'Bryan, Richards,* Shattuck,* Sholley; Associate Professor Taylor; Assistant Professors Cross, Gallagher; Lecturers Shafelman, Thorgrimson

First Year

All first-year subjects are required.

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| 100. Property I. A. (3) Aigler, Bigelow & Powell, Cases on Property, Vol. 1. | Cross |
| †101. Contracts. A. (4); W.S. (3-3) Shepherd, Cases and Materials on the Law of 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. | Green |
| 112. Agency. S. (4) Casebook to be announced. | Ayer |
| 130. Legal Bibliography. W. (3) Beardsley, Legal Bibliography and the Use of Law Books. | Gallagher |

Second Year

All second-year subjects are required.

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|---|------------|
| †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. | Green |
| †114. Equity. W.S. (5-3) 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 |

* On leave.

† To be arranged.

‡ No examination for credit until completion of entire course.

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. S. (4) Gellhorn, Administrative Law, Cases and Comments. Shefelman
- ‡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. Green
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. Green
144. Practice and Procedure III. S. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed., supplemented by the Washington Probate Code and Washington cases. Green
- ‡145. Credit Transactions. A.W. (4-2) Shattuck, Washington Materials on Security Transactions. Taylor
- ‡149. Business Associations. W.S. (4-3) 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, Dowling, 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. W.S. (2-3) 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. Thorgimson
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 1945-1946: 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; 151, Labor 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, Lutey
11. Introduction to the Study of the Fine Arts. (5) Upper-division students may obtain upper-division credit on the basis of extra reading and conferences. Cory, Lutey
- 114, 115, 116. Realism in Philosophy, Literature, and the Arts. (5, 5, 5) Cory, Lutey

LIBRARIANSHIP†

Professor Worden, C. W. Smith; Assistant Professors Andrews, Gallagher, Wulfekoetter; Instructor Turner

170. Introduction to Library Work with Children. (3) Andrews
171. Children's Books. (2) Andrews
172. Introduction to Library Work. (2) Worden
173. Classification, Cataloging, Subject Headings for High School Libraries. (4) Turner
175. Classification, Cataloging, Subject Headings. (4) Wulfekoetter
176. Reference for High School Libraries. (3) Turner
177. Bibliography and Reference. (3) Includes trade and subject bibliography and government documents. Smith, Wulfekoetter
178. History of the Book. (3)
- 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. 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. Smith, Wulfekoetter
185. Bibliography and Reference. (3 or 4) Pr., 177. Wulfekoetter
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. Wulfekoetter
192. Administration. (2) Management, buildings, equipment, finance, publicity. Worden
193. Classification, Cataloging, Subject Headings for High School Libraries. (3) Pr., 173.
194. Bibliography and Reference. (2 or 4) Pr., 185. Wulfekoetter
195. Book Selection for High School Libraries. (3) Turner
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, bar association records, legal periodicals, indexes and digests, legal regional bibliographies, cooperative bibliographies of law collections. Gallagher
241. Order and Accessioning of Law Books. (4) Aids to selection, processing, microphotography of legal material, etc. Gallagher
242. Legal Reference and Research. (5) Bibliographical lists, law reference questions, briefing, annotations, local legal history. Gallagher
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. Gallagher

Second-Year Library Work with Children. Not offered in 1945-1946.

† Admission to the School of Librarianship is granted only to graduate students, except for certain courses which are open to seniors and graduates who wish to qualify for teacher-librarian positions in small high schools. Please ask permission of the School before registering.

§ Open to juniors and seniors in autumn quarter only.

MATHEMATICS

Professors Carpenter, Ballantine, Winger; Associate Professors Cramlet, Jacobsen, Jerbert, McFarlan, Taub*; Assistant Professors Beaumont, Birnbaum, Haller, Mullemeister, Zuckerman; Instructors Boyer, Kingston, Mublenberg, Yates; Associates Eastman, McClay, 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
- 31, 32, 33. Engineering Freshman Mathematics. (5, 5, 5) Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
- 41, 42, 43. Engineering Calculus. (3, 3, 3) Pr., 33 for 41; 41 and solid geometry for 42; 42 for 43.
- 54, 55, 56. Mathematics for Architects. (3, 3, 3) Pr., one and one-half year algebra, one year plane geometry; each course prerequisite to the following course.
- 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.
- 121, 122, 123. Theory of Equations. (2, 2, 2) Beaumont
- 127, 128, 129. Elementary Theory of Numbers. (2, 2, 2) Zuckerman
- 141, 142, 143. Calculus of Probabilities and Statistics. (3, 3, 3) Birnbaum
- 150, 151. Advanced Analysis. (2, 3)
160. Vector Analysis. (3) Pr., differential calculus.

Courses for Graduates Only

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

- 204, 205, 206. Modern Algebra. (3, 3, 3) Kingston
- 214, 215, 216. Higher Calculus. (3, 3, 3) Mullemeister
- 217, 218, 219. Finite Collineation Groups. (3, 3, 3) Winger
- 224, 225, 226. Functions of a Real Variable. (3, 3, 3) McFarlan
- 247, 248, 249. Metric Differential Geometry. (2, 2, 2) Haller

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, Projective Geometry, Algebraic Curves, Calculus of Observations, Interpolation and Approximation, Foundations of Algebra.

Graduate: Topology, Finite Differences, Advanced Topics in Algebra, Invariant Theory, Functions of Complex Variables, 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

* On leave.

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| 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 |
| 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 1945-1946. | |
| 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 Sands, Captain Harwich, Captain Hilsenberg; Sergeants Gago, Lustig, Sprague; Corporal ZurMuehlen.

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 advanced course has been suspended for the duration.

First Year

- 19s, 20s. Branch Immaterial. (3, 3) Orientation, leadership, military courtesy and discipline, rifle marksmanship, first aid and personal and sex hygiene, interior guard duty, Articles of War, organization of the army, patrol operations, infantry weapons. One year required.

Second Year

- 78s, 79s. Branch Immaterial. (3, 3) Map and aerial photo reading, field fortifications, tactics of small units, individual scouting and patrolling, leadership, field sanitation, associated arms, military law, defense against enemy attacks, recognition. One year required.

MINING, METALLURGICAL AND CERAMIC ENGINEERING

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

Mining Engineering

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|---|---------|
| 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
 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
 261, 262, 263. Fuels and Combustion. (†) Daniels

† To be arranged.

Ceramic Engineering

90. **Industrial Minerals.** (3) Non-metallic minerals and their products. Pr., sophomore standing in mines, engineering, or science. **Roberts**
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. **Denny**
- 161, 162, 163. **Glazes, Enamels, and Refractories.** (†) Pr., permission.
190. **Industrial Minerals.** (3) Same as 90. Pr., junior standing. Not open to those who have had 90. **Roberts**

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, Croel, Irvine, Kirchner, Terry, Wilson, Woodcock; Instructors Eichinger, Thiel; Associates Beck, Dolliver, Garlick, Graf, Higman, Horsfall, Krenz, Schardt, Victor; Lecturer Kinscella

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. **Woodcock**

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. **Terry 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, Kinscella**

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**

27, 28, 29. Eurhythmics. (1, 1, 1) Experience and understanding of rhythm in music through the synchronization of mind and body. **Thiel**

30, 31, 32. Elementary Band. (1, 1, 1) For underclassmen not registered in Military Band. **Welke**

33, 34, 35. Piano Repertory I, II, III. (2, 2, 2) The sonatina, etude, and small forms. Development of fluent reading. Pr., permission. **Bostwick**

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. The School Orchestra. (1½) Organization, material, and practice. 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 (A₁), Jacobson (A₂), Creel (A₃), Woodcock (A₄), Bostwick (A₅), Higman (A₆), Normann (A₇).
 - B. Violin or Viola. Rosen.
 - C. Voice. Werner (C₁), Lawrence (C₂), Wilson (C₃).
 - D. Violoncello or Bass. Kirchner.
 - E. Organ. Eichinger.
 - F. Woodwind. Horsfall (flute, F₁), Victor (oboe, F₂), Dolliver (clarinet, F₃), Garlick (bassoon, F₄).
 - G. Brass. Schardt (horn, G₁); Krenz (trumpet, G₂).
 - H. Harp. Beck (H₁), Graf (H₂).
51. Elementary Harmony. (5) Structural and physical basis of chords. All primary harmonies and non-harmonic tones. Pr., 15 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. Berlioz, Liszt, Strauss. (2) Pr., 4 or 22. Van Ogle
55. Russian Composers. (2) The Russian Five, Chaikovsky. 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. (1½-1½-1½) 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.
- 73, 74, 75. Keyboard Transposition and Improvisation I, II, III. (2, 2, 2) Pr., 53 and permission. Bostwick, Terry
- 77, 78, 79. Eurythmics. (1, 1, 1) Experience and understanding of rhythm in music taught through the synchronization of mind and body. Thiel
- 80-81-82. University A Cappella Choir. (1½-1½-1½) Mixed voices. Audition required. Lawrence
- 83, 84, 85. Piano Repertory IV, V, VI. (2, 2, 2) The classic sonata and nineteenth-century music. Emphasis on stylistic performance. Pr., permission. Woodcock, Jacobson
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., 16 or permission. Terry, Hall
101. Advanced Harmony. (5) Chromatic harmonies and modulations. Pr., 109. McKay
106. Modern French, 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
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. (1½-1½-1½) An organization of selected voices. Hall
- 124, 125, 126. Chamber Music. (2, 2, 2) Small instrumental groups both with and without piano. Pr., permission. Rosen, Jacobson
128. Choral Music II. (2) Reading skill and interpretation. Pr., 98. Terry, Hall
132. Haydn, Mozart, and Beethoven. (2) Orchestral and chamber music. Pr., 112. Woodcock
- 133, 134, 135. Piano Repertory VII, VIII, IX. (1, 1, 1) Early keyboard music through Bach, Debussy to the present. Pr., permission. Jacobson, Kinsella, Creel

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. *Wagner and Brahms.* (2) 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.
- 173, 174, 175. *Keyboard Transposition and Improvisation IV, V, VI.* (2, 2, 2) Pr., 75 and permission. Jacobson, Eichinger
- 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
210. *History of Musical Performance.* (2) Munro
- 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 1945-1946: 105, *The French Impressionists*; 153, *Modern Russian and Finnish Composers*; 211, *Music of the Elizabethan Age*; 212, *Opera*; 222, *History of Notation*; 223, *History of Music Theory*.

†To be arranged.

NAVAL SCIENCE AND TACTICS

Capt. Barr; Comdr. Cross; Lt. Comdr. Grabu; Lt. Comdr. Hoolborst; Lieut. Mallicoat; Lieut. Raudabaugh; Lieut. Swanson; Lieut. Brose; Lieut. Hart; Lieut. Fuller; Lieut. Hayes; Lt. (jg) Durando; Cb. Gun. Hamilton; CY Littell; CBM Austin; CEM Cannon; CSM Jennings; CIC King; CSK Lacey; CGM Sands; CSP Goranflo; CSP Vant Hull; BM1c Russell; GM1c Parks; Y1c Ashe; Y2c Hallas.

First Year

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

Second Year

N IIIs (V-12 & NROTC) Naval History & Elementary Strategy. (3) Seapower beginnings; early wars; American wars; modern warfare; airpower; tactics.

NS Is, IIs (NROTC) Seamanship and Communications. (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 IIIs (NROTC) Engineering and Damage Control. (3) Stability of ships and damage control; the engineering plant, boilers, turbines, reciprocating engines, internal combustion engines, propellers, lubrication, etc.

NS IVs, Vs (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 bodies, 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

NS VIs (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 VIIIs, IXs (NROTC) Ordnance & Gunnery. (3, 3) Ordnance, including ballistics, gunnery, powder, explosives, etc. Includes drill and physical training.

Fourth Year

NS VIIIs (NROTC) Tactics & Recognition. (3) Recognition of ships and planes; elementary tactics and ship handling; naval strategy; mooring board problems.

NS Xs (NROTC) Communications. (3) Naval communications procedure; duties of communication officer; flags and pennants; recognition drills.

NS XIIs (NROTC) Refresher. (3) Review. Includes drill and physical training.

NURSERY SCHOOL AND CHILD DEVELOPMENT

Assistant Professors Harris, Evans; Associate Erwin

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

NURSING EDUCATION

Professor Soule; Associate Professor Leaby; Assistant Professors Cross, Korngold, Olcott, Patterson, Tschudin; Instructors Anderson,* Blackman, Braker,* Brandt, Bronson, Burke, Coffman, Felton, Green, Hirstein, Hirschman, Hoffman, Johnson,* Kelly, Lambert, Lindblom, Maxey, Mickel, Miller,* Modini, Ostroth, Seeley, Seels, Shattuck, Shoop, Snively, Startup, St. John, Wals, Wiley*

1. History of Nursing. (3) Open to any woman student. Soule
5. Home Care of the Sick, and Child Hygiene. (3) Ostroth
20. Elementary Theory and Practice for Red Cross Nurse Aid. (5) Ostroth

* On leave.

† To be arranged.

Hospital Division Courses NE 120-149 inclusive will be given on the quarter basis. Open only to students in Curriculum A or approved schools of nursing.

120. Principles and Practice of Elementary Nursing. W. (5) Kelly, Felton, Hoffmann
121. Advanced Nursing Procedures and Methods of Planning Individualized Nursing Care. A.S. (3) Kelly, Felton, Hoffmann
122. Practice in Elementary Nursing and Special Hospital Departments. A.S. (3) Medical and surgical services correlated with laboratory, X-ray, and pharmacy experience. Kelly, Hoffman, Felton
124. Principles of General Medicine, Surgery, Otolaryngology, and Nursing Care. A.S. (5) Hitchman, Seeley
125. Principles of Medical and Surgical Specialties and Their Nursing Care. W. (5) Blackman, Seeley, Modini
128. Medical Nursing Practice. A,W,S. (6) Including communicable disease and related out-patient clinics. Blackman, Hitchman
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) Blackman
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, Seeley
133. Operating Room and Emergency Service Practice. A,W,S. (6) Ten weeks in operative nursing and anaesthetic care. Two weeks in emergency service. Wiley, Startup
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. Modini, Seeley
137. Introduction to Public Health Nursing. A.S. (2) Soule, Shoop
138. Professional Problems in Nursing. A,W,S. (2) Korngold
139. Principles of Pediatrics and Pediatric Nursing. A,W,S. (5) Physical and mental development of normal children included. Shattuck
140. Pediatric Nursing and Nursery School Practice. A,W,S. (6) Seels, Shattuck
141. Principles of Obstetrics and Obstetrical Nursing. A,W,S. (5) Bronson, St. John
142. Obstetrical Nursing Practice. A,W,S. (6) Bronson
143. Nursing Practice in Special Fields. (6) 12 weeks in tuberculosis, out-patient, industrial, or rural hospital nursing. Staff
144. Senior Nursing Practice. (6) 12 weeks advanced nursing practice in a military or civilian hospital or public health agency. Staff
145. Tuberculosis Nursing Practice. AWS. (3) Six weeks in a tuberculosis sanatorium. Staff, Brandt, Green, Hierstein, Maxey, Snively
146. Visiting Nursing Practice. A,W,S. (3) Six weeks in a public health agency. Staff, Shoop, Burke
147. Principles of Psychiatry and Psychiatric Nursing. A,W,S. (5) Lamberty, Lindblom, Walz
148. Psychiatric Nursing Practice. A,W,S. (6) Lamberty, Lindblom, Walz
149. Principles of Ward Management and Bedside Teaching. (3) Management of ward routines and assistant head nursing, including individual and bedside teaching. Staff, Tschudin

Courses for Graduate Registered Nurses Only

150. Principles of Teaching Nursing and Health. A,W. (5) Patterson, 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. Cadet Teaching and Ward Administration in Hospitals. (10) Pr., 150, 152. Olcott, Tschudin
- 155, 156, 157. Advanced Nursing Practice in Clinical Specialties. (3 each quarter) Staff
158. Advanced Nursing Practice in Emergency, Fracture, and Neurological Injuries. (3) Modini
162. Field Practice in Public Health Nursing. (5) Health teaching and nursing. Patterson
163. Field Practice in Public Health Nursing. (5) Administrative activities and record work. Patterson
164. Field Practice in Public Health Nursing. (6) Family health planning. Use of social agencies and maintenance of community relationships. Patterson
165. Survey of Current Literature in Specialized Fields in Public Health Nursing. (2) Pr., 167. Patterson
166. Advanced Field Work. (12) Pr., 164. Patterson

174 *Courses in Nursing Education, Oceanographic Laboratories, Pharmacy*

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) Ostroth
 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) Patterson

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) Lindblom, Walz
 11. Sociology for Hospital Attendants. (3) Lindblom, Walz

OCEANOGRAPHIC LABORATORIES

Associate Professor Church

1. Survey of Oceanography. (5) Church

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) 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.

Course for Graduates Only

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

†To be arranged.

*On leave.

Department of Pharmaceutical Chemistry and Toxicology

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| 5. Gravimetric Quantitative Analysis. (5) | Arrigoni |
| 6. Volumetric Quantitative Analysis. (5) | Arrigoni |
| 7. Urinalysis. (2) | Arrigoni |
| 8. Pharmacopoeial Assay. (2) | Arrigoni |
| 192. Research Problems. (1 to 5) Open to juniors, seniors, and graduates. | |
| 195, 196, 197. Pharmaceutical Chemistry and Toxicology. (5, 5, 5) Pharmacy and chemistry of alkaloids, glucosides, fixed oils, volatile oils, and other plant and animal principles; also includes the separation and identification of poisons from animal tissue. | Fischer |

Courses for Graduates Only

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| 203. Investigation in Toxicology. (†) Maximum of forty-five credits. | Fischer |
| 204. Investigation in Pharmaceutical Chemistry. (†) Maximum of forty-five credits. | Johnson, Fischer, Arrigoni |

Department of Pharmacology

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| 61. Pharmacology and Therapeutics. (3) | Larson |
| 101, 102, 103. Pharmacology and Toxicology. (3, 3, 3) Action of drugs; posology and rational uses in therapeutics; 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

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| 205. Investigation in Pharmacology. (†) Maximum of forty-five credits. | |
| 210. Graduate Seminar. (No credit) Reports on assigned reading. | Staff |

Not offered in 1945-1946: 185, 186, Experimental Pharmacology; 187, Biological Assays; 199, Seminar in Pharmacology.

PHILOSOPHY

Professors Savery, Nelson; Associate Professor Rader; Assistant Professor Phillips

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| 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. | Rader |
| 5. Introduction to Logic. (5) Conditions of clear statement, adequate evidence, and valid reasoning. | Nelson |
| 101-102-103. History of Philosophy. (4-4-4) 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 |
| 112. Philosophy of History. (5) An analysis of the basic concepts employed in historical interpretation. | Phillips |
| 129. Philosophy of Art. (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) An advanced course in ethics. Pr., 2 or 3. | Phillips |
| 141-142-143. Contemporary Philosophy. (3-3-3) Idealism, intuitionism, positivism, pragmatism, realism, and vitalism. Pr., 1 or 103. | Nelson |
| 193. Advanced Logic. (3) Symbolic logic; critical examination of logical doctrine bearing on philosophical questions; inductive method. Pr., 5. | Nelson |
| 194. The Hindu Philosophies of India. (3) A study of the contribution of philosophy to the India of today. A reading course. No prerequisite. | Savery |
| 195. Buddhism in India and China. (3) A study of Buddhism as a way of life. 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. No prerequisite. | Savery |

† To be arranged.

Courses for Graduates Only

- 207, 208, 209. Seminar in Philosophy of Science. (4, 4, 4) Pr., permission. Savery
 214-215. Seminar in Logic. (4, 4) Pr., 193. Nelson
 251, 252, 253. Research in Philosophy. (1 to 6 each quarter) Pr., permission. Staff

Not offered in 1945-1946: 113, Philosophy of Religion; 137-138-139, Development of Social Philosophy; 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, Belsbaw;* Assistant Professors *Auernheimer, Kunde,* Peck,* Reeves, Torney*;* Instructors *Kirkland, Mills;* Associates *Buckley,* Clark, 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)
 9, 10, 11. Physical Education for Sophomore Majors. (1, 1, 1)
 16 to 70. Physical Education Activities. (1 each) Course 16, handball; 17, basketball; 18, tennis; 19, playground ball; 20, golf†; 21, track; 22, crew (class); 23, fencing; 24, boxing; 25, tumbling; 26, apparatus and stunts; 27, wrestling; 28, volley ball; 29, swimming; 30, soccer; 31, touch football; 32, badminton; 33, archery; 34, calisthenics; 35, jiu jitsu; 36, speedball; 51, freshman varsity crew; 52, varsity crew; 53, freshman varsity football; 54, varsity football; 55, freshman varsity track; 56, varsity track; 57, freshman varsity swimming; 58, varsity swimming; 59, freshman varsity basketball; 60, varsity basketball; 61, freshman varsity baseball; 62, varsity baseball; 63, freshman varsity tennis; 64, varsity tennis; 65, varsity golf; 66, Pack Forest; 67, varsity skiing; 68, varsity volleyball; 69, varsity hockey. Staff
 15. Personal Health. (2) Health information that affords a basis for intelligent guidance in the formation of health habits and attitudes. Academic credit given. Reeves

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.
 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 Course

10. Health Education. (3) 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., handicraft, 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, 165, 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 Uehling;
Assistant Professors Cady,* Higgs, Kenworthy,* Sanderman*

Students not in engineering must elect Physics 4, 5, 6, unless they have had a year of high school physics.

- 1, 2, 3. **General Physics.** (5, 5, 5) 1, Mechanics and Sound; 2, Electricity and Magnetism; 3, Heat and Light. Pr., one year of high school physics for 1; 1 for 2 and 3.
- 4, 5, 6. **General Physics.** (5, 5, 5) Same as 1, 2, 3. Pr., plane geometry, 4 pr. to 5 and 6.
10. **Survey of Physics.** (5) Students who expect to continue with physics should begin with 1 or 4.
50. **Sound and Music.** (5)
54. **Elementary Photography.** (4) Pr., elementary physics or chemistry. Higgs
70. **Physics for Nurses.** (5) Sanderman
90. **Selected Topics in Physics for Home 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
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.

*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.
 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.
 221. *Collision Theory.* (6) Pr., 240.
 239, 240. *Wave Mechanics.* (4, 4) Pr., 202 or equivalent.
 250, 251, 252. *Seminar.* (†)
 256, 257, 258. *Research.* (†)

Not offered in 1945-1946: 109, Pyrometry; 166, Physical Oceanography; 210, Mathematical Theory of Sound; 211, Statistical Mechanics; 219, Hydrodynamics; 220, Advanced Dynamics; 222, The Metallic State; 226, 227, Electromagnetic Theory; 230, 231, Atomic Structure; 241, 242, 243, Relativity; 245, 246, 247, Advanced Quantum Mechanics.

PHYSIOLOGY

See Animal Biology, page 134.

POLITICAL SCIENCE

Professors Martin, Cole, Levy, Mander; Associate Professors Cook, von Brevern, Michael, Spellacy, Webster; Associates Swygard, Davis*

Elementary Course Primarily for Freshmen

1. *Survey of Political Science.* Principles and problems of government. The state in theory, law, politics, and administration. Martin, Mander

Intermediate Courses Primarily for Sophomores

52. *Introduction to Public Law.* (5) Legal construction of political organization; the state and the individual; leading concepts in constitutional, international, and administrative law. Open to freshmen who have had 1. Cole
 54. *International Relations.* (5) Rise of modern states; alliances, imperialism, the League of Nations; present and future problems. Open to freshmen who have had 1. Mander
 56. *American Institutions.* (5) American political ideas as formalized into institutions; major principles of the American governmental system, historical and contemporary. Open to freshmen who have had 1. Cook
 58. *Government in Action.* (5) Problems of political leadership; public opinion and political organization; bureaucratic control. Open to freshmen who have had 1. Swygard
 74. *Power and the State.* (5) Pragmatism in politics; Machiavellian diplomacy; Caesarism and the "leader principle"; military considerations. Open to freshmen who have had 1. von Brevern

Upper-Division Courses

100. *Post-War Problems in Government and Administration, National and International.* (5) Mander, Cole, Swygard
 111. *The Western Tradition of Political Thought.* (5) Origins and evolution of the major political concepts of the Western world. Nineteenth-century modifications. Cook
 112. *American Political Thought.* (5) Major thinkers and movements from the Colonial Period to the present. Cook
 113. *Contemporary Political Thought.* (5) Changing political ideas since the French and Industrial Revolutions, as bases for contemporary philosophies and democracy, communism, and fascism. Cook

† To be arranged.

* On leave.

118. Law and State. (5) Changing conceptions of relationship between political authority and the legal institution. Law and politics in an ideal commonwealth. Cole
121. American Foreign Policy. (3) Major policies as modified by recent developments. International cooperation. Martin
- Law 122. International Law. (3) As developed by custom and agreement and as exhibited in decisions of international tribunals and municipal courts. Martin
123. International Relations of the Western Hemisphere. (5) The Monroe Doctrine; Pan-Americanism; special interests in the Caribbean; hemispheric solidarity. "Good Neighbor" policy; Latin America and the War. von Brevern
124. Contemporary International Relations in Europe. (5) Foreign policies of the major powers; international organization between the two World Wars; recent and contemporary developments. Mander
127. International Government and Administration. (5) Law and organization in international relations; foreign offices; regional and global international institutions. Mander
129. International Relations in the Far East. (5) China, Japan, Russia, the Philippines; the Western powers and the Orient; the Far East in world politics.
130. International Relations in the Middle and Near East. (5) Egypt, Turkey, Afghanistan; mandates; critical problems today Mander
132. American Foreign Policy in the Far East. (5) In relation to diplomacy, trade, and internal politics. Williston
133. Europe since 1914. (5) Broad outline of history from World War I to the present. Levy
135. Comparative Colonial Policies and Administration. (5) Colonial policies of leading powers; government of dependent peoples; mandates; national versus international controls. von Brevern
136. The Foundations of National Power. (5) Problems of nationalism, imperialism, militarism, and war; demographic and natural resources; military policy and organization; combinations of power. von Brevern
141. Comparative Federal Systems. (5) Federalism as exhibited in the governments of Canada, Australia, Switzerland, and Russia.
142. Comparative Unitary Systems. (5) Centralization as exhibited in the governments of the United Kingdom, France, Belgium, and Italy.
143. The Authoritarian State. (5) Ideologies and institutions of the "power" states, with special consideration of Germany and the Soviet Union. von Brevern
147. Comparative Governments of the Far East. (5) Structure and organization in China and Japan; puppet regimes; colonial administration.
151. The American Democracy. (5) Nationalism and federalism; regionalism; the presidency; the representative system; judicial institutions; reconciliation of policy and administration. Cole
152. Political Parties and Elections. (5) Organization and methods. Swygard
153. Introduction to Constitutional Law. (5) Growth and development of U. S. Constitution as reflected in Supreme Court decisions; political, social, and economic effects. Cole
155. Introduction to Public Administration. (5) Including relationship of administration to other agencies of government. Swygard
161. Government and Business. (5) Government control of the economic order; historical background; constitutional limitations; restraint of trade and manipulation of prices; control of public utilities. Swygard
162. Problems of Municipal Government and Administration. (5) The city charter; relations with the state and other local units; municipal functions and services, with special reference to the city of Seattle.
166. Chinese Government. (5) Imperial government; transition period; national government; present forms of local government; constitutional draft; present political situation. Michael
169. Japanese Government. () Emergence of modern government; the emperor; position of the military; central and local government; diet; parties and popular movements. Williston

Public Finance. See Economics and Business 171.

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. Open to qualified sophomores. Levy
199. Individual Conference and Research. (2-5) Pr., permission. Staff

Courses for Graduates Only

- 201, 202, 203. Graduate Seminar. (3, 3, 3) Oral and written studies in contemporary problems, domestic and foreign. For candidates for higher degrees in political science. Martin
- 211, 212, 213. Seminar in Readings in Political Science. (3, 3, 3) Writings of first importance of the masters in political science; the political classics. Required of candidates for higher degrees. Cole

214. Seminar in Problems in Political Theory. (3-5) Selected topics, historical and conceptual; national, regional, and universal. Cook
- 221, 222. International Government and Organization. (3-5 ea.) Advanced studies, with emphasis on constitutional organization and administrative procedures. Mander
234. Seminar in Roman Law. (3) Modern research. Readings in Justinian's "Institutes" and "Digest" in English translation. Levy
251. Seminar in Politics and Administration. (3-5) Special topics, with emphasis on political procedures and administrative processes.
256. Seminar in Government and Public Law. (3-5) Special studies in modern problems of government and in present tendencies in public law, especially American. Cole
299. Individual Research. (2-5) Staff
- Constitutional Law. See Law 119.
- Administrative Law. See Law 121.

Not offered in 1945-1946: 101, The American Constitutional System; 114, Oriental Political Thought; 117, Modern Theories of Law; 122, The Foreign Service; 145, Comparative Political Institutions; 150, Government and Interest Groups; 154, The Public Service; 163, State and Local Government and Administration; 164, Public Policy in Government Planning; 167, Introduction to Administrative Law; 168, Comparative Administrative Systems; 195, Honors Course for Seniors; 215, Methods and Research in Political Science.

PSYCHOLOGY

Professors Smith, Guthrie, Wilson, Esper; Associate Professors Edwards, Gundlach; Assistant Professors Horton, Louck,* Herman**

- X 1. General Psychology. (5) Man's original nature, its alteration by use; the behavior that results. Staff
2. Psychology of Adjustment. (5) Nature and formation of personality. Pr., 1. Guthrie
21. Applied Psychology. (5) Personal efficiency, vocational guidance, scientific management, law, medicine, athletics, business, advertising. Upper-division credit for upper-division students. Pr., 1. Gundlach
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. Edwards
109. Advanced Mental Measurement. (5) Pr., 108. Edwards
118. Social Psychology. (5) Language, custom, public opinion, morals, war, family, caste, nationalism, religion. Pr., 1. Guthrie
123. Industrial Psychology. (3) Edwards
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
140. Conditioning. (5) Significance for the several fields of psychology. Research techniques. Pr., 10 credits in psychology. Guthrie
145. Public Opinion Analysis. (5) Edwards
- 151, 152, 153. Undergraduate Research. (1 to 3) Pr., 106 and permission of department.

* On leave.

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. (1)

211, 212, 213. Seminar. (2, 2, 2)

Not offered in 1945-1946: 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 Umbrey, Nostrand, Frein, Garcia-Prada, Goggio; Professor Emeritus Helmling; Associate Professors Chess, Simpson, W. Wilson; Assistant Professors David, Whittlesey, C. Wilson; Instructors Creore,* Keller; Associate Allison*

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 3 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. May be counted as elective credit in English major. Goggio

Italian 184. Renaissance Literature of Italy in English. (2) May be counted as elective credit in English major. 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 1945-1946: French 118, 119, 120, Survey of French Literature and Culture in English; Spanish 118, 119, 120, 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, 11. French Conversation. (2, 2) Pr., 3.

Chess

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. Whittlesey

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. Frein

90, 190. Supervised Study. (1)

†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.
- 121, 122, 123. French Prose Fiction. (3, 3, 3) Lectures in French. History of novel and short story, with assigned reading from the several types. Pr., 6 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.
- 151, 152, 153. French Literature of the Nineteenth Century (3, 3, 3) 151: the revolutionary spirit and the early romanticists; 152: romanticism; 153: realism. Lectures in French. Pr., 6 or equivalent. Whittlesey
Simpson
- 158, 159. Advanced Syntax. (2, 2, 2) From the teacher's standpoint. Should precede the teachers' course. Pr., 103 or 107 or 108.
- 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
- 291, 292, 293. Conferences for Theses and Special Studies. (3, 3, 3)
- Not offered in 1945-1946: 131, 132, 133, Lyric Poetry; 141, 142, 143, The French Drama; 161, 162, 163, Eighteenth Century Literature; 213, French Stylistics; 281, 282, Seminar: Problems and Methods of French Literary History.

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

Italian

- 1-2, 3. Elementary. (5-5, 5) Goggio, Whittlesey
- 90, 190. Supervised Study. (†)
- 121, 122, 123. The Italian Novel. (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 1945-1946: 4-5-6, Elementary Italian; 111, 112, 113, Modern Italian Literature; 221, 222, 223, Italian Literature of the XIIth to the XVth Centuries; 231, 232, 233, History of Old Italian Literature; 243, Italian Historical Grammar.

† To be arranged.

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.

X 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. Commercial Spanish. (3) 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

121, 122. Spanish Prose Fiction. (3, 3) Pr., 6 or equivalent. W. Wilson

127, 128, 129. Advanced Conversation. (2, 2, 2) Pr., 102 or permission. Garcia-Prada

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. Garcia-Prada

181. Spanish-American Literature. (3) General survey, to twentieth century. Pr., 6 or equivalent. Umphrey

184. Spanish-American Literature. (3) Mexico, Central America, the Caribbean area. Pr., 6 or equivalent. Umphrey

185. Spanish-American Literature. (3) Social and cultural life of Colombia and Venezuela. Pr., 6 or equivalent. Garcia-Prada

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

221. Old Spanish Literature. (5) Umphrey

241. Spanish Historical Grammar. (5) Umphrey

252, 253. Graduate Spanish Studies. (5, 5)

291, 292, 293. Conferences for Theses and Special Studies. (3)

Not offered in 1945-1946: 131, Lyric Poetry; 141, 142, 143, Spanish Drama; 182, 183, 186, Spanish-American Literature; 201, Spanish Renaissance; 231, Epic Poetry.

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

† To be arranged.

- 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 1945-1946: 201-202, Old Icelandic; 208, Scandinavian Lyric Poetry.

SOCIAL WORK, GRADUATE SCHOOL OF

Professor Witte;* *Associate Professor Ferguson;* *Assistant Professors Belzer, Jones, McCullough;* *Lecturers Barnett, Futterman, Hoodmaker,* Meyer, Murphy, Orr*;* *Field Work Supervisors Jamieson, Macdonald.*

Permission of School of Social Work Required Before Registration

Pre-Professional Undergraduate Courses

- 190s. Objectives of Social Work. (3) Pr., permission.
 192s. Field of Social Work. (3) Pr., permission.
 193s. Introduction to Public Welfare. (3) Pr., permission.
 195s. Problems of Child Welfare. (3) Pr., permission.
 196s I. Practicum in Social Work. (3) Pr., permission.
 198s II. Practicum in Social Work. (3) Pr., permission.

Professional Graduate Courses

- 200s I. Social Case Work. (3) Basic principles and methods of the case-work process developed through discussion of case material. Professional students only. Belzer
 202s II. Social Case Work. (3) Emphasis is placed on the client-worker relationship, diagnostic and treatment processes. Pr., 200s I. Belzer
 203s I. Growth and Development of the Individual. (3) Medical and psychiatric information and knowledge of behavior as basic to social case work. Pr., 200s I. Ferguson, Futterman
 204s II. Growth and Development of the Individual. (3) Pr., 203s I. Ferguson, Futterman
 205s. Introduction to Public Welfare. (3) Development of public responsibility of dependent, handicapped delinquent in England and United States. Pr., permission. McCullough
 206s. Statistics in Social Work. (3) Administrative studies in public social services; introduction to the statistical method. Pr., permission. McCullough
 207s. 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., 200s I.
 208s. Law for Social Workers. (3) Familial relations, child dependency, delinquency, contractual relationships, etc. Pr., permission. Barnett
 210s. Public Welfare Administration in Rural Areas. (3) Pr., permission. McCullough
 212s. Social Welfare Organization. (3) Pr., permission. Jones

* On leave.

- 214s. Community Organization for Social Welfare. (3) Pr., permission. Jones
- 215s I. Field Work: Family Case Work. (4) Pr., 200s I. Belzer and Staff
- 215s II. Field Work: Family Case Work. (4) Pr., 215s I. Belzer and Staff
- 219s. Family Case Work. (3) Pr., 202s. Belzer
- 220s. Seminar: Family Social Work. (3) Pr., 219s. Belzer
- 221s I. Field Work: Family Case Work. (4) Pr., 219s. Belzer and Staff
- 221s II. Field Work: Family Case Work. (4) Pr., 221s I. Belzer and Staff
- 222s. Social Case Work with Children. (3) Pr., 202s.
- 223s. Seminar: Social Case Work with Children. (3) Pr., 222s.
- 224s I. Field Work: Child Welfare Case Work. (4) Pr., 202s, 203s I. Staff
- 224s II. Field Work: Child Welfare Case Work. (4) Pr., 224s I. Staff
- 225s. Medical Social Case Work. (3) Case work in the medical setting. Pr., completion of basic curriculum. Ferguson
- 226s. Seminar: Medical Social Work. (3) Pr., 225s. Ferguson
- 227s I. Field Work: Medical Social Case Work. (4) Pr., 225s. Ferguson and Staff
- 227s II. Field Work: Medical Social Case Work. (4) Pr., 227s I. Ferguson and Staff
- 228s. Administration of Social Insurances. (3) The interrelationship of insurances and public assistance programs, including health insurance. Pr., 205s. McCullough
- 229s. Seminar: Public Welfare Administration. (3) Pr., permission. McCullough
- 230s I. Field Work: Public Welfare Administration. (†) Pr., 215s II. McCullough and Staff
- 230s II. Field Work: Public Welfare Administration. (†) Pr., 230s I. McCullough and Staff
- 231s. Psychiatric Social Case Work. (2) Pr., permission. Meyer
- 232s. Seminar: Psychiatric Social Work. (2) Pr., permission. Futterman
- 233s I. Field Work: Psychiatric Social Work. (4) Pr., permission. Meyer
- 233s II. Field Work: Psychiatric Social Work. (4) Pr., 233s I. Meyer
- 234s. Social Work Research. (3) Pr., permission. Staff
- 235s. Seminar: Supervision. (3) Pr., permission. Staff
- 236s I. Field Work: Supervision. (4) Pr., permission. Staff
- 237s. Readings in Social Work. (†) Pr., permission. Staff
- 238s. Readings in Social Work. (†) Pr., permission. Staff
- 239s. Thesis Research. (3) Pr., 202s, 234s concurrently. Staff
- 240s. Thesis Research. (3) Pr., 239s. Staff
- 241s. Seminar: History of Social Work. (2) Selected social welfare movements since the 16th century and their effect on present programs. Pr., permission.
- 242s. Seminar: Social Work as a Profession. (2) Pr., permission. Ferguson
- 243s. Administration of Social Agencies. (1½) Administration as it relates to executive, staff and board; policy making; budgeting; public relations; committee management. Pr., permission.

SOCIOLOGY

*Professors Steiner, Hayner, Schmid, Woolston; Instructors Cheng, O'Brien;
Associates Bartlett, Schrag.*

1. Survey of Sociology. (5) Cheng in charge
27. Survey of Contemporary Social Problems. (5) Suicide, crime, population, unemployment, mental deficiency, mental diseases, family disorganization, etc. Pr., 1. Schmid
31. Social Statistics. (5) Quantitative analysis applied to sociological materials. Schmid
41. Japanese Social Institutions. (5) Pr., 1. U.D. credit to U.D. students. Social problems, organizations, traits, and ways of life. Steiner
42. Chinese Social Institutions and Social Change. (5) Pr., 1. U.D. credit to U.D. students. Family system, social organization, and changing mores. Cheng
55. Human Ecology. (5) Factors and forces which determine the distribution of people and institutions. Pr., 1. Steiner, Schmid
66. Group Behavior. (5) Conditioning factors and collective response in typical social groups. Pr., 5 credits sociology and 5 credits psychology. Woolston
112. The Family. (5) The changing home; family and marriage customs, family interaction and organization; domestic discord. Pr., 1. Hayner
132. Methods of Social Research. (5) Investigation of communities, institutions, social conditions. Field and lab. work. Pr., 31, or approved equivalent. Schmid
135. Graphic Methods in Sociology. (3) Pr., 31 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

† To be arranged.

152. Social Control. (5) Methods of changing individual and collective actions. Pr., 1. Bartlett
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, Schmid
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 Attitudes. (3) Their development and manifestations. Pr., 5 credits psychology and 20 credits in other social sciences. Upper-division students may substitute for 66. Woolston
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
173. Social Classes. (5) Pr., 5 cr. psychology and 20 cr. social science. Woolston
176. Rural Community Organization. Social and economic problems. Pr., 10 credits in sociology. Steiner
180. Social Factors in Marriage. (3) Marital problems and their adjustment. Pr., 1, 112. Hayner
194. Public Opinion. (5) Pr., 5 cr. psychology, 20 cr. social science. (U. D. students only.) Woolston

Courses for Graduates Only

- 203, 204, 205. Social Reforms. (3, 3, 3) Critical survey of programs of amelioration. Pr., 25 credits social science. Woolston
- 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, 248, 249. Social Criticism. (3, 3, 3) Pr., 25 credits in social sciences. Woolston
255. Advanced Human Ecology. (3) Ecological conceptions and processes. Pr., 155, and 20 credits in social sciences. Steiner
260. Marriage and the Family: Other Cultures. (3) Analysis of courtship, marriage and family interaction. Pr., 112 or approved equivalent.
- 261, 262. Marriage and the Family: United States. (3) Analysis of courtship, marriage and family interaction. Pr., 112 or approved equivalent.
- 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 1945-1946: 116, Housing the Family; 134, Advanced Social Statistics; 140, Population Problems; 146, Cooperation; 160, Penology; 170, Contemporary Social Theory; 202, Schools of Sociological Theory; 220, Population Redistribution; 222, Oriental Migration; 223, Social Change in Modern Japan; 235, Methodology: Quantitative Sociology; 236, Methodology: Case Studies and Interviews; 256, Probation and Parole; 257, Correctional Institutions; 258, Basic Crime Prevention.

SPEECH

Professors Orr, Rabskopf; Associate Professors Franzke, Carrell; Assistant Professor Bird; Instructors Baisler,* Burmeister, McCrory, Nelson, Pellegrini, Redding; Associates Enquist, Groth, Kniseley, Pence,* Wagner*

- A. Speech Clinic. (No credit) For students having speech defects. Sec. A, Articulation Problems; Sec. B, Foreign Dialect; Sec. C, Stuttering; Sec. D, Voice Problems. Carrell in charge
- * 1. Basic Speech Improvement. (3) Student orientation and adjustment; orderly thinking and listening; distinctness in utterance; effective oral use of language. Orr in charge
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 in charge

†To be arranged.
* On leave.

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
 50. **Elementary Lip Reading.** (3) Fundamental principles; sense training for speed and accuracy. Rahskopf
 79. **Oral Interpretation.** (3) Techniques of analysis and of reading aloud of printed material, both prose and poetry. Required of students seeking a secondary certificate in English. Upper division credit for upper-division students. Orr, Rahskopf, Burmeister
 101. **Varsity Debate.** (3) For members of the Varsity debate squad only. No more than 3 credits can be earned in one year and the total cannot exceed 12 credits. Orr, Franzke, Kniseley
 103. **Extempore Speaking.** (3) For students in engineering and law. Not open to College of Arts and Sciences students nor to students who have credit for 40. Franzke
 139. **Forms of Public Address.** (5) Study of the structure and style of the various forms of public address based on modern speeches. Pr., 40. Rahskopf
 140. **Discussion Techniques Applied to Current Problems.** (3) Pellegrini
 141. **The Public Lecture.** (3) Pr., 40 or permission. Franzke
 161. **Radio Speech.** (3) Announcer's copy, talks, dialogue, interviews, group discussion, etc. Pr. 43 and 79. Adams
 162. **Radio Production Methods.** (3) Sound effects, music in broadcasts, microphone placement, studio set-up, timing, cutting of scripts. Pr., 43 and 79. Adams
 163. **Radio Program Building.** (3) Adaptation of literary, informational, and persuasive material for radio. Pr., 43 and 79. Adams
 179. **Advanced Oral Interpretation of Literature.** (5) Pr., 79 or permission. Orr
 186. **Backgrounds in Speech.** (5) Biological, acoustic, psychological, and social aspects. Speech as a field of study and the correlation of its various phases. Rahskopf
 187. **Voice Science.** (5) Anatomy, physiology, physics, psychology of voice production. Pr., 43 or permission. Carrell
 188. **Advanced Problems in Speaking.** (5) Audience analysis, thought organization, and delivery. Pr., 40. Orr
 190. **Speech Correction.** (5) Nature, etiology, diagnosis of disorders of speech. Carrell
 191. **Methods of Speech Correction.** (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. Rahskopf
 198. **Senior Seminar in Speech.** (1) Rahskopf
- Teachers' Course in Speech.** (See Education 75X.)

Courses for Graduates Only

201. **Introduction to Graduate Study in Speech.** (2) Required of all graduate students in speech. Rahskopf
211. **Historical Principles of Public Address.** (5) Critical evaluation of the principles of public address based on a study of their development from ancient to modern times. Rahskopf
212. **Research in Rhetoric and Public Address.** (5) Rahskopf
214. **Research in Voice.** (5) Orr
215. **Research in Theory of Interpretation.** (5) Orr
216. **Research in Speech Pathology.** (5) Carrell
220. **Thesis Research.** (†) Staff

Not offered in 1945-1946: 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. Williston and Staff

ZOOLOGY

See Animal Biology, page 134.

†To be arranged.

SUMMARY OF DEGREES, DIPLOMAS, AND CERTIFICATES GRANTED, 1943-1944

Bachelor's Degrees

B.A. (College of Arts and Sciences).....	368	B.S. in Chemistry.....	11
B.A. (College of Education).....	10	B.S. in Civil Engineering.....	10
B.A. in Economics and Business.....	106	B.S. in Education.....	1
B.A. in Education.....	8	B.S. in Commercial Engineering.....	7
B.A. in Home Economics.....	3	B.S. in Electrical Engineering.....	29
B.A. in Librarianship.....	10	B.S. in Fisheries.....	6
B.A. in Mathematics.....	1	B.S. in Food Technology.....	2
B.A. in Music.....	7	B.S. in Forestry.....	7
Bachelor of Architecture.....	8	B.S. in Home Economics.....	7
Bachelor of Laws.....	11	B.S. in Law.....	7
B.S. (College of Arts and Sciences).....	159	B.S. in Mathematics.....	4
B.S. (College of Education).....	3	B.S. in Mechanical Engineering.....	31
B.S. in Aeronautical Engineering.....	16	B.S. in Metallurgical Engineering.....	1
B.S. in Anatomy.....	1	B.S. in Mining Engineering.....	3
B.S. in Bacteriology.....	3	B.S. in Nursing.....	40
B.S. in Botany.....	1	B.S. in Pharmacy.....	22
B.S. in Ceramic Engineering.....	1		
B.S. in Chemical Engineering.....	24	Total.....	928

Advanced and Professional Degrees

Master of Arts.....	37	Master of Science.....	10
Master of Arts in Music.....	1	M.S. in Home Economics.....	3
Master of Arts in Regional Planning.....	1	M.S. in Chemical Engineering.....	3
Master of Business Administration.....	6	M.S. in Nursing.....	1
Master of Education.....	4	M.S. in Pharmacy.....	1
Master of Fine Arts.....	1	M.S. in Physical Education.....	2
Master of Music.....	2	Doctor of Philosophy.....	17
Master of Nursing.....	1		
Master of Social Work.....	5	Total.....	95

Diplomas and Certificates

Certificate in Nursing Supervision.....	10	Six-Year Standard Secondary Certificate.....	4
Certificate in Public Health Nursing.....	32		
Three-Year Secondary Certificate.....	35	Total.....	81

SUMMARY OF ENROLLMENT—TOTALS

EXTENSION STUDENTS

Classes.....	1643
Men.....	471
Women.....	1172
Home Study.....	2133
Men.....	1578
Women.....	555
Total.....	3776

CIVILIAN ENROLLMENT

Academic year (quarter).....	5393
Academic year (semester).....	498
Summer Session A.....	2167
Summer Session B.....	284
Deduct summer duplicates.....	533
(Session A, 424; B, 109)	
Total (Academic year and summer).....	7809

SERVICE ENROLLMENT

Navy V-12:	
Summer Session B.....	1333
First Semester.....	1374
Second Semester.....	1244
Total Individuals.....	2119
A.S.T.P. Area-Language Group, R.O.T.C.,	
Army Air Corps Pre-Meteorology (Pro-	
gram B).....	775
Total, Navy and Army.....	2894

TOTAL STUDENTS IN RESIDENCE

Navy V-12.....	2119
Army Training.....	775
Civilians.....	7809
Total.....	10703

SUMMARY OF CIVILIAN ENROLLMENT BY SCHOOLS AND COLLEGES, UNIVERSITY OF WASHINGTON, YEAR 1943-1944

QUARTER SYSTEM

SEMESTER SYSTEM

COLLEGE	SUMMER QUARTER (SESSION A)			Autumn	Winter	Spring	Total Individuals* Quarter System	Summer Session B	First Semester	Second Semester	Total** Individuals Semester System	Total Individuals Academic Year		
	1st Term Summer	2nd Term Summer	Entire Summer											
Arts and Sciences...	1321	1317	1405	3649	3382	3047	4348	21	21	32	79	155	77	4425
Men.....	316	312	331	622	480	363	756	21	21	32	63	14	14	819
Women.....	1005	1005	1074	3027	2902	2684	3592	..	..	..	76	76	76	3606
Econ. and Business...	85	84	88	289	284	240	355	..	..	..	25	43	12	367
Men.....	48	48	51	80	84	66	112	..	..	..	9	3	3	121
Women.....	37	36	37	209	200	174	243	..	..	..	18	18	18	246
Education.....	91	116	149	49	52	55	60	..	..	..	1	3	1	61
Men.....	14	49	53	14	12	10	16	..	..	..	2	2	2	17
Women.....	77	67	96	35	40	45	44	..	..	..	..	..	..	44
Engineering.....	27	22	27	7	8	11	17	234	243	302	315	257	367	384
Men.....	26	22	26	7	8	10	16	234	243	302	315	257	367	384
Women.....	1	..	1	..	..	1	1	9	9	13	13	11	13	14
Forestry.....	2	2	3	15	11	14	19	..	..	3	3	5	4	23
Men.....	2	2	3	15	11	14	19	..	..	3	3	5	4	23
Women.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graduate School....	401	365	456	361	315	301	476	9	10	8	8	40	19	495
Men.....	138	123	150	164	143	123	208	9	10	8	8	34	17	225
Women.....	263	242	306	197	172	178	268	1	..	6	6	6	2	270
Law.....	7	7	7	16	15	14	17	2	3	4	4	4	5	22†
Men.....	4	4	4	10	8	8	11	2	3	3	4	4	4	15
Women.....	3	3	3	6	7	6	6	1	1	1	1	..	1	7
Mines.....	..	1	1	5	4	3	6	7	7	10	10	9	11	17
Men.....	..	1	1	5	4	3	6	7	7	10	10	9	11	17
Women.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pharmacy.....	31	31	31	91	86	80	95	..	..	..	..	4	2	97
Men.....	24	24	24	45	41	36	46	..	..	..	..	4	2	48
Women.....	7	7	7	46	45	44	49	..	..	..	..	..	..	49
Total.....	1965	1945	2167	4482	4157	3765	5393	273	284	358	372	520	498	5891
Men.....	572	585	643	962	791	633	1190	273	284	358	372	520	498	5891
Women.....	1393	1360	1524	3520	3366	3132	4203	11	14	14	14	113	33	4236

* The totals are based upon the classification of the Autumn Quarter, to which is added the number of new students entering the same classification for the first time for the Winter and Spring Quarters. In this column, students who have changed their classification during the year are counted as of their first classification.

** The totals in this column are in some cases less than the total regis-

tration for the second semester because some of the second-semester students were old students on the quarter system for Autumn and Winter Quarters and therefore must be counted in the total individuals in the quarter enrollment.

† To this number should be added 33 students who were enrolled as graduate students and are included in the Graduate School total.

SUMMARY OF CIVILIAN ENROLLMENT BY CLASSES, UNIVERSITY OF WASHINGTON, YEAR 1943-1944

QUARTER SYSTEM

SEMESTER SYSTEM

CLASSES	SUMMER QUARTER (SESSION A)			Autumn Quarter	Winter Quarter	Spring Quarter	Total Individuals Quarter System	Summer Session B	First Semester	Second Semester	Total Individuals Semester System	Total Individuals Academic Year
	1st Term	2nd Term	Total Individuals									
	1	2	3									
Freshmen...	362	351	368	1843	1750	1427	2319	90	158	192	248	2567
Men.....	176	169	178	422	343	231	542	87	150	152	227	769
Women...	186	182	190	1421	1407	1196	1777	3	8	40	21	1798
Sophomores...	235	235	246	943	875	804	1070	62	67	106	75	1145
Men.....	46	44	49	129	113	93	153	58	63	78	70	223
Women...	189	191	197	814	762	711	917	4	4	28	5	922
Juniors.....	299	293	312	687	623	630	756	51	70	101	82	838
Men.....	48	50	51	117	86	66	127	48	69	71	79	206
Women...	251	243	261	570	537	564	629	3	1	30	3	632
Seniors.....	360	353	376	558	525	553	625	71	69	79	73	698
Men.....	94	94	99	110	92	105	131	71	68	70	71	202
Women...	266	259	277	448	433	448	494	..	1	9	2	496
Graduates...	401	365	456	361	315	301	476	10	8	40	19	495
Men.....	138	123	150	164	143	123	208	9	8	34	17	225
Women...	263	242	306	197	172	178	268	1	..	6	2	270
Specials.....	69	73	75	90	69	50	147	..	..	2	1	148
Men.....	16	15	17	20	14	15	29	..	..	2	1	30
Women...	53	58	58	70	55	35	118	..	..	..	..	118
Transients...	239	275	334	...	...	...	...	..	..	..	..	...
Men.....	54	90	99	..	..	..	..	..	..	..	..	..
Women...	185	185	235	..	..	..	..	..	..	..	..	..
Total.....	1965	1945	2167	4482	4157	3765	5393	284	372	520	498	5891
Men.....	572	585	643	962	791	633	1190	273	358	407	465	1655
Women...	1393	1360	1524	3520	3366	3132	4203	11	14	113	33	4236

NOTE: The number of individuals in Column 7 is based upon the classification of the Autumn Quarter, to which is added the number of new students entering the same classification for the first time for the Winter and Spring Quarters. In this column, students who have changed their classification during the year are counted as of their first classification.

NOTE: The total of individuals in Column 4 (Semester) is less than the total registration for the second semester because some of the second-semester students were old students on the quarter system for Autumn and Winter Quarters and therefore must be counted in the total individuals of the quarter enrollment.

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SUPPLEMENT

Semester Courses in 1944-45: For the convenience of Registrars and other interested persons, this Supplement has been compiled to indicate the numbers, titles, and credits, expressed in *semester* terms, of the courses offered in 1944-45.

For exact information as to semester courses to be offered in 1945-46, the Time Schedule (available about October 1, 1945) must be consulted.

AERONAUTICAL ENGINEERING

100s.	Aircraft Engines (2)
101s.	Aerodynamics (3)
102s.	Advanced Aerodynamics (3)
103s.	Airplane Performance (3)
104s.	Lab. Methods and Instruments (2)
105s.	Wind Tunnel Lab. (2)
106s.	Advanced Wind Tunnel Lab. (2)
111s, 112s.	Airplane Design (3,3)
141s.	Aerial Propulsion (2)
161s.	Advanced Aeronautical Problems (3)
171s, 172s.	Aircraft Structural Mechanics (3,3)
188s, 190s.	Seminar (1,1)
191s, 193s.	Research (2-5, 2-5)

Navy College Training Program

Is, 101s.	Aerodynamics (3)
VIs.	Aircraft Materials and Processes (3)
XIIIs.	Vibration and Dynamic Balance (2)

ANIMAL BIOLOGY

Anatomy

100s.	Anatomy Lectures (3)
101s, 102s, 103s.	General Human Anatomy (3,3,3)
104s.	Topographical Anatomy (3)
105s.	Histology (2 or 6)
106s.	Embryology (6)
107s.	Neurology (6)
108s.	Special Dissections (*)
200s.	Research (*)

Physiology

6s.	Physiology for Pharmacy Students (4)
7s.	Elementary Physiology (3)
11s.	Survey of Physiology (3)
50s.	Physiology for P.E. Majors (4)
55s.	Intermediate Physiology (6)
151s, 153s.	Advanced Physiology (5,5)
163s.	Physiology of Metabolism (*)
173s.	Endocrinology (*)
201s, 203s.	Research (*)
210s, 212s.	Seminar (1,1)

Zoology

1s, 2s.	General Zoology (4,4)
8s.	Survey of Zoology (4)
16s.	Evolution (2)
17s.	Eugenics (2)
101s.	Cytology (4)
105s.	General Vertebrate Embryology (4)
106s.	Marine Plankton (4)
107s.	Parasitology (4)
108s.	Limnology (4)
111s.	Entomology (4)
121s.	Microscopic Technique (2)
125s.	Invertebrate Zoology (5)
127s.	Comp. Anatomy of Chordates (5)
129s, 130s.	Vertebrate Zoology (4,4)
131s.	History of Zoology (2)
135s.	Museum Technique (3)
155s, 156s.	Elem. Problems (3,3)
Teachers' Course in Zoology (See Education 752).	
201s, 202s.	Research (*)
210s, 211s.	Seminar (1,1)

ANTHROPOLOGY

51s.	Prin. of Anth., Race and Prehistory (5)
52s.	Prin. of Anth., Social Life (5)
60s.	American Indians (4)
65s.	Peoples of the World: Africa (4)
91s.	Theories of Race (2)
111s.	Indian Cultures of the Pacific N.W. (2)
112s.	Peoples of the Pacific (3)
142s.	Primitive Religions (2)
143s.	Primitive Art (3)
150s.	General Linguistics (3)
151s.	American Indian Linguistics (3)
152s.	Introduction to Anthropology (5)
153s.	Anth. and Contemporary Problems (5)
160s.	History of Anthropological Theory (2)
170s.	Primitive Arts and Crafts (3)
185s.	Prim. Social and Political Institutions (4)
193s, 194s.	Reading Course (3,3)
204s, 205s.	Seminar in Methods and Theories (3,3)

ARCHITECTURE

1s, 3s.	Appreciation (2,2)
4s, 6s.	Elem. of Architectural Design (4,4)
7s, 9s.	Graphical Representation (1,1)
40s, 41s.	Water Color (3,3)
51s, 52s.	History of Architecture (2,2)
54s, 56s.	Architectural Design, Grade I (5,5)
101s, 103s.	History of Architecture (2,2)
104s, 106s.	Architectural Design, Grade II (5,5)
120s, -122s.	Building Construction (2,2)
151s.	Senior History (2)
154s, 156s.	Architectural Design, Grade III (5,5)
160s, 162s.	Architectural Problems (3-7, 3-7)
167s, 169s.	Specifications and Materials (2,2)

ART

1s.	Elementary Painting and Design (5)
5s, 7s.	Drawing (3,3)
9s, 11s.	Design (3,3)
12s.	History of Art Through the Renaissance (3)
15s, 16s.	Laboratory Drawing (2,2)
20s.	Modern Sculpture (1)
32s.	Drawing for Architects (2)
34s.	Sculpture for Architects (2)
53s, 55s.	Advanced Design (3,3)
56s, 58s.	Drawing and Painting (3,3)
62s.	Essentials of Interior Design (1)
65s, 67s.	Drawing and Painting (3,3)
72s, 74s.	Sculpture (3,3)
80s, 82s.	Furniture Design (3,3)
83s.	History of Furniture and Interior Styles (2)
100s.	Elementary Crafts (2)
101s.	Elementary Interior Design (2)
102s.	Book-making and Book-binding (2)
103s, 104s.	Ceramic Art (2,2)
105s.	Lettering (3)
106s.	Commercial Design (3)
110s, 112s.	Interior Design (5,5)
116s.	Design for Industry (2)
122s, 124s.	Sculpture (3,3)
126s.	History of Painting Since the Renaissance (2)
129s.	Appreciation of Design (1)
130s.	Advanced Ceramic Art (2)
132s, 134s.	Advanced Sculpture (3,3)

136s, 138s	Sculpture Composition (3,3)
150s, 151s	Illustration (3,3)
157s	Metal (2)
158s	Jewelry (2)
159s	Advanced Jewelry (2)
160s, 162s	Life (3,3)
163s, 164s	Composition (3,3)
169s, 171s	Costume Design (2,2)
172s, 174s	Advanced Interior Design (5,5)
175s, 177s	Advanced Painting (3,3)
179s, 181s	Adv. Costume Design and Illus. (2,2)
182s, 184s	Asiatic Art (2,2)
230s, 232s	Advanced Design (3-5, 3-5)
260s, 262s	Advanced Life Painting (3-5, 3-5)
263s, 264s	Advanced Composition (3-5, 3-5)

ASTRONOMY

1s	Astronomy (4)
105s	Practical Astronomy (4)
191s, 192s	(Astronomical Research for Undergraduates (*)

BACTERIOLOGY

100s	Fundamentals of Bacteriology (7)
101s	General Bacteriology (4)
102s	Sanitary and Clinical Methods (3)
103s	Public Hygiene (3)
104s	Fundamentals of Immunology (4)
105s	Infectious Diseases (4)
107s	Control of Micro-organisms (4)
110s	Fundamentals of Pathology (5)
112s	Special Pathology (5)
120s, 121s, 122s	Applied Bacteriology (3,3,3)
127s	Review of Journals (1)
130s, 132s	Industrial Microbiology (5,5)
201s	Physiology of Bacteria (3)
202s	Viruses (3)
203s	Experimental Pathology (3)
204s, 206s	Advanced Bacteriology (*,*)
209s	Seminar (1)
210s, 212s	Research (*,*)

BOTANY

1s, 2s, 3s	Elementary Botany (4,3,4)
4s	Plants and Civilization (2)
5s	Survey of Botany (4)
10s	Forestry Botany (5)
13s	Pharmacy Botany (4)
16s	Economic Botany (4)
101s	Ornamental Plants (2)
105s, 107s	Morphology (4,4)
108s	Genetics (4)
111s	Forest Pathology (4)
115s	Yeasts and Molds (4)
119s	Microtechnique (3)
122s	Cytogenetics (3)
129s	Plant Anatomy (4)
131s	Mosses (3)
132s	Algae (3)
134s, 135s	Taxonomy (3,3)
140s, 142s	General Fungi (5,5)
143s, 145s	Plant Physiology (5,5)
151s	Range Plants (2)
180s, 182s	Plant Pathology (5,5)
199s	Proseminar (1-15)
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200s	Seminar (14)
205s	Physiology of Marine Plants (2)
220s	Advanced Fungi (1-3)
223s	Research (2-5)
250s	Algae (2-4)
251s	Bryophytes (*)
279s	Colloidal Biology (3)
280s	Micrometabolism (3)
281s	Physiology of Fungi (3)

CHEMISTRY AND CHEMICAL ENGINEERING

3s, 4s (equivalent to 1-2)	Gen. Inorganic (4,4)
5s, 6s (equivalent to 21-22)	Gen. Inorganic (4,4)
8s, 10s	General Chem. and Qual. Anal. (5,5)
21s, 23s	General Inorganic (5,5)
37s, 39s	Organic Pharmaceutical Chem. (5,5)
51s, 53s	Industrial Chem. Calc. (2,2)
101s	Advanced Qualitative Analysis (3)
109s, 110s	Quantitative Analysis (4,3)
111s	Quantitative Analysis (4)
121s	Chemistry of Engineering Materials (5)
123s	(Organic and Inorganic Chemical Industries (5,5)
131s, 133s	Organic (5,5)
134s	Qual. Organic Analysis (2)
135s	Organic (4)
137s	Organic (3)
140s	Elementary Physical (4)
144s	Biological (3)
150s	Undergraduate Thesis (2-4)
152s	Advanced Chemical Calculations (2)
161s, 163s	Biological (5,4)
166s	Biochemical Preparations (2-3)
171s, 173s	Unit Operations (5,5)
175s	Industrial Electrochemistry (2)
176s, 178s	Chemical Engineering Thesis (4,4)
179s	Research in Electrochemistry (2-4)
181s, 183s	Physical and Theoretical (5,5)
190s	History of Chemistry (2)
200s	Graduate Seminar (0)
201s, 203s	Advanced Theoretical and Phys. (3,3)
208s, 210s	Advanced Quantitative Analysis (2,2)
211s, 212s	Advanced Organic Preparations (2,2)
214s	Phase Rule (2)
218s, 220s	(Selected Topics in In- dustrial Chemistry (3,3)
221s, 223s	Advanced Inorganic Chemistry (3,3)
224s	Chemistry of Nutrition (3)
225s	Problems in Analytical Chemistry (2-4)
226s	Micro-Quantitative Analysis (2)
227s	General Chemical Microscopy (2)
228s	Micro-Quantitative Analysis (2)
231s, 232s	Advanced Organic Chemistry (2,2)
238s	Chemistry of High Polymers (2)
244s, 246s	Advanced Unit Operations (3,3)
249s	Graduate Seminar (*)
250s	Graduate Research (*)

Navy College Training Program

Is, Ias, IIs	General Chemistry (4,4,4)
IIIs	Quant. Analysis (4)
IVs, Vs	Organic (4,4)
VIIs	Engineering Materials (4)

CIVIL ENGINEERING

57s, 58s	Transportation Surveying (4,3)
59s	Advanced Surveying (4)
91s, 92s	Mechanics (2,3)
116s, 118s	Structural Engineering (4,4)
121s	Roads and Pavements (2)
123s	Highway and Railway Economics (2)
124s	Highway Design (2)
142s	Hydraulics (3)
143s	Hydraulic Engineering (3)
145s	Hydraulic Machinery (2)
147s	Hydraulic Power (3)
150s	Sanitary Science (2)
153s	Regional Planning (3)
155s	Water Supply Problems (2)
157s	Reclamation (2)
158s	Sewerage and Sewage Treatment (2)
162s, 163s	Materials of Construction (3,3)
166s, 167s	Soil Mechanics (2,2)
171s, 173s	Structural Mechanics (4,2)
175s, 177s	Structural Design (5,4)
181s, 183s	Advanced Structural Analysis (3,4)

- 191s, 193s, 195s..... {Professional Design and/or
Analysis (2-4, 2-4, 2-4)
192s, 194s, 196s..... Research (2-5, 2-5, 2-5)
210s, 212s, 214s..... Research (2-5, 2-5, 2-5)

Navy College Training Program

- AIs, AIIIs..... Analytical Mechanics (2,5)
IIIs..... Strength of Materials (3)
IVs, IVAs (ME167s)..... Materials Laboratory (3,2)
Vis (142s)..... Fluid Mechanics (3)
VIIAs (AE 171s)..... Structural Analysis (3)

CLASSICAL LANGUAGES AND LITERATURE

Greek

- 1s-, -3s..... Elementary Greek (5,5)
4s..... Socrates (3)
6s..... Homer (3)
7s..... New Testament (3)
8s, 9s..... Grammar and Composition (2,2)
51s..... Sight Reading (0)
101s..... Persian War and Pericles (3)
103s..... Pelop. War; Macedonian Supremacy (3)
122s..... Grammar and Composition (3)
151s, 153s..... Plato (3-4, 3-4)
191s, 193s..... Aeschylus (3-4, 3-4)
201s, 203s..... Greek Philosophers (3-4, 3-4)
231s..... Research in Special Authors (3-4)

Latin

- 1s-, -3s..... Elementary Latin and Caesar (5,5)
4s, 6s..... Cicero and Ovid (5,5)
21s..... Cicero: De Senectute (5)
22s..... Catullus (5)
100s..... Livy (3-4)
103s..... Plautus and Terence (3-4)
106s..... Syntax and Prose Composition (2)
153s..... Augustine: Confessions (2)
154s..... Lucretius (2)
160s, 162s..... Major Conference (1,1)
Teachers' Course in Latin (See Education 75P)
207s..... Seneca: Moral Essays (2)
211s..... Latin Novel (2)
285s..... Vulgar Latin (2)
287s..... Medieval Latin (2)

Antiquities in English

- 13s..... Greek Literature (4)
111s..... Greek Civilization (3-4)
11s..... Roman Civilization (4)
113s..... Masterpieces of Latin Literature (3-4)

DRAMA

- 1s, 3s..... Introduction to the Theatre (2,2)
46s, 48s..... Theatre Speech (3,3)
51s, 53s..... Acting (3,3)
103s..... Scene Construction (2)
104s..... Scene Design (2)
105s..... Theatrical Costume Design and Constr. (2)
106s..... Make-up (2)
107s, 109s..... Puppetry (2,2)
111s, 113s..... Playwriting (3,3)
114s..... Stage Lighting (2)
115s..... Advanced Stage Lighting (2)
117s, 119s..... Advanced Theatre Workshop (2,2)
121s, 123s..... Advanced Acting (2,2)
127s, 129s..... History of the Theatre (2,2)
131s..... Projects in Drama (1-4)
141s, 143s..... Radio Acting and Production (2,2)
144s, 146s..... Radio Writing (3,3)
151s, 153s..... Representative Plays (3,3)
181s, 183s..... Directing (2,2)
197s..... Theatre Organization and Management (2)
210s, 212s..... Research in Drama (5,5)
240s, 242s..... Thesis Research (**)

ECONOMICS AND BUSINESS

- 1s, 2s..... Principles of Economics (3,3)
4s..... Survey of Economics (4)
5s..... Wartime Economic Problems (3)
12s, 14s..... Typewriting (1,1)
16s, 18s..... Shorthand (3,3)
19s..... Office Machines (3)

- 20s..... Shorthand and Typewriting Review (4)
54s, 55s..... Business Law (3,3)
60s..... Statistical Analysis (4)
62s, 63s..... Principles of Accounting (4,4)
103s..... Money and Banking (3)
104s..... Principles of Transportation (3)
105s..... Economics of Labor (3)
106s..... Economics of Marketing and Advertising (3)
107s..... World Economic Policies (3)
108s..... Risk and Risk Bearing (3)
109s..... Principles of Real Estate (4)
110s..... Accounting Analysis and Control (5)
112s..... Advanced Theory of Accounts (5)
115s..... Business Correspondence (3)
116s, 117s..... Secretarial Training (3,3)
118s..... Office Supervision (3,5)
121s..... Corporation Finance (4)
122s..... Principles of Investments (3)
125s..... Advanced Money and Banking (3)
127s..... Foreign Exchange & International Banking (3)
129s..... Personal and Property Insurance (4)
131s..... Principles and Practices of Foreign Trade (3)
132s..... Problems in Foreign Trade (3)
134s..... Wholesaling (3)
135s..... Retailing (3)
136s..... Advertising (3)
139s..... Problems in Marketing and Advertising (1)
141s..... Regulation of Public Utilities (3)
143s..... Railway Transportation (4)
146s..... Air Transportation (4)
152s..... Government Accounting (3)
154s..... Cost Accounting (4)
156s..... Income Tax Accounting (4)
157s..... Industrial Auditing (3)
158s..... C.P.A. Problems (4)
164s..... Labor Relations (4)
167s..... Personnel Administration (3)
171s..... Public Finance and Taxation I (3)
175s..... Business Fluctuations (3)
182s..... Economic Problems of Far East (3)
183s..... Economic Problems of China (3)
185s..... Advanced Economics (3)
187s..... History of Economic Thought (3)
193As, Bs..... Problems in Wholesaling, Re-
tailing and Advertising (5,5)
194As, Bs..... Research in Transportation (2,2)
195As, Bs..... Research in Management
and Accounting (2,2)
196As, Bs..... Research in Public Utilities (2,2)
197As, Bs..... Research in International Trade (2,2)
199As, Bs..... Research in Business Fluctuations
and Real Estate (2,2)
200As, Bs..... Thesis Seminar (0,0)
202s..... Seminar in Finance (3-5)
206s..... Seminar in Labor (3-5)
208s..... Seminar in Economics (3-5)
210As, Bs..... French and German Economists (2,2)
258s..... Seminar in Accounting (3-5)

Navy College Training Program

- VIIAs, VIIIs..... Statistics (4,4)
Xs, XIIs..... Business Finance (4,4)
XIIIs, XIIIIs..... Business Organ. and Management (4,4)
XIVs..... Case Analysis of Business Problems (3)
XVIIIIs..... Accounting and Statistical Controls (3)

EDUCATION

- 1s..... Education Orientation (2)
9s..... Psychology of Secondary Education (2)
30s..... Washington State Manual (0)
60s..... Principles of Secondary Education (2)
70s..... Introduction to High School Procedure (3)
71-72s..... Cadet Teaching (5)
71N-72Ns..... Cadet Teaching for Vocational
Home Economics Majors (5)
71P-72Ps..... Cadet Teaching for Women Physical
and Health Education Majors (5)
90s..... Measurement in Secondary Education (2)
101s..... Educational Psychology (2)
104s..... Psychology and Training of
Exceptional Children (2)
120s..... Educational Sociology (2)
122s..... Diagnosis in Education (2)
141s..... Supervision of Elem. School Subjects (3)

145Bs.	Prin. and Objectives of Safety Education	(2)
146s.	Extra-Curricular Activities	(2)
147s.	Principles of Guidance	(2)
153s.	Elementary School Curricula	(3)
164s.-165s.	Principles and Technique of Curriculum Making	(2,2)
175s.	Improvement of Teaching	(2)
180s, 181s.	History of Education	(3,3)
183s.	Hist. Backgrounds of Educational Methods	(2)
184s.	Comparative Education	(3)
188s.	Philosophy of Education	(2)
191s.	Advanced Educational Measurement	(2)
197s, 199s.	Individual Research (1-3, 1-3)	
201s.	Advanced Educational Psychology	(3)
220s.	Seminar in Educational Sociology	(3)
245s, 246s.	Organization of Supervisory and Administrative Programs	(3,3)
263s.	Junior College	(2)
265s.	College Problems	(3)
267s, 268s.	Guidance and Counseling	(3,3)
270s, 271s.	Problems in Modern Methods	(2,2)
275s.	Improvement of College Teaching	(3)
287s, 288s.	Seminar in Philosophy of Educ.	(3,3)
290s.	Educational Statistics	(3)
291s.	Methods of Educational Research	(2)
298s, 300s.	Individual Research (1-3, 1-3)	
Thesis.		(*)

Teachers' Courses in Secondary Subjects

75As.	Art	(2)
75Bs.	Botany	(2)
75Cs.	Chemistry	(2)
75Ds.	Civics	(2)
75Es.	Accounting	(4)
75Fs.	Shorthand and Typewriting	(3)
75Hs.	English	(4)
75Ks.	French	(2)
75Ls.	German	(2)
75Ms.	History	(3)
75NAs.	Home Economics	(2)
75NBs.	Home Economics	(3)
75Os.	Geography	(2)
75Ps.	Latin	(2)
75Qs.	Mathematics	(2)
75Rs.	Senior H.S. Music	(2)
75Vs.	Health and Physical Education for Women	(2)
75Xs.	Speech	(3)
75Ys.	Spanish	(2)
75Zs.	Zoology	(2)

ELECTRICAL ENGINEERING

101-102s.	Direct Current Apparatus and Circuits	(4)
121s.	Alternating Currents	(3)
122s.	Alternating Currents Laboratory	(1)
161s.	Alternating Currents	(3)
162s.	Alternating Currents Laboratory	(3)
170s, 172s.	Individual Projects (2-5, 2-5)	
181s.	Vacuum Tubes	(4)
182s.	Vacuum Tubes Laboratory	(2)
183s.	Vacuum Tube Circuits	(2)
185s.	Communication Networks	(3)
186s.	Communication Networks Laboratory	(1)
187s.	Wave Propagation and Antennas	(3)
188s.	Wave Propagation and Antennas Lab.	(1)
195s.	Electric Transients	(3)
196s.	Electric Transients Laboratory	(1)
HFTs.	High Frequency Techniques	(6)

Navy College Training Program

Is.	Electricity and Magnetism	(3)
IIs.	Elementary Electrical Engineering	(3)
IIIe, IVs.	Electric and Magnetic Circuits	(5,5)
Vbs, Vibs.	Electron Tubes and Circuits	(5,5)
IXs.	Electrical Measurements	(5)
Xs.	Direct Current Apparatus and Circuits	(4)
XIs.	Alternating Current Apparatus and Circuits	(4)

ENGLISH

As, Bs.	Elementary Composition	(0,0)
1s, 2s.	Composition	(3,3)
51s, 53s.	Advanced Exposition	(3,3)
54s.	Introduction to Non-fictional Writing	(3)
55s.	Advanced Writing	(3)

60s.	Report Writing	(3)
61s, 63s.	Verses Writing	(2,2)
74s, 76s.	Dramatic Composition	(3,3)
77s, 79s.	Narrative Writing	(3,3)
110s, 112s.	Advanced Verses Writing	(2,2)
137s, 139s.	Advanced Short Story Writing	(5,5)
156s, 158s.	Novel Writing	(5,5)
184s, 186s.	Creative Writing Conference (2-5, 2-5)	
100s.	Technical Composition	(2)
101s.	Modern Reading	(2)
102s, 103s.	English for Engineers	(2,2)
107s, 108s, 109s.	Non-technical Reading (1,1,1)	
57s.	Introduction to Poetry	(3)
58s.	Introduction to Fiction	(3)
64s, 66s.	Literary Backgrounds	(4,4)
67s, 69s.	Survey of American Literature	(2,2)
72s, 73s.	Introduction to Modern Literature	(2,2)
96s.	The Bible as Literature	(3)
104s.	Modern European Literature	(4)
106s.	Modern English Literature	(4)
117s.	History of the English Language	(3)
140s.	Social Ideals in Literature	(3)
144s, 145s.	Eighteenth Century Literature	(4,4)
148s, 149s.	Ten Great English Novels	(2,2)
151s.	Old and Middle English Literature	(4)
153s.	Middle English Narrative Literature	(4)
154s.	Shakespearean Contemporaries: Drama	(4)
161s, 162s.	American Literature	(4,4)
166s.	Modern American Literature	(4)
167s, 169s.	Seventeenth Century Literature	(4,4)
170s, 172s.	Shakespeare	(4,4)
174s, 175s.	Late Nineteenth Century Lit.	(3,4)
177s, 178s.	The Romantic Period	(3,3)
180s, 182s.	Old English Language	(5,5)
187s.	English Grammar	(2)
201s.	Introduction to Graduate Studies	(5)
203s.	Literary Criticism	(5)
204s, 206s.	Chaucer	(5,5)
208s, 210s.	Pre-Shakespearean Drama	(5,5)
217s, 219s.	Shakespeare	(5,5)
224s, 226s.	American Literature	(5,5)
230s, 232s.	Old English Language	(5,5)
238s, 240s.	Early Nineteenth Century Lit.	(5,5)
241s, 243s.	Victorian Literature	(5,5)
244s, 246s.	Eighteenth Century Lit.	(5,5)
250s, 252s.	Thesis Research	(*,*)

Navy College Training Program

Is, IIs.	Composition	(3,3)
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FAR EASTERN STUDIES

1s.	Japanese Language, Intensive A	(10)
1as.	Japanese Language, Conversation	(5)
3s.	Japanese Language, Intermediate	(5)
4s.	Korean Language, Intensive A	(10)
4as.	Korean Language, Conversation	(5)
5s.	Korean Language, Intermediate	(5)
7s.	Russian Language, Intensive A	(10)
7as.	Russian Language, Elementary	(5)
9s.	Russian Language, Intermediate	(5)
10s.	Survey, Problems of the Pacific	(4)
40s.	Chinese Civilization	(3)
42s.	Korean Civilization	(2)
44s.	Chinese Language, Intensive A	(10)
44as.	Chinese Language, Conversation	(5)
46s.	Chinese Language, Intermediate	(5)
90s.	History of China	(3)
91s.	History of Japan	(3)
109s.	Japanese Language, Intensive B	(10)
113s.	Civilization of Southeast Asia	(2)
120s, 121s, 122s.	Adv. Japanese Language	(5,5,5)
126s.	The Development of Modern Japan	(3)
130s.	Russian Literature, Golden Age	(3)
132s.	Contemporary Russian Literature	(3)
136s.	Modern Russian History	(3)
143s.	Chinese Peoples	(4)
149s.	Chinese Language, Intensive B	(10)
162s.	Russian Language, Intensive B	(10)
167s, 168s, 169s.	Adv. Russian Language	(5,5,5)
170s.	Literature of China in Translation	(3)
172s, 173s, 174s.	Adv. Chinese Language	(5,5,5)
175s.	Korean Language, Intensive B	(10)
176s.	Advanced Korean Language	(5)

177s, 178s.....	Advanced Korean Language (5,5)
180s.....	Modern Chinese History (3)
181s.....	Modern Japanese History (3)
182s.....	Modern India (2)
184s.....	Modern Korean History (3)
190s.....	Undergraduate Research (*)
196s.....	Russian Expansion (3)
199s.....	Undergraduate Seminar on China (2)
225s, 226s.....	Seminar in Far Eastern Diplomacy (3,3)
280s, 281s.....	Research (*,*)
291s, 292s.....	Thesis (3,3)

FISHERIES

101s.....	Comp. Anat. of Fish (5)
103s.....	Class. and Ident., Soft-rayed Fish (5)
105s, 107s.....	Com. Aquatic Invert. (5,5)
108s, 110s.....	Problems of Fisheries Science (1,1)
125s.....	Spawning Habits of Game & Other Fishes (3)
126s.....	Early Life History of Fishes (3)
151s.....	Natural Fish Foods and Water Supply (5)
153s.....	Prop. Freshwater Fish Methods of Hatching and Rearing (5)
154s.....	Diseases of Fish (4)
165s, 167s.....	Elementary Problems (2-5, 2-5)
195s, 197s.....	Seminar (2-5, 2-5)
201s, 203s.....	Research (2-5, 2-5)
205s, 207s.....	Seminar (2-5, 2-5)

FORESTRY

1bs.....	Dendrology (4)
3s.....	Introduction to Forestry (3)
4s.....	Protection (3)
6s.....	Introduction to Forestry (2)
8s.....	Forestry Problems (4)
15s.....	General Lumbering (2)
40s.....	Silviculture (2)
60s.....	Mensuration (3)
62s.....	Field Problems in Mensuration (3)
104s.....	Timber Physics (3)
106s.....	Wood Preservation (4)
111s.....	Wood Structure (4)
115s.....	Protection (2)
121s.....	Silvics (2)
122s.....	Silvicultural Methods (4)
126s.....	Forest Economics (2,2)
140s.....	Construction (3)
151s.....	Forest Finance (2,2)
152s.....	Administration and Organization (5)
158s.....	Forest Utilization (3)
160s, 161s, 162s.....	Undergrad. Studies (1-5, 1-5, 1-5)
164s.....	Senior Forestry Management Surveys (3)
165s.....	Senior Forestry Management Inventory (3)
166s.....	Senior Forestry Management Studies (3)
167s.....	Senior Forestry Management Reports (3)
171s.....	Forest Geography (3)
183s.....	Milling (3)
184s.....	Manufacturing Problems (3)
185s.....	Forest Engineering (2,2)
186s.....	Logging Engineering (2,2)
187s.....	Senior Logging Engineering Field Trip (16)
188s.....	Kiln Drying (4)
189s.....	Wood Pulp (3)
202s.....	Thesis (3-6)
203s.....	Advanced Wood Preservation (2)
204s.....	Forest Management Plans (3-5)
208s.....	Seminar (2)
210s, 212s.....	Graduate Studies (3-5, 3-5)
213s, 214s, 215s.....	Research (3-5, 3-5, 3-5)

GENERAL ENGINEERING

2s.....	Engineering Drawing (2)
3s.....	Drafting Problems (2)
11s, 12s.....	Engineering Problems (2,2)
21s.....	Plane Surveying (2)
22s.....	Elementary Mapping and Map Reading (2)
151s.....	Inventions and Patents (1)

GENERAL LITERATURE

51s, 53s.....	Masterpieces of European Lit. (3,3)
101s.....	Intro. to Criticism and Literature (3)
191s, 193s, 194s, 195s.....	Gen. European Lit. (3,3,3,3)

GENERAL STUDIES

21s-, -23s.....	American Social Trends (4,4)
156s.....	Analysis of Modern Cultural Crisis (4)
191s, 193s.....	Senior Study (*,*)

GEOGRAPHY

1s.....	Survey of World Geography (5)
7s.....	Economic Geography (4)
11s.....	Weather and Climate (4)
70s.....	World Geography (4)
77s.....	Urban Geography (2)
101s.....	Survey of World Geography (5)
102s.....	Geography of U. S. (3)
103s.....	Geography of Asia (4)
104s.....	Geography of Europe (4)
105s.....	Geography of Latin America (5)
106s.....	Geography of Africa-Australia (4)
108s.....	Geography of Canada and Alaska (2)
110s.....	Pacific Northwest (2)
111s.....	Climatology (4)
112s.....	Physical Meteorology (4)
121s.....	Regional Climatology (5)
125s.....	Geog. Background of American History (2)
132s.....	Islands of the Pacific (4)
140s.....	Geography in the Social Studies (2)
152s.....	Synoptic Meteorology (4)
154s.....	Meteorology Laboratory (3)
155s.....	Influences of Geographic Environment (3)
156s.....	Weather Instruments and Observations (2)
160s.....	Cartography (4)
162s.....	Advanced Cartography (2-3)
170s.....	Conservation of Natural Resources (3)
175s.....	Problems in Political Geography (3)
192s.....	Research Problems in Meteorology and Climatology (3)
195s.....	Individual Conference and Research (2-5)
199s.....	Pre-Seminar in Geography (3)
Teachers' Course in Geography (See Education 750).	
200s.....	Seminar (3)
201s.....	Research (3)
207s.....	World Resources and Industries (3)
211s.....	Research in Meteorology (3)
220s.....	Land Utilization (3)
255s.....	History and Theory of Geography (3)

GEOLOGY

1s.....	Survey of Geology (4)
5s.....	Rocks and Minerals (4)
6s.....	Elements of Physiography (4)
7s.....	Historical Geology (4)
105s.....	Petrology as Applied to Engineering (4)
106s.....	Elements of Physiography (4)
107s.....	Historical Geology (4)
112s.....	Physiography of Eastern U.S. (4)
121s.....	Mineralogy (4)
123s.....	Optical Mineralogy (5)
125s.....	Petrography and Petrology (5)
127s.....	Ore Deposits (4)
130s.....	General Paleontology (5)
142s.....	Structural Geology (4)
144s.....	Field Methods (4)
190s.....	Undergraduate Thesis (4)
200s.....	Advanced Work in General Geology (*)
201s.....	Advanced Petrography and Petrology of Igneous Rocks (*)
202s.....	Advanced Petrography and Petrology of Metamorphic Rocks (*)
212s.....	Advanced Studies or Field Work in Physiography (*)
220s.....	Adv. or Research Work in Mineralogy, Petrography and Petrology (*)
227s.....	Advanced Work in Economic Geology (*)
230s.....	Advanced Work in Paleontology and Stratigraphy (*)
240s.....	Advanced Studies in Structural Geology (*)

GERMANIC LANGUAGES AND LITERATURE

1s.....	Elementary German (5)
1Xs.....	Elementary German, Intensive (10)
3s.....	Elementary German (5)
4s, 5s.....	Second Year Reading (3,2)

7s.	Grammar Review	(2)
10s.	Advanced Second Year Reading	(3)
30s.	Conversation Based on Reading	(2)
60s.	L.D. Scientific German	(3)
104s.	Literature in Translation: Thomas Mann	(3)
113s, 115s.	U.D. Scientific German (2-3, 2-3)	
116s.	U.D. Scientific German (Pre-Med.)	(2)
117s.	Military German	(2)
120s, 122s.	Grammar and Composition	(2, 2)
128s.	Phonetics	(2)
130s.	Introduction to Classical Period	(3)
132s.	Introduction to German Novelle	(3)
183s, 185s.	History of German Literature	(3, 3)

HISTORY

1s., -2s.	Medieval & Modern European Hist.	(4, 4)
3s., -4s.	Survey of Western Civilization	(3, 3)
5s., -6s.	English Political & Social History	(4, 4)
7s.	Survey of American History	(4)
21s., -23s.	American Social Trends	(4, 4)
72s., -73s.	Ancient History (Greece; Rome)	(4, 3)
114s.	Culture of Renaissance	(4)
115s.	The Reformation	(4)
128s.	France from the Reformation to the French Revolution	(3)
129s.	The French Revolution & Napoleonic Era	(2)
130s.	Europe, 1815-1870	(3)
131s.	Europe, 1870-1914	(2)
133s.	Europe Since 1914	(4)
135s.	Modern Military Systems	(3 or 5)
140s.	American Colonial History	(3 or 5)
145s.	History of U.S. 1829-1860	(3 or 5)
150s.	20th Century America	(3 or 5)
155s.	History of Canada	(4)
159s.	American Diplomatic History 1776 to Present	(3 or 5)
164s.	History of Washington and Pacific Northwest	(3 or 5)
180s.	History of British Empire Since 1783	(5)
188s.	History of Australia	(3)
189s.	History of New Zealand and Pacific Islands	(2)
190s.	Introduction to Roman Law	(3)
199s.	Undergraduate Seminar and Conference	(1-5)
Teachers Course in History	(See Education 75M).	
201s.	Historiography	(4)
211s, 212s.	Seminar in Medieval European History	(2, 2)
218s, 219s.	British Empire	(2, 2)
226s.	American History	(4)
227s., -228s.	American History	(2, 2)
231s, 232s.	Modern European History	(2, 2)
234s.	Roman Law	(2)
300s.	Individual Research or Thesis Work	(*)
Navy College Training Program		
Is, IIs.	Background of Present World War	(2, 2)

HOME ECONOMICS

7s.	Introduction to Home Economics	(1)
9s.	Nutrition for Student Nurses	(3)
12s, 13s.	Costume Design and Construction	(3, 4)
15s.	Food Preparation	(4)
25s.	Textiles	(3)
26s.	Institution Textiles	(2)
41s.	Home Furnishing for Non-majors	(4)
83s, 84s.	Ethnics	(4, 4)
102s.	Needlecraft	(3)
104s.	Nutrition for Non-majors	(2)
105s.	Diet Therapy for Graduate and Student Nurses	(3)
106s.	Nutrition for Public Health Nurses	(3)
108s.	Nutrition	(5)
109s.	Income Management and Consumption Problems	(3)
112s, 113s, 114s.	Costume Design and Construction	(2, 3)
115s.	Food Preparation	(3)
116s, 120s.	Advanced Food Preparation	(3, 3)
121s.	Institutional Food Preparation	(4)
122s.	Institutional Food Purchasing	(3)
123s.	Institutional Management and Equipment	(5)
126s.	Demonstration Cookery	(2)

131s.	Clothing Selection	(2)
141s.	The House, Equipment and Management	(3)
144s.	Income Management	(3)
145s.	Family Relationships	(3)
146s.	Home Furnishing and Textiles	(5)
147s.	Home Furnishing	(3)
148s.	Home Management House	(2)
160s, 161s.	Advanced Costume Design and Construction	(3, 3)
181s.	Consumer Problems	(3)
187s.	Experimental Cookery	(2)
188s.	Advanced Textiles	(2)
189s.	Hand Weaving	(2)
190s.	Child Nutrition and Care	(2)
191s.	Diet Therapy	(2)
195s.	Research in Home Economics	(*)
196s, 197s.	Supervised Field Work	(10, 10)
198s.	Historic Textiles	(2)
Teachers' Course in Home Economics (See Education 75NA and 75NB).		
200s.	Investigation Cookery	(3)
202s.	Home Economics Education	(*)
204s, 206s.	Research in Nutrition	(*)
207s, 209s.	Research in Textiles	(*)
211s.	Research in Costume Design	(*)
214s, 215s.	Readings in Nutrition	(*)
220s, 222s.	Research in Institutional Admin.	(*)
245s.	Social and Economic Problems of the Consumer	(*)
250s.	Thesis	(9)

JOURNALISM

1s.	Journalism as a Profession	(1)
2s.	The Newspaper and Society	(2)
51s.	News Writing	(4)
81s, 83s, 84s.	Editorial Techniques	(2-3, 2-3, 3)
130s.	Fundamentals of Advertising	(5)
132s.	Display Advertising and Typography	(5)
147s., 148s., -150s.	Fundamentals of Journalism	(5, 5, 5, 5, 5)
151s., 152s., -154s.	Magazine and Feature Writing	(2)
172s.	Short Story Writing	(3, 3)
173s, 175s.	Problems of Journalism	(2-5)
199s.		

LAW

All Law School courses are given on the quarter basis.

LIBERAL ARTS

1s.	Introduction to Modern Thought	(3)
11s.	Introduction to the Study of the Fine Arts	(3)
114s, 116s.	Realism in Philosophy, Literature and the Arts	(2, 2)

LIBRARIANSHIP

¶170s.	Intro. to Library Work with Children	(2)
¶171s.	Children's Books	(1)
¶172s.	Introduction to Library Work	(1)
¶173s.	Classification, Cataloging, Subject Headings for H.S. Libraries	(2)
¶176s.	Reference for High School Libraries	(2)
¶177s.	Bibliography and Reference	(2)
¶178s.	History of the Book	(2)
¶179s.	Books for Libraries	(3)
¶180s.	Story Telling	(2)
¶181s.	Advanced Children's Work	(2)
¶182s.	School Library Administration	(2)
¶185s.	Practice	(3)
¶190s.	Selection of Books for Children	(4)
¶191s.	Classification, Cataloging, Subject Headings	(3)
¶192s.	Administration	(3)
¶193s.	Classification, Cataloging, Subject Headings for H.S. Libraries	(2)
¶194s.	Bibliography and Reference	(2)
¶195s.	Book Selection for H.S. Libraries	(3)
¶196s.	Books for Libraries	(3)
†Course open to juniors and seniors.		
‡Courses open to seniors and graduates.		
§Courses open only to students registered in the School.		

MATHEMATICS

As.....	Elementary High School Math.	(0)
1s.....	Advanced Algebra	(4)
2s.....	Solid Geometry	(3)
4s.....	Plane Trigonometry	(2)
5s.....	College Algebra	(3)
6s.....	Analytic Geometry	(5)
13s.....	Elements of Statistical Method	(3)
31s.....	Engineering Freshman Mathematics	(5)
54s.....	Architects' Mathematics	(3)
107s, 109s	Differential and Integral Calculus	(5,5)
114s, 116s	Differential Equations	(3,3)
117s, 119s	Projective Geometry	(3,3)
141s, 143s	Calculus of Problems	(3,3)
152s, 153s	Interpolation and Approximation	(2,2)
160s.....	Vector Analysis	(2)
230s, 232s	Advanced Topics in Algebra	(3,3)
241s, 243s	Complex Variables	(2,2)

Navy College Training Program

Is, IIs, IIIs, IVs.....	Mathematical Analysis	(5,5,5,5)
Vs, VIs.....	Calculus	(5,3)
VIIIs.....	Calculus and Differential Equations	(5)
VIIIs.....	Differential Equations	(3)
VIIIs, IXs	Navigation and Nautical Astronomy	(3,3)

MECHANICAL ENGINEERING

53s, 55s.....	Manufacturing Methods	(1,1)
81s(Use I)		
82s(Use II)		
83s.....	Steam Engineering Laboratory	(2)
105s.....	Advanced Manufacturing Methods	(1)
107s.....	Production Planning	(1)
108s.....	Production Management	(3)
111s, 112s, 113s	Machine Design	(2,2,3)
123s.....	Engines and Boilers	(3)
151s, 153s	Experimental Engineering	(3,3)
167s(CE IVa)	Engineering Materials	(3)
183s(Use IVa)		
184s.....	Power Plants	(3)
195s.....	Thesis	(3)
198s.....	Internal Combustion Engines	(2)
199s.....	Internal Combustion Engine Design	(2)

Navy College Training Program

Is(81s).....	Kinematics	(2)
IIs.....	Elementary Heat Power	(3)
IIIs, IIIs	Heat Power	(5,3)
IVs, IVs(183s)	Thermodynamics	(5,3)
VIs.....	Machine Design	(3)
VIIIs.....	Mechanics of Machinery	(3)
IXs.....	Mechanical Processes	(3)

MILITARY SCIENCE AND TACTICS

19s, 20s.....	[First Year, Basic Course, Branch Immaterial (3,3)]
78s, 79s.....	[Second Year Basic Course, Branch Immaterial (3,3)]

**MINING, METALLURGICAL AND
CERAMIC ENGINEERING***Mining Engineering*

51s.....	Elements of Mining	(4)
101s.....	Milling	(2)
103s.....	Mine Rescue Training	(1)
106s, 107s	Mine Excursion	(1,1)
151s.....	Elements of Mining	(4)
161s.....	Mineral Dressing	(4)
163s.....	Mining Engineering	(4)
182s.....	Mineral Industry Management	(2)
191s, 193s	Thesis (1-4, 1-4)	
201s, 203s	Seminar	(1,1)
211s, 213s	Graduate Thesis	(*)
221s, 223s	Metal Mining	(*)
231s, 233s	Mineral Dressing	(*)
251s, 253s	Coal Mining	(*)
271s	Coop. Research with U.S. Bureau of Mines	(4)

Metallurgical Engineering

53s.....	Elements of Metallurgy	(2)
101s.....	Fire Assaying	(2)
102s.....	Metallurgical Laboratory	(2)

103s.....	Fuel Technology	(3)
104s.....	Non-ferrous Metallurgy	(2)
153s.....	Elements of Metallurgy	(2)
154s.....	Wet Assaying	(2)
155s.....	Iron and Steel	(2)
162s.....	Physical Metallurgy	(2-3)
163s.....	Metallography	(2)
166s.....	Advanced Non-ferrous Metallurgy	(2)
221s, 223s	Advanced Metallurgy	(*)
261s.....	Fuels	(*)
263s.....	Fuels and Combustion	(*)

Ceramic Engineering

90s.....	Industrial Minerals	(2)
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MUSIC

1s, -3s.....	Group Piano	(2,2)
1s, -3s.....	Group Voice	(2,2)
4s	Introduction to Music Literature and History	(2)
7s, 9s.....	Group Piano, second year	(2,2)
7s, 9s.....	Group Voice, second year	(2,2)
10s, -12s.....	University Chorus	(1,1)
14s.....	Fundamentals I	(2)
15s.....	Fundamentals II	(2)
16s.....	Fundamentals III	(2)
18s, 20s.....	Individual Piano or Violin	(2-3, 2-3)
21s.....	Survey of Music	(4)
22s.....	Appreciation: Symphonic Music	(2)
23s.....	Appreciation: Opera	(2)
24s.....	Appreciation: Solo and Chamber Music	(2)
30s, 32s.....	Elementary Band	(1,1)
33s.....	Piano Repertory I	(1)
35s.....	Piano Repertory III	(1)
37s, 39s.....	Piano Ensemble I	(1,1)
40s.....	Elem. Orchestral Instruments: Woodwind	(2)
41s.....	Elem. Orchestral Instruments: Brass	(2)
42s.....	Elem. Orchestral Instruments: Strings	(2)
43s.....	Elementary Orchestra	(1,1)
48s.....	Vocal or Instrumental	(2-3)
50s—(See 48s above)		
51s.....	Elementary Harmony	(4)
52s.....	Score Reading	(2)
53s.....	Intermediate Harmony	(3)
54s.....	Berlioz, Liszt and Strauss	(2)
55s.....	Russian Composers	(2)
60s.....	Advanced Orchestral Instruments: Wind	(2)
62s	Advanced Orchestral Instruments: Strings	(2)
65s, 67s.....	Choral Ensemble: Women	(1,1,1)
68s, 70s.....	Vocal or Instrumental	(2-3, 2-3)
73s	Keyboard Improvisation and Transposition I	(2)
75s	Keyboard Improvisation & Transposition III	(2)
80s, 82s.....	University Choir	(1,1,1)
83s.....	Piano Repertory IV	(1)
85s.....	Piano Repertory VI	(1)
87s.....	Gregorian Chant	(1)
90s, 92s.....	Concert Band	(2,2)
93s, 95s.....	Symphony Orchestra	(2,2)
98s.....	Choral Music I	(2)
101s.....	Advanced Harmony	(3)
106s.....	Modern French, Spanish, (and British Composers	(2)
109s.....	Counterpoint I	(3)
112s.....	Musical Forms	(3)
113s.....	Elementary School Music	(3)
116s.....	Junior H.S. Music	(2)
118s, 120s.....	Vocal or Instrumental	(2-3, 2-3)
121s, 123s.....	Madrigal Singers	(1,1,1)
124s, 126s.....	Chamber Music	(2,2)
128s.....	Haydn, Mozart and Beethoven	(2)
132s.....	Piano Repertory VII	(1)
133s.....	Piano Repertory IX	(1)
136s.....	Technic of Conducting	(3)
138s.....	Accompanying	(2)
139s.....	Piano Ensemble II	(2)
143s.....	Orchestration	(3)
145s.....	Church Music	(2)
148s, 150s.....	Vocal or Instrumental	(2-3, 2-3)
151s.....	Wagner and Brahms	(2)
155s.....	School Music Supervision	(2)
157s, 159s.....	Composers' Laboratory I	(3,3)
160s.....	Song Interpretation	(2)
161s, 162s.....	Music in the Americas	(2,2)

163s.	Counterpoint II (3)
165s., -167s.	Piano Teaching (2,2)
168s., 170s.	Vocal or Instrumental (2-3, 2-3)
173s.	Keybd. Improvisation & Transposition IV (2)
175s.	Keybd. Improvisation & Transposition VI (2)
177s., 179s.	Composers' Laboratory II (3,3)
180s.	Orchestra Conducting (3)
181s.	History of Keyboard Music (2)
187s.	Music of the Middle Ages (2)
190s.	Palestrina to Bach (2)
191s.	Vocal Music: Haydn to Brahms (2)
192s.	Contemporary Music (2)
193s.	Music History Reading Course (3)
195s.	Choral Conducting (3)
199s.	Senior Recital (2)
Teachers' Course in Music (See Education 75R).	
200s.	Introduction to Musicology (2)
211s.	Music of the Elizabethan Age (2)
218s., 220s.	Vocal or Instrumental (2-3, 2-3)
221s.	History of Instruments (2)
230s.	Seminar in Music Education (2)
233s.	Seminar in Musicology (2)
240s., 242s.	Composition (**)
250s., 252s.	Research and Thesis (**)

NAVAL SCIENCE

Navy College Training Program

Navy Is, IIs.	Naval Organization (1,1)
Navy IIIs.	Naval History & Elementary Strategy (3)
NS Is, IIs.	Seamanship and Communications (3,3)
NS IIIs.	Damage Control and Engineering (3)
NS IVs.	Navigation and Nautical Astronomy I (3)
NS Vs.	Navigation and Nautical Astronomy II (3)
NS VIs.	Naval Administration and Law (3)
NS VIIs.	Tactics, Aviation and Recognition (3)
NS VIIIs, IXs.	Ordnance and Gunnery (3,3)
NS Xs.	Communications (3)
NS XIIs.	Refresher Course (3)

NURSERY SCHOOL

101s.	Child Development (4)
103s.	The Nursery School (4)
104s.	Participation and Special Problems (*)
105s.	Child Development and Guidance (2)

NURSING EDUCATION

1s.	History of Nursing (2)
5s.	Home Nursing and Child Hygiene (2)
20s.	Elementary Theory and Practice for Red Cross Nurses' Aides (3)
120s.	Prin. and Practice of Elem. Nursing (3)
150s.	Prin. Teach. Nursing and Health (3)
162s., 163s., 164s.	Field Practice Public Health Nursing (5,5,6)
165s.	Survey of Current Literature in Special Fields in Public Health Nursing (2)
166s.	Advanced Field Work (12)
167s.	Prin. Public Health Nursing (2)
168s.	Special Fields Public Health Nursing (3)
169s.	Public Health (2)
190s.	Methods of Supervision in Public Health Nursing (3)
201s., 202s.	Seminar in Nursing Problems (**)
205s.	Research (*)

NOTE: The Hospital Division of the School of Nursing Education is on the quarter basis.

OCEANOGRAPHIC LABORATORIES

249s.	Graduate Seminar (1-3)
250s.	Research in Oceanography (*)

PHARMACY

Pharmacognosy (Ph'cog.)

12s., 14s.	Pharmacognosy (3,3)
104s.	Microscopy (2)
106s.	Medicinal Plants (2)
112s.	Biologicals (3)
193s.	Research Problems (1-5)
202s.	Investigation in Pharmacognosy (*)

Pharmaceutical Chemistry (Ph. Chem.)

5s.	Quantitative Analysis (5)
7s.	Urinalysis and Pharmacopoeial Assay (4)
192s.	Research Problems (1-5)
195s., 197s.	Pharmaceutical Chemistry and Toxicology (5,5)
203s.	Investigation in Toxicology (1-5)
204s.	Investigation in Pharmaceutical Chem. (1-5)

Pharmacy (Pharm.)

1s., 3s.	Theoretical & Manufacturing Pharm. (3,3)
9s., 11s.	Prescriptions (3,4)
15s.	Home Remedies (2)
51s.	Elementary Pharmacy for Nurses (1,4)
113s., 115s.	Professional Pharmacy (3,3)
116s.	Advanced Prescriptions (3)
117s.	Store Management (2)
118s.	Pharmaceutical Accounting (4)
173s.	Cosmetics (2)
183s.	New Remedies (2)
184s.	Pharmacy Laws (2)
191s.	Research Problems (1-5)
201s.	Investigation in Practical Pharmacy (*)

Pharmacology (Ph'col.)

101s., 103s.	Pharmacology and Toxicology (3,3)
205s.	Investigation in Pharmacology (*)

PHILOSOPHY

1s.	Introduction to Philosophy (4)
2s.	Social Ethics (4)
3s.	Introduction to Ethics (4)
5s.	Introduction to Logic (4)
101s., -103s.	History of Philosophy (4,4)
104s., -106s.	Philosophy of Nature (3,3)
112s.	Philosophy of History (4)
129s.	Philosophy of Art (4)
130s., 132s.	Philosophical Issues in the War and the Peace (2,2)
141s., -143s.	Contemporary Philosophy (3,3)
193s.	Advanced Logic (3)
194s.	The Hindu Philosophies of India (3)
196s.	Ethical and Political Philosophy of China (3)
197s., 199s. Rdgs.	in the Philosophical Classics (3,3)
207s., 209s.	Seminar: Philosophy of Science (4,4)
214s., -216s.	Seminar in Logic (4,4)
251s., 253s.	Research (1-6, 1-6)

PHYSICAL AND HEALTH EDUCATION—MEN

15s.	Personal Health (2)
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Physical Activity Courses

1s., 3s.	Adapted Activities (1,1)
5s., 8s., 9s., 11s.	P.E. Activities for Majors (1,1,1,1)
16s.	Handball (1)
17s.	Basketball (1)
18s.	Tennis (1)
19s.	Playground Ball (1)
20s.	Golf (1)
21s.	Track (class) (1)
22s.	Crew (class) (1)
23s.	Fencing (1)
24s.	Boxing (1)
25s.	Tumbling (1)
26s.	Apparatus and Stunts (1)
27s.	Wrestling (elementary) (1)
28s.	Volleyball (1)

29s.	Swimming (1)
30s.	Soccer (1)
31s.	Touch Football (1)
32s.	Badminton (1)
34s.	Calisthenics (1)
35s.	Jiu Jitsu (1)
36s.	Speedball (1)
51s.	Freshman Varsity Crew (1)
52s.	Varsity Crew (1)
53s.	Freshman Varsity Football (1)
54s.	Varsity Football (1)
55s.	Freshman Varsity Track (1)
56s.	Varsity Track (1)
57s.	Freshman Varsity Swimming (1)
58s.	Varsity Swimming (1)
59s.	Freshman Varsity Basketball (1)
60s.	Varsity Basketball (1)
61s.	Freshman Varsity Baseball (1)
62s.	Varsity Baseball (1)
63s.	Freshman Varsity Tennis (1)
64s.	Varsity Tennis (1)
65s.	Varsity Golf (1)
66s.	Pack Forest (1)
68s.	Varsity Volleyball (1)

PHYSICAL AND HEALTH EDUCATION—WOMEN

10s.	Health Education (2)
	<i>Physical Activity Courses</i>
11s, 13s.	P.E. Activity for Freshman Majors (2,2)
51s, 53s.	P.E. Activity for Sophomore Majors (2,2)
57s.	Fencing (1)
61s.	Folk Dancing (1)
62s.	Clog and Tap Dancing (1)
63s.	Advanced Clog and Tap Dancing (1)
64s.	Hockey (1)
65s.	Basketball (1)
66s.	Advanced Folk Dancing (1)
67s.	Tennis (1)
69s.	Advanced Tennis (1)
70s.	Athletic Games (1)
75s.	Archery (1)
76s.	Advanced Archery (1)
82s.	Volleyball (1)
83s.	Indoor Baseball (1)
84s.	Badminton (1)
85s.	Canoeing (1)
86s.	Advanced Badminton (1)
87s.	Golf (1)
88s.	Advanced Golf (1)
89s.	Bowling (1)
91s.	Modern Dance (1)
92s.	Advanced Modern Dance (1)
93s.	Advanced Bowling (1)
95s.	Elementary Swimming (1)
96s.	Intermediate Swimming (1)
97s.	Advanced Swimming (1)
98s.	Diving (1)
99s.	Life Saving (1)
	<i>Professional Courses for Men and Women</i>
101s.	{Methods and Materials in Gymnastic Stunts and Tumbling (3; women)
102s.	{Problems in Physical and Health Education and Recreation (1; men and women)
107s.	Personal and General Hygiene (2; men)
110s.	First Aid (2; women)
111s.	{Rhythmic Activity for Small Children (2; women)
115s.	{Physiology of Muscular Exercise (5; men and women)
116s.	First Aid and Athletic Training (3; men)
124s.	{Activities and Recreation Methods (3; men and women)
126s.	{Observation and Practice Teaching in Recreation (2 or 3; men and women)
127s.	Tests and Measurements (2; men and women)
128s.	{Organization and Administration of Camp Programs (2; women)
129s.	{Methods in Teaching First Aid and Safety (2; men)

135s.	Adapted Activity (2; men and women)
145s.	{Principles of Physical Education (3; men and women)
150s.	School P.E. Program (3 or 2; men and women)
156s.	{Methods and Materials in Teaching Dance (3; women)
158s.	{Methods Teaching Apparatus, Stunts, Boxing, Wrestling (2; men)
159s.	Dance Production (3; women)
162s.	{Methods and Materials in Teaching Folk, Tap and Clog Dance (2; women)
163s.	{Methods and Materials in Teaching Sports (5; women)
163s.	Methods Teaching Sports (2; men)
164s.	Meth. Teaching Swim. (2; men and women)
165s.	School Health Educ. Program (4; women)
170s.	Meth. Teaching Football & Baseball (2; men)
171s.	{Methods Teaching Track, and Basketball (2; men)
193s.	Problems in Athletics (2; men)
	Teachers' Course in Physical Education (See Education 75V)
201s.	Seminar in Phys. Educ. (2; men and women)
203s.	Seminar in Health Educ. (2; men and women)
206s.	The Curriculum (2; men and women)

PHYSICS

1s, 3s.	General Physics (5,5)
4s, 6s.	General Physics (5,5)
50s.	Sound and Music (3)
70s.	Physics for Nurses (3)
90s.	Physics of the Home (3)
101s.	Introduction to Modern Physics (4)
105s.	Electricity (4)
155s.	{Introduction to Modern Physics for Electrical Engineers (2)
160s.	Optics (4)
167s, 169s.	Special Problems (*,*)
250s, 252s.	Seminar (*,*)

Navy College Training Program

Is.	General Physics: Mechanics, Sound, & Heat (4)
IIs.	{General Physics: Magnetism, Electricity and Light (4)

POLITICAL SCIENCE

1s.	Survey of Political Science (4)
51s.	Principles of Politics (4)
52s.	Introduction to Public Law (4)
54s.	International Relations (4)
60s.	The American Government (4)
100s.	Postwar Planning and Administration (4)
111s.	History of Political Thought (4)
112s.	American Political Thought (4)
113s.	Contemporary Political Thought (4)
114s.	Oriental Political Thought (4)
121s.	Foreign Relations of U. S.: Europe (3)
122s.	The Foreign Service (3)
123s.	{Foreign Relations of U. S.: Caribbean Area (3)
124s.	Contemporary World Politics (3)
127s.	International Organ. and Admin. (4)
128s.	Foreign Relations of the U. S.: S. America (3)
129s.	International Relations in the Far East (3)
130s.	Middle and Near East (3)
131s.	International Practice and Procedure (3)
132s.	American Foreign Policy in the Far East (3)
133s.	Europe since 1914 (4)
135s.	Colonial Government and Administration (3)
152s.	Political Parties and Elections (4)
153s.	Introduction to Constitutional Law (4)
154s.	The Public Service (4)
155s.	Introduction to Public Administration (4)
157s.	The Governments of Europe (4)
158s.	Government and Politics in the Far East (3)
160s.	Eastern European Governments (2)
161s.	Government and Business (4)
163s.	State Government and Administration (4)
164s.	Public Policy in Government Planning (3)
167s.	Introduction to Administrative Law (4)
168s.	Chinese Government (3)

- 169s. Japanese Government (3)
 170s. Introduction to Geo-Politics (3)
 190s. Introduction to Roman Law (3)
 196s, 198s. Problems of National Administration in Wartime (3,3)
 199s. Individual Conference and Research (2-5)
 201s, 203s. Graduate Seminar (3,3)
 211s, 213s. Seminar in Political Thought (3,3)
 215s. Methods and Research in Pol. Sci. (3-5)
 216s. Concepts of Political Theory: Problems of Authority and Liberty (3-5)
 217s. Concepts of Political Theory: Problems of Equality and Function (3-5)
 221s, 222s. Seminar in International Organization (3-5, 3-5)
 234s. Seminar in Roman Law (2)
 251s. Seminar in Politics and Administration (3-5)
 256s. Seminar in Government and Public Law (3-5)
 299s. Individual Research (2-5)

Navy College Training Program

- 1s. Survey of Political Science (3)

PSYCHOLOGY

- 1s. General Psychology (3)
 2s. Psychology of Adjustment (3)
 21s. Applied Psychology (2)
 102s. Neural Basis of Behavior (3)
 108s. Essen. of Mental Measur. (5)
 112s. Modern Psych. Theory (2)
 116s. Animal Behavior (2)
 118s. Social Psychology (3)
 123s. Industrial Psychology (2)
 124s. Psychology of Learning (3)
 126s. Psychology of Maladjustment (2)
 131s. Child Psychology (3)
 140s. Conditioning (2)
 145s. Public Opinion Analysis (3)
 151s, 152s. Undergraduate Research (1-3, 1-3)
 201s, 202s. Graduate Research (2,2)
 211s, 212s. Graduate Seminar (2,2)

ROMANIC LANGUAGES

French

- 1s, 1Xs, 3Xs, 3s. Elementary (5,5,5,5)
 3Rs. Grammar Review (3)
 4s, 6s, 7s, 9s. Intermediate (3,3,3,3)
 10s. Conversation (2)
 34s, 36s. Comparative Literature of France, Italy and Spain, in English (3,3)
 37s, 39s. Scientific French (3,3)
 41s. Phonetics (2)
 90s. Supervised Study (*)
 101s, 103s. Adv. Composition & Conversation (2,2)
 104s, 106s. Survey of French Literature (3,3)
 107s, 108s. Themes (1,1)
 118s, 120s. French Lit. and Culture, in English (3,3)
 127s, 129s. Advanced Conversation (2,2)
 134s, 136s. Comparative Literature of France, Italy and Spain, in English (3,3)
 137s, 139s. U.D. Scientific French (2,2)
 141s, 143s. The French Drama (3,3)
 154s, 156s. Contemporary French Literature (3,3)
 158s, 159s. Advanced Syntax (2,2)
 161s, 163s. 18th Century Literature (2,2)
 190s. Supervised Study (*)
 194s, 196s. Naval and Military French (3,3)
 Teachers' Course in French (See Education 75K)
 221s, 223s. Old French Reading (3,3)
 231s, 233s. History of Old French Literature (2,2)
 241s, 243s. French Historical Grammar (3,3)
 291s, 293s. Conferences for Theses and Special Studies (3,3)

Portuguese

- 1s, 3s. Elementary (5,5)
 4s, 6s. Intermediate (2,2)
 90s. Supervised Study (*)
 154s, 156s. Contemporary Brazilian Literature (3,3)
 190s. Supervised Study (*)

Italian

- 1s, 2s. Elementary (5,5)
 34s, 36s. Comparative Literature of France, Italy and Spain, in English (3,3)
 90s. Supervised Study (*)
 111s, 113s. Modern Italian Literature (2-3, 2-3)
 134s, 136s. Comparative Literature of France, Italy and Spain, in English (3,3)
 181s. Dante in English (2-3)
 184s. Renaissance Literature of Italy in English (2)
 190s. Supervised Study (*)
 221s, 223s. Italian Literature of 12th to 15th Century (2-5, 2-5)
 251s, 253s. Individual Conference (2-5, 2-5)

Spanish

- 1s, 3s. Elementary (5,5)
 3Rs. Grammar Review (3)
 4s, 6s, 6Rs. Intermediate (3,3,3)
 10s, 11s. Spanish Conversation (2,2)
 34s, 36s. Comparative Literature of France, Italy and Spain, in English (3,3)
 101s. Advanced Composition and Conversation (3)
 103s. Spanish Themes (3)
 104s, 106s. Survey of Spanish Literature (3,3)
 115s, 117s. Latin-American Lit., in English (2,2)
 127s, 129s. Advanced Conversation (2,2)
 134s, 136s. Comparative Literature of France, Italy and Spain, in English (3,3)
 141s, 143s. Spanish Drama (3,3)
 151s, 153s. Spanish Literature of 19th Cent. (2,2)
 158s, 159s. Advanced Syntax (2,2)
 183s, 185s, 187s. Spanish-American Lit. (3,2,3)
 190s. Supervised Study (*)
 194s, 196s. Naval and Military Spanish (3,3)
 Teachers' Course in Spanish (See Education 75V)
 221s. Old Spanish Literature (5)
 241s. Spanish Historical Grammar (5)
 252s, 253s. Graduate Spanish Studies (5,5)
 291s, 293s. Conferences for Theses and Special Studies (3,3)

SCANDINAVIAN

- 1s-, -3s. Elementary Swedis (3h,3)
 4s-, -6s. Swedish Reading (2,2)
 10s-, -12s. Elementary Norwegian or Danish (3,3)
 13s-, -15s. Norwegian or Danish Reading (2,2)
 20s, 22s. Norwegian or Danish Literature (2,2)
 23s, 25s. Swedish Literature (2,2)
 98s. Lecture Survey: Early Scandinavian Literature, in English (1)
 99s. Outline of Modern Scandinavian Culture, in English (1)
 103s, 105s. Recent Swedish Writers (2-3, 2-3; 4 by perm.)
 106s, 108s. Recent Norwegian or Danish Writers (2-3, 2-3; 4 by perm.)
 109s, 111s. Modern Scandinavian Authors in English Translation (1,1)
 180s, 182s. Recent Scandinavian Literature in English Translation (2,2)
 205s, 206s. Scandinavian Literature in 19th Century (2-4, 2-4)

Comparative Philology

- 190s. Introduction to Science of Language (2)
 192s. Life of Words (2)

POSTGRADUATE SCHOOL OF SOCIAL WORK

- 190s. Objectives of Social Work (3)
 192s. Field of Social Work (3)
 193s. Introduction to Public Welfare (3)
 195s. Problems of Child Welfare (3)
 196s, 198s. Practicum in Social Work (3,3)
 200s, 202s. Social Case Work (3,3)
 203s, 204s. Growth and Development of the Individual (3,3)
 205s. Introduction to Public Welfare (3)
 206s. Statistics in Social Work (3)
 207s. The Child and the State (2)

208s.	Law for Social Workers	(3)
210s.	Public Welfare Admin. in Rural Areas	(3)
212s.	Social Welfare Organization	(3)
214s.	Com. Organization for Social Welfare	(3)
215s I and II.	Field Work: Family Case Work	(4,4)
219s.	Family Case Work	(3)
220s.	Seminar in Family Case Work	(3)
221s I and II.	Field Work: Family Case Work	(4,4)
222s.	Social Case Work with Children	(3)
223s.	Seminar: Social Case Work with Children	(3)
224s I & II.	Field Work: Child Welf. Case Work	(4,4)
225s.	Medical Social Case Work	(3)
226s.	Seminar: Medical Social Work	(3)
227s I and II.	Field Work: Medical Social Case Work	(4,4)
228s.	Administration of Social Insurances	(3)
229s.	Seminar: Public Welfare Administration	(*)
230s I & II.	Field Work: Public Welf. Admin.	(*,*)
234s.	Social Work Research	(3)
235s.	Seminar: Supervision	(3)
236s.	Field Work: Supervision	(4)
237s, 238s.	Readings in Social Work	(*,*)
239s, 240s.	Thesis Research	(3,3)
241s.	Seminar: History of Social Work	(2)
242s.	Seminar: Social Work as a Profession	(2)

SOCIOLOGY

1s.	Survey	(4)
27s.	Survey of Contemporary Social Problems	(3)
31s.	Social Statistics	(3)
41s.	Japanese Social Institutions	(3)
42s.	Chinese Social Institutions and Social Change	(3)
55s.	Human Ecology	(3)
66s.	Group Behavior	(3)
112s.	The Family	(3)
132s.	Methods of Social Research	(3)
141s.	Human Migration	(2)
142s.	Race Relations	(3)
152s.	Social Control	(3)
153s.	Problems of Social Insecurity	(2)
155s.	Human Ecology	(3)
156s.	Criminology	(3)
159s.	Juvenile Delinquency	(3)
165s.	The City	(3)
166s.	Social Attitudes	(3)
168s.	National Traits	(3)
170s.	Social Theory	(3)
173s.	Social Classes	(3)
176s.	Rural Community	(3)
180s.	Social Factors in Marriage	(2)
194s.	Public Opinion	(3)

203s.	Social Reform	(2)
240s.	Demography Seminar	(2)
242s.	World Survey of Race Relations	(2)
247s.	Social Criticism	(2)
255s.	Advanced Human Ecology	(2)
257s.	Correctional Institutions; Sociological Contributions to the Treatment of Parolees	(3)
258s.	Basic Crime Prevention; Sociological Contributions to Treatment of Probationers	(3)

SPEECH

As.	Speech Clinic	(0)
1s.	Basic Speech Improvement	(2)
38s.	Essentials of Argumentation	(3)
40s.	Essentials of Speaking	(4)
41s.	Advanced Speaking	(3)
43s.	Speaking Voice	(4)
44s.	Voice and Articulation	(3)
79s.	Oral Interpretation	(3)
101s.	Varsity Public Discussion	(2)
103s.	Extempore Speaking	(3)
139s.	Forms of Public Address	(3)
140s.	Discussion Technique Applied to Current Problems	(2)
141s.	The Public Lecture	(2)
161s.	Radio Speech	(3)
163s.	Radio Production Methods and Program Building	(3)
179s.	Advanced Oral Interpretation of Lit.	(3)
186s.	Backgrounds of Speech	(3)
187s.	Voice Science	(3)
188s.	Advanced Problems in Speaking	(3)
190s.	Speech Correction	(3)
191s.	Methods of Speech Correction	(3)
193s, 196s.	Clinical Training in Speech Correction (2-4, 2-4)	(3)
194s.	Methods of Teaching Lip Reading	(3)
Teachers' Course in Speech	(See Education 75X)	
201s.	Introduction to Graduate Study in Speech	(2)
211s.	Historical Principles of Public Address	(5)
212s.	Research in Rhetoric and Public Address	(5)
214s.	Research in Voice	(5)
215s.	Research in Theory of Interpretation	(5)
216s.	Research in Speech Pathology	(5)
220s.	Thesis Research	(*)

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Is.	Basic Speech Improvement	(2)
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WORLD AT WAR

1s, 101s.	The World at War	(4)
2s, 102s.	The World After the War	(4)