BULLETIN UNIVERSITY OF WASHINGTON

Beginning July I, 1943

The College of Engineering and the College of Mines will operate entirely on the semester system. No classes will be conducted on the quarter system. Summer Session "B" will start on July 1 and end on October 30. The first (or Winter) semester will begin on November 1, 1943 and end on February 28, 1944. The second (or Spring) semester will begin March 1, 1944 and end on June 30. The two semesters will constitute an academic year and are to be considered the equivalent of the academic year of three quarters.

In all other Schools and Colleges

the regular Autumn and Winter terms will be operated on the quarter system as usual. See University Calendar, page 8.



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

BULLETIN

UNIVERSITY OF WASHINGTON

CATALOGUE 1943-1944



GENERAL SERIES

JULY 3, 1943

No. 732

Published twice monthly at Seattle, Washington, by the University of Washington from October to July, inclusive. No issues in August and September. Entered as secondclass matter at Seattle, Washington, under the Act of August 24, 1912.

NOTICE

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

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THE UNIVERSITY CALENDAR FOR 1943-1944 AUTUMN QUARTER, 1943

Preferred registration period for students advised in the spring.....Sept. 1 to Sept. 3, 4:30 p.m. Fees must be paid in advance of registration.

Registration dates for all students......Sept. 7 to Sept. 18, 12 m. Fees must be paid in advance of registration.

Last registration day before beginning of instruction	Saturday, Sept. 18, 12 m.
Special instruction for new freshmenBegins	9 a.m., Sept. 17, ends Sept. 18
Instruction begins	Monday, Sept. 20, 8 a.m.
The President's Convocation	Monday, Sept. 20, 11 a.m.
Last day to register with a late fee and to add a course	Saturday, Sept. 25, 12 m.
**Last day to withdraw and receive a "W" without grade	Saturday, Nov. 6, 12 m.
Armistice and Admission Day (Holiday)	
President's reception to parents of new freshmen	Wednesday, Nov. 17, 7:30 p.m.
Thanksgiving recess begins	Wednesday, Nov. 24, 6 p.m.
Thanksgiving recess ends	Monday, Nov. 29, 8 a.m.
Instruction ends	Wednesday, Dec. 15, 6 p.m.

WINTER QUARTER, 1944

*Preferred registration period for students advised in the spring..Nov. 22 to Nov. 24, 4:30 p.m.
 *Registration dates for all students.....Nov. 29 to Dec. 11, 12 m.
 *Section reservations cancelled if tuition is not paid by......Wednesday, Dec. 15, 4:30 p.m.
 Registration dates for students not previously registered......Dec. 27 to Dec. 31, 4:30 p.m.
 During this period, fees must be paid in advance of registration.

**Students may not register December 13 to 24.

SPRING QUARTER, 1944

**Preferred registration period for students advised in the spring....Feb. 23 to Feb. 25, 4:00 p.m. **Registration dates for all students.......Feb. 28 to March 10, 4:30 p.m. Section reservations cancelled if tuition is not paid by......Friday, March 17, 4:30 p.m. Registration dates for students not previously registered......March 22 to March 25, 12 m. During this period, fees must be paid in advance of registration.

Students may not register March 11 to 21.

Last registration day before beginning of instruction	Saturday, March 25, 12 m.
Instruction begins	Monday, March 27, 8 a.m.
Last day to register with late fee, and to add a course	Saturday, April 1, 12 m.
Last day to withdraw and receive a "W" without grade	Saturday, May 6, 12 m.
Honors Convocation	Wednesday, May 10, 10 a.m.
Governor's Day	Thursday, May 18
Memorial Day (Holiday)	
Baccalaureate Sunday	Sunday, June 4
Instruction ends	Friday, June 9
Commencement	Saturday, June 10

** Date subject to change,

SUMMER QUARTER, 1943

Registration	May 17 to June 15, 4:30 p.m.
Instruction begins	Wednesday, June 16, 8 a.m.
College Aptitude Test	
Independence Day (Holiday)	
First term ends	Friday, July 23, 6 p.m.
Second term begins	
Last day to withdraw and receive a "W" without grade	
First term	Tuesday, July 6, 4:30 p.m.
Second term	Tuesday, August 10, 4:30 p.m.
Full quarter	Tuesday, July 23, 4:30 p.m.
Instruction ends	Friday, August 27, 6 p.m.

University Calendar Rule

The autumn quarter shall begin on the last Monday of September, and end on the Wednesday of the twelfth week of the quarter.*

The winter quarter shall begin on the first Monday after January 1 (except that when January 1 falls on Sunday it shall begin on January 3, and when January 1 falls on Monday it shall begin on January 2), and end on the eleventh Friday thereafter.

The spring quarter shall begin on the second Monday after the close of the winter quarter, and end on the eleventh Friday thereafter.

SCHEDULE OF UNIVERSITY SENATE, AND EXECUTIVE COMMITTEE MEETINGS FOR THE YEAR 1943-1944

Autumn Quarter, 1943

Senate (Election of Executive Committee)	
Executive Committee (Appointment of all Faculty Comm	nittees)Tuesday, September 28, 3 p.m.
Senate	Thursday, October 7, 3 p.m.
Executive Committee	Wednesday, November 10, 3 p.m.
Senate	Thursday, November 18, 3 p.m.

Winter Quarter, 1944

Executive	CommitteeTuesday,	January 11, 3 p.m.
Senate	Thursday,	January 20, 3 p.m.
Executive	CommitteeThursday,	February 3, 3 p.m.
Senate		February 10, 3 p.m.

Spring Quarter, 1944

Executive Committee	.Tuesday, April 4, 3 p.m.
Senate	hursday, April 13, 3 p.m.
Executive Committee	hursday, April 27, 3 p.m.
Senate	.Thursday, May 4, 3 p.m.

• Notice, however, that for the year 1943-1944 the autumn quarter begins one week early in order to afford a one-week recess for war service.

BOARD OF REGENTS

1942-1943

PHILIP D. MACBRIDE, PresidentSeattle Term ends March, 1944
ALFRED SHEMANSKI, Vice President
EVA ANDERSON
THOMAS BALMERSeattle Term ends March, 1947
WINLOCK W. MILLERSeattle Term ends March, 1947
WERNER A. RUPPAberdeen Term ends March, 1945
EUGENE A. WHITETacoma Term ends March, 1946
HERBERT T. CONDON, Secretary

Committees of the Board of Regents

Buildings	and	Grounds	Miller, R	upp, White
Executive.			Balmer, Miller,	Shemanski
Finance		- 	. Shemanski, Balr	ner, White
University	La	nds	Rupp, Ander	son, Miller
University	We	lfare	Balmer, Ande	rson, Rupp

University of Washington Alumni Association

President	Arthur E. Simon, B.A., 1917
Vice President	James W. Bryan, Jr., B.A., 1924, LL.B., 1926
Vice President	Betty Askren Lutterman, B.A., 1936
Treasurer	James Cain, B.A., 1937
Secretary	R. Brondson Harris, B.S. in For., 1931

OFFICERS OF ADMINISTRATION

LEE PAUL SIEG, Ph.D., LL.D.....President of the University

The College of Arts and Sciences

EDWARD HENRY LAUER, Ph.D	Dean of the College of Arts and Sciences
DAVID THOMSON, B.A., LL.D.	- · ·
Vice-President Emeri	tus; Vice Dean of the College of Arts and Sciences
HARVEY BRUCE DENSMORE, B.A	Chairman, General Studies
GLENN HUGHES, M.A	Director of the School of Drama
WALTER F. ISAACS, B.S.(F.A.)	Director of the School of Art
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EFFIE I. RAITT, M.A.	Director of the School of Home Economics
ELIZABETH S. SOULE, M.A	Director of the School of Nursing Education
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WILLIAM F. THOMPSON. Ph.D	Director of the School of Fisheries
CARL PAIGE WOOD, M.A	Director of the School of Music

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JUDSON F. FALKNOR, B.S., LL.B	Dean of the School of Law
FOREST JACKSON GOODRICH, Ph.C., Ph.D	Dean of the College of Pharmacy
EDGAR ALLAN LOEW, E.E	Dean of the College of Engineering
EDWIN RAY GUTHRIE, Ph.D	Dean of the Graduate School
ERNEST F. WITTE, Ph.D	.Director of the Graduate School of Social Work
FRANCIS FOUNTAIN POWERS, Ph.D	Dean of the College of Education
FREDERICK ELMER BOLTON, Ph.D	Dean Emeritus of the College of Education
HOWARD HALL PRESTON, PLD	Dean of the College of Economics and Business
MILNOR ROBERTS, B.A	Dean of the College of Mines
HUGO WINKENWERDER, M.F	Dean of the College of Forestry
RUTH WORDEN, B.A	Director of the School of Librarianship

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MARY IOLA BASH, B.A Momen
ROLAND E. BELSHAW, M.AActing Manager of Athletics
WENDELL BROYLESActing Director, University News Service
HENRY ALFRED BURD, Ph.DDirector of the Summer Quarter
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IRVIN HOFF, M.ARegistrar
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HARRY EDWIN SMITH, Ph.DDirector of the Extension Service
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Assistant Comptroller; Acting Head of the Associated Students University of Washington
MAY DUNN WARD, M.A
"C. KEN WELDNERAssistant Superintendent of Buildings and Grounds
LOIS J. WENTWORTH, B.A Assistant to the Dean of the Graduate School

* War leave.

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Smith, Charles Wesley, B.A., B.L.SLibrarian
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Junior Librarian, Catalog Division
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Duffy, Lucille, B.A., B.A. in LibrarianshipJunior Librarian, Catalog Division
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Senior Assistant, Reference Division
Gilchrist, Madeline, B.A., B.S. (L.S.)Parrington Branch Librarian
Hale, Ruth Elinor, B.A., B.S. (L.S.)Senior Librarian, Acquisitions Division
Heathcote, Lesley Muriel, B.A., B.S. (L.S.), M.A.
Senior Librarian, Acquisitions Division
Jones, Lois, B.A., B.A. in LibrarianshipJunior Librarian, Reference Division
Jones, Winnifred, B.S., B.S. (L.S.)Semor Librarian, Reference Division
Keefer, Mary, B.A., B.A. in LibrarianshipJunior Librarian, Catalog Division
Kelly, Clara, B.S., B.S. (L.S.), M.SSenior Librarian, Reference Division
Lensrud, Mabel, B.S. (L.S.)Junior Librarian, Catalog Division
McCutchen, Lydia May, B.A., Cert. (L.S.) Senior Librarian, Acquisitions Division
Minsk, Gertrude, B.S., B.A. in Librarianship. Junior Librarian, Réference Division
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Nierman, Florence, B.A., B.S. (L.S.)Junior Librarian, Reference Division
Peterson, Marion Elizabeth, B.A., B.A. in Librarianship
Junior Librarian, Reference Division Shorrock, Bernice Ferrier, B.A., B.A. in Librarianship
Junior Librarian, Reference Division
Slyter, Shellie, B.A., B.S. in Librarianship Senior Librarian, Circulation Division
Swain, Olive, B.S., B.S. (L.S.), M.ASenior Librarian, Catalog Division
Todd, Ronald, B.A., B.S. (L.S.) Senior Librarian, Reference Division
Tucker, Lena Lucile, B.A., B.S. (L.S.), M.A Senior Librarian, Catalog Division
Wright, Joyce Mary, B.A., B.A. in Librarianship
Assistant Librarian, Parrington Branch
Junior Librarian, Reference Division Slyter, Shellie, B.A., B.S. in LibrarianshipSenior Librarian, Circulation Division Swain, Olive, B.S., B.S. (L.S.), M.ASenior Librarian, Catalog Division Fodd, Ronald, B.A., B.S. (L.S.), M.ASenior Librarian, Reference Division Fucker, Lena Lucile, B.A., B.S. (L.S.), M.ASenior Librarian, Catalog Division Wright, Joyce Mary, B.A., B.A. in Librarianship Assistant Librarian, Parrington Branch

Law Library

UNITED STATES ARMY RESERVE OFFICERS' TRAINING CORPS

Eden, John R., A.B.	Colonel, Infantry
Richards, Willard K., B.S	Lieutenant Colonel, C.A.C.
Ames, George W., B.A	Lieutenant Colonel, C.A.C.
Ramsey, John W.	Lieutenant Colonel. Infantry
Joseph, Henry B., B.S., in For	
Beebe, Francis A., B.S. in E.E	
Myers, Oscar L., B.S. in B.A., M.A.	
Cole, Lester, B.S	Captain, C.A.C.
Cocheu, Stephen D., B.S	
Oustad, Carl B., B.C.E.	Captain, C.A.C.
Vivrette, Lyndon, B.A	Captain, Infantry
Wienker, Curtis H., B. of Arch	Captain, Infantry
Collins, Floyd	Captain, Infantry
Middleton, Albert E., B.S	Čaptain, Q.M.Č.
Felder, Clarence B., B.S. in Chem	First Lieutenant, Infantry
Dawson, James R., B.S	First Lieutenant, C.A.C.
Harwick, Paul M., B.S. in B.A., M.S. in B.A.,	First Lieutenant, Q.M.C.
Hilsenberg, Ernest B., B.A	Second Lieutenant, Infantry
McCoy, Keith L	Second Lieutenant, Infantry
Koenig, William A., B.S. in E.E	Second Lieutenant, S.C.
Human, Donald W., B.E.E.	Second Lieutenant, S.C.
Bell, Weston A	Technical Sergeant, D.E.M.L. (S.C.)
Goldenberg, Samuel	Staff Sergeant, D.E.M.L. (Inf.)
Harrison, Thomas L	Staff Sergeant, D.E.M.L. (C.A.C.)
Gage, Hazen T	Sergeant, D.E.M.L. (C.A.C.)
Bolster, Cecil D	Sergeant, D.E.M.L. (C.A.C.)
Turner, Denton C	Sergeant, D.E.M.L. (Q.M.C.)
Opem, Amer M., B.E	Sergeant, D.E.M.L. (Inf.)
Whitehorn, Eugene D., A.B	Sergeant, D.E.M.L. (S.C.)
Grant, John R	Sergeant, D.E.M.L. (C.A.C.)
Lattimer, Roy W	Sergeant, D.E.M.L. (Inf.)
Spaulding, Paul H	Sergeant, D.E.M.L. (Inf.)
White, Stanley E	Sergeant, D.E.M.L. (C.A.C.)
Dobson, William M	Sergeant, D.E.M.L. (Inf.)
Gurian, Manning M., L.L.B	Sergeant, D.E.M.L. (S.C.)
Clemmens, Paul E	Sergeant, D.E.M.L. (S.C.)
Lustig, George M	Sergeant, D.E.M.L. (C.A.C.)
Naber, Bernard W	Sergeant, D.E.M.L. (Q.M.C.)
Foerstel, Norbert J	
Estes, Lloyd A	Sergeant, D.E.M.L. (Inf.)

UNITED STATES NAVAL RESERVE OFFICERS' TRAINING CORPS

Barr, Eric L., B.S., Ph. D	Captain, U. S. Navy
Wood, Ralph F., B.S	Rear Admiral, U. S. Navy
Warren, John T., B.S	Commander, U. S. Navy
Farwell, Raymond F., A.B., M.A	Commander, U.S.N.R.
Willis, Park Weed, Jr., A.B., M.D	.Lieutenant-Commander (MC) U.S.N.R.
Ramsey, Walter P., B.S.	Lieutenant-Commander, U. S. Navy
Thompson, Carlisle H., B.S	Lieutenant-Commander, U. S. Navy
Wendelburg, George, B. S	Lieutenant-Commander, U. S. Navy
Mathany, Howard V., B.A., M.A	Lieutenant, U.S.N.R.
Sargent, Leonard R., Jr., A.B	Lieutenant, U.S.N.R.
Littell, Roland B	Chief Yeoman, U. S. Navy
Hamilton, Malcolm	Chief Gunner's Mate, U. S. Navy
Harmony, Rufus A	Chief Quartermaster, U. S. Navy
Berns, John E	Chief Yeoman, U. S. Navy
Sincere, W. F. A	Chief Turret Captain, U.S.N.R.
Hoffman, Jesse L	Chief Turret Captain, U.S.N.R.
Keist, George N., B.S., M.A	Chief Specialist, U.S.N.R.
Weisenborn, Willis A., B.A	Yeoman, 2nd Class, U.S.N.R.
Snow, William B	Yeoman, 2nd Class, U.S.N.R.

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THE GRADUATE SCHOOL OF SOCIAL WORK

(For Faculty and Courses, see page 20)

Witte, Ernest F., Ph.D	Director
Buschke, Franz, M.D	Lecturer in Medical Information
Dorman, Purman, M.D	Lecturer in Medical Information
Francis, Byron, M.D	Lecturer in Medical Information
Hildebrand, Alice, M.D	Lecturer in Medical Information
Joy, Frederick B., M.D	Lecturer in Medical Information
Smith, R. Phillip, M.D	Lecturer in Medical Information
Stewart, Roger E., M.D	Lecturer in Medical Information
Waugh, James R., M.D	Lecturer in Medical Information
Block, Virginia	Lecturer
Hegland, Leonard L	Lecturer
Johnson, Lillian J	Lecturer
Lang, Harold A	Lecturer
Scroggie, Bernice E	Lecturer
Adams, Blanche	Supervisor of Field Work
Allper, Sylvia	Supervisor of Field Work
Brown, Emily	Supervisor of Field Work
Chadwick, Nellie	Supervisor of Field Work
Denton, Anne	Supervisor of Field Work
Fahey, George E	Supervisor of Field Work
Germain, Marie	Supervisor of Field Work
Hall, John F	Supervisor of Field Work
Hanlon, Julian	Supervisor of Field Work
Jamieson, Ann Norell	Supervisor of Field Work
Jonquet, Eugene M	Supervisor of Field Work
Kirry, Agnes	Supervisor of Field Work
Liddick, Dorothy	Supervisor of Field Work
Moore, Virginia	Supervisor of Field Work
Weinzirl, Elizabeth	Supervisor of Field Work

OFFICE OF THE REGISTRAR

Hoff, Irvin, M.A	
Toner, Ethelyn, B.A	Assistant to the Registrar
Burnett, Helen Carlisle, B.S	Secretary
Willard, Frances, B.A	Credentials
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.)	
Knoell, Jeanne	Docent

THE HENRY ART 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.	leronautical 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

OCEANOGRAPHIC LABORATORIES

*Thompson	, Thomas Gordo	n, Ph.D	 	Director
Utterback,	Clinton Louis, I	'h.D	 	Acting Director

OFFICE OF STATE CHEMIST

Johnson,	Charle	s Willis,	Ph.C.,	Ph.D	 		Director
Arrigoni,	Louis	M.S			 	.Assistant	State Chemist

NORTHWEST EXPERIMENT STATION, UNITED STATES BUREAU OF MINES

Yancey, Harry Fagan, Ph.D	Supervising Engineer
Johnson, Kenneth Alexander, B.S	Assistant Chemist
Bird, J. Howard	Assistant Mining Engineer
Skinner, Kenneth G., M.S. in Cer.E	Assistant Chemical Engineer
Geer, M. R., M.S. in Min.E	Assistant Mining Engineer
Zane, R. E., M.S. in Met.E	Junior Chemical Engineer
Davies. Ben. B.S.	Junior Engineer
Ehlers, Forrest A., B.A., B.S.,	Junior Chemist
Fatzinger, Robert W., M.S. in Min.E	Assistant Metallurgical Engineer
McKinnell, John C	Junior Chemical Engineer
Parenteau, Louis S., B. of Chem. E	Assistant Chemical Engineer
Keating, Henry T	Principal Clerk
Towle, Harriett E.	Clerk
Iones, Violet P.	Senior Stenoarabher
Lance, William E.	Mill Mechanic

UNIVERSITY HEALTH SERVICE

Hall, David	Connolly, M.D	University Heal	th Officer
Lester, Charl	les N., M.D	Assistant Heal	th Officer

^{*} On leave, 1942-1943.

BOARDS AND COMMITTEES* 1942-1943

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. Director of Graduate Publications-Guthrie.

Traffic Judge-Richards.

Executive Committee of University Senate

T. R. Cole, B. Grondal, J. Harrison, G. McKay, W. R. Wilson, R. Winger; Registrar, secretary.

Committees of the Faculty

- Athletics-Chairman, Nottelmann; Corbally, H. Foster, Griffith, Lauer, D. H. Mackenzie, May, Pellegrini, Quainton, Savage; Director of Student Activities,
- ex officio; Manager of Athletics, ex officio. Budget-Chairman, Tartar; W. E. Cox, Steiner, Tymstra, Winger, Wood; Comptroller, ex officio.
- Building Needs-Chairman, McMinn; Carlson, Goodspeed, Isaacs, Alfred Jensen, Lawrence, H. H. Martin, Olschewsky; Superintendent of Buildings and Grounds, ex officio. Curriculum—Chairman, Dakan; and the chairmen of the college curriculum com-
- mittees, together with a representative from each college or school having no curriculum committee.
- Grades-Chairman, William R. Wilson; Birnbaum, Dille, Gates, E. R. Guthrie, Har-rison, Loew, Powers, W. C. E. Wilson; Registrar, ex officio.
- Graduation-Chairman, Grondal; Coombs, A. V. Eastman, Munro, Ray, Skinner, Stirling; Registrar, ex officio.
- Honors-Chairman, Densmore; Brakel, F. S. Eastman, Lorig, McKay, H. C. Meyer,

- Hohors-Chairman, Densmore; Brakel, F. S. Eastman, Lorig, MCRay, H. C. Meyer, Rising; Registrar, ex officio.
 Library-Chairman, C. W. Smith; Beardsley, Benham, Carpenter, Dobie, E. R. Guthrie, Marckworth, Skinner, Thomson, Weaver, Williams, Winslow.
 Public Exercises-Chairman, Daniels; Conway, Corbally, Hanley, Jerbert, Law-rence, Lindblom, A. L. Miller, Powell, Welke.
 Public Relations-Chairman, Burd; H. K. Benson, Farquharson, Mander, Vail; Comptroller, ex officio; Director, University News Service, ex officio; Director, Fytension Service ex officio; Secretary Alumni Association ex officio
- Comptroller, ex omclo; Director, University News Service, ex omclo; Director, Extension Service, ex officio; Secretary, Alumni Association, ex officio.
 Radio—Chairman, Loew; Bird, Denny, Hoff, Hughes, Pauline Johnson, Lauer, Normann, H. E. Smith; Director, University News Service, ex officio.
 Relations with Secondary Schools and Colleges—Chairman, T. R. Cole; O. E. Draper, Gates, Hitchcock, Hutchinson, Ingalls, Powers, Sperlin, Turner, Utterback, Vail, Warner; Registrar, ex officio.
 Rhodes Scholarships—Chairman, Harrison; K. C. Cole, Costigan, Densmore, George Taulor.
- Taylor.
- Rules-Chairman, O'Bryan; Demmery, Hayner, Lawson, E. B. Stevens, Thomson; Registrar, ex officio. Schedule and Registration—Chairman, Griffith; Ballantine, E. M. Draper, Gregory,
- Powell, Van Horn, Florence Wilson; Registrar, ex officio; Assistant to Dean of College of Arts and Sciences, ex officio.
- Student Campus Organizations-Chairman, A. L. Miller; Bash, Blankenship, Kelly, W. M. Read, F. C. Smith, Starr, Zillman.
- Student Discipline-Chairman, Schmid; Edna Benson, M. E. Benson, Stephen Brown, E. R. Wilcox, William R. Wilson.
- Student Welfare—Chairman, Butterbaugh; Engel, Leahy, McIntyre, Newhouse, Nostrand, Walters, Ward, Ruth Wilson, Witte; Registrar, ex officio. Tenure and Academic Freedom—Chairman, Steiner; H. K. Benson, Falknor, Good-speed, Mund, Pearce, Rex Robinson, Rowntree, C. T. Williams, G. S. Wilson, Winther.

Graduate School Committees

Graduate Publications-Guthrie, Carpenter, K. C. Cole, Goodspeed, Griffith, Gund-lach, Gunther, Ordal, Rigg, C. W. Smith; Director of Publications, ex officio.

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

UNIVERSITY SENATE FOR 1942-1943

A. Humanities

I. LETTERS.

Terms expire Spring, 1945: Densmore (Classics) * Harrison (English) Nostrand (Rom. Langs.)

Vail (German)

Terms expire Spring, 1944: Benham (English) Chessex (Rom. Langs.) E. G. Cox (English) Winther (English)

Terms expire Spring, 1943: Christian (Journ.) Lawson (English) D. Thomson (Classics) W. C. E. Wilson (Rom. Langs.)

II. ART

Terms expire Spring, 1945: Isaacs (Art) Wood (Music)

Terms expire Spring, 1944: H. Hall (Music) C. Lawrence (Music)

Terms expire Spring, 1943: * McKay (Music) Penington (Art)

B. Science

III. GENERAL

Terms expire Spring, 1945: * Winger (Math.)

Utterback (Physics)

Terms expire Spring, 1944: Coombs (Geol.) Ordal (Bact.)

Terms expire Spring, 1943: Carpenter (Math.) Robinson (Chem.)

IV. TECHNOLOGY

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Terms expire Spring, 1945: Corey (Mines) Eastwood (Mech. Engr.) Rising (Pharm.) Van Horn (Hyd. Engr.)

Terms expire Spring, 1944: * Grondal (Forestry) Lindblom (Elec. Engr.) Tymstra (Mech. Engr.) Warner (Gen. Engr.)

Terms expire Spring, 1943: H. K. Benson (Chem, Engr.) Jensen (Gen. Engr.) McMinn (Mech. Engr.) C. W. Johnson (Pharm.)

* Member of the Executive Committee.

C. Social Studies

V. GENERAL

Terms expire Spring, 1945: H. J. Phillips (Phil.) Quainton (History) Terms expire Spring, 1944: K. Cole (Pol. Sci.) J. F. Steiner (Soc.)

Terms expire Spring, 1943: E. Nelson (Phil.) * W. R. Wilson (Psych.)

VI. APPLIED

Terms expire Spring, 1945: Ayer (Law) Burd (E. & B.) * T. R. Cole (Educ.) Soule (Nurs.) Terms expire Spring, 1944: W. E. Cox (E. & B.) Hutchinson (P. E. for Women) Mund (E. & B.) C. Williams (Educ.)

Terms expire Spring, 1943: Foster (P. E. for Men) Lorig (E. & B.) Mackenzie (E. & B.) Nottelmann (Law)

JOURNALS

College of Education Record

^{*} Member of the Executive Committee.

ALPHABETICAL LIST OF THE UNIVERSITY FACULTY 1943-1944‡

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 †Lee Paul Sieg, 1934President 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
*†Adams, Henrietta M., 1929 (1937) Assoc. Prof. Nursing Education; Dir. Nursing Education, Hospital Division R.N., 1920, Seattle General Hospital; B.S., 1926, M.S., 1934, Washington
Ahnquist, Gerhard, M.D., 1942Lecturer in Nursing Education B.S., 1926, Washington State; M.D., 1933, New York University
Albright, Spencer Delancey, Jr., 1942Lecturer in Political Science B.A., 1922, Arkansas; M.A., 1932, Chicago; Ph.D., 1940, Texas
Alfonso, Marie, 1922 (1936)Associate Professor of Librarianship B.A., 1913, Nebraska; B.S.(L.S.), 1921, Washington
Ames, George W., Lieutenant Colonel, C.A.C., 1937 (1941) Associate Professor of Military Science and Tactics
B.A., 1902, Washington; Coast Arniery School, 1929
Anderson, Donald Hervin, 1943Instructor in Physics B.S., 1938, Washington
Anderson, Elam D., M.D., 1940Lecturer in Nursing Education A.B., Utah; M.D., Northwestern
Anderson, Julia M., 1940Instructor in Nursing Education B.S., 1931, Minnesota; Graduate, Pasadena Hospital School of Nursing
Anderson, Sylvia Finlay, 1920Associate in English B.A., 1919, M.A., 1923, Washington
Anderson, Victoria, 1937Associate 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
Auernheimer, August A., 1928 (1937)Assistant Professor of Physical Education B.P.E., Normal College; M.A., 1932, Columbia
Ayer, Leslie James, 1916Professor of Law B.S., 1899, Upper Iowa; J.D., 1906, Chicago
Bacon, Elizabeth Emaline, 1942Instructor in Far Eastern Studies Diploma, 1925, University of Grenoble, France; Diploma, 1926, Sorbonne, France; B.A., 1927, Smith College
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 deams are

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†Bailey, Alan James, 1939 (1942) Associate Professor and Director of Lignin and Cellulose Research B.S.F., 1933, M.S.F., 1934, Ph.D., 1936, Washington
§Baisler, Perry E., Jr., 1937 (1941)Instructor in Speech B.A., 1932, M.A., 1938, Washington
*Ballantine, John Perry, 1926 (1937)Professor of Mathematics A.B., 1918, Harvard; Ph.D., 1923, Chicago
Ballard, Arthur C., 1929Research Associate in Anthropology B.A., 1899, Washington
* † Barksdale, Julian D., 1936Assistant Professor of Geology B.A., 1930, Stanford; Ph.D., 1936, Yale
Barnaby, Joseph Thomas, 1934Lecturer in Fisheries B.S., 1929, Washington; M.S., 1932, Stanford
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
*Bartels, Robert D. W., 1938 (1941)Assistant Professor of Marketing B.S., 1935, Ohio State; M.B.A., 1936, Northwestern; Ph.D., 1941, Ohio State
Bartlett, Laile Eubank, 1942Associate in Sociology B.A., 1936, Cincinnati; M.A., 1940, American University
Bash, Mary Iola, 1925Associate Dean of Women B.A., 1914, Washington
Basham, Nina Mae, 1941Instructor in Nursing Education Graduate, 1933, Parkland Hospital, Dallas, Texas; B.S. in Nursing, 1939, Washington
Batie, Harriett Virginia, 1941Associate in Education B.S., 1935, Hastings College
Beal, Maud L., 1933 (1941)Instructor in English B.A., 1926, M.A., 1929, Washington
Beardsley, Arthur Sydney, 1926 (1937)Law Librarian; Professor of Law LL.B., 1918, B.S. (L.S.), 1924, M.A., 1925, Ph.D., 1928, Washington
Beauchamp, Mabel Valentine, 1942Acting Associate in Art A.B., 1928, Washington
†Beaumont, Ross A., 1940Instructor in Mathematics A.B., 1936, M.S., 1937, Michigan; Fh.D., 1940, Illinois
Beck, Eleanor N., 1932Associate in Music Pupil of Marcel Grancjany, Harpist, American School at Fontainebleau, Paris
Beckstrom, Wilhelmina Margaret, 1942Instructor in Nursing Education R.N., 1939, Queen's Hospital School of Nursing; B.S., in Nursing, 1941, Washington
Beebe, Francis Arthur, Major, C.A.C., 1942 Instructor in Military Science and Tactics
Bell, F. Heward, 1931Lecturer in Fisheries B.A., 1924, British Columbia
Bell, Milo C., 1940Lecturer in Fisheries B.S. in M.E., 1930, Washington
Belshaw, Roland E., 1930 (1937) Associate Professor of Physical Education; Acting Manager of Athletics B.A., 1927, Oregon; M.A., 1930, Columbia † Member of Graduate School faculty. * Leave of absence. & Wor leave

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§ War leave.

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+Bement, Douglas, 1941Professor of English and Director of the
A.B., 1919, Yale; LL.B., 1922, Michigan; M.A., 1930, George Washington
†Benham, Allen Rogers, 1905 (1916)Professor of English A.B., 1900, A.M., 1901, Minnesota; Ph.D., 1905, Yale
Benson, Edna G., 1927 (1936)Associate Professor of Design A.B., 1909, Iowa; M.A., 1923, Columbia
 Benson, Henry Kreitzer, 1904 (1912)Professor of Chemical Engineering; Executive Officer, Departments of Chemistry and Chemical Engineering A.B., 1899, A.M., 1902, Franklin and Marshall; Ph.D., 1907, Columbia; D.Sc., 1926, Franklin and Marshall
Benson, Merritt E., 1931 (1937)Associate Professor of Journalism LL.B., 1930, Minnesota
Berry, James Alexander, 1938Lecturer in Bacteriology M.S., 1917, Michigan State
†Beuschlein, Warren Lord, 1922 (1937)Professor of Chemical Engineering B.S., 1920, California Institute of Technology; M.S., 1925, Ch.E., 1930, Washington
Bird, Winfred W., 1928 (1940)Assistant Professor of Speech A.B., 1926, Lawrence College; M.A., 1928, Washington; Ph.D., 1938, Iowa
Birnbaum, William Zygmunt, 1939Assistant Professor of Mathematics LL.M., 1925, Ph.D., 1929, University of Lwow
Black, Charlotte Scott, 1941Instructor in Home Economics B.S., 1925, Manitoba; M.S., 1939, Teachers College, Columbia
Blackman, Helen Marie, 1943Instructor in Nursing Education R.N., 1929, St. Lukes, Iowa; B.S. in Nursing, 1942, Washington
Blankenship, Russell, 1932 (1937)Associate 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, 1941Lecturer in General Engineering B.S. in M.E., 1927, Minnesota; LL.B., 1933, Georgetown
Boehmer, Herbert, 1937Instructor in General Engineering Dipl. Ing. Braunschweig, 1928, Germany; M.S. in A.E., 1934, Washington
[†] Bolton, Frederick Elmer, 1912 Research Professor in Education; Dean Emeritus of the College of Education B.S., 1893, M.S., 1896, Wisconsin; Ph.D., 1898, Clark
Bonham, Kelshaw, 1942Research Associate in Oceanography B.S., 1931, M.S., 1935, Ph.D., 1937, Washington
*†Bostetter, Edward E., 1940Assistant Professor of English A.B., 1935, Franklin and Marshall; Ph.D., 1938, Princeton
Bostwick, Irene Neilson, 1930 (1942)Assistant Professor of Music B.M., 1922, Washington
Bovier, Esther, 1942Instructor in Nursing Education B.S. in Nursing, 1939, Washington
Boyle, Jean Elizabeth, 1942Instructor in Nursing Education B.S., in Nursing, 1936; Master of Nursing, 1941, Washington
† Member of Graduate School faculty.

* Leave of absence.

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†Brakel, Henry Louis, 1905 (1936)
Prof. of Engineering Physics; Executive Officer of the Dept. of Physics B.S., 1902, Olivet College; M.A., 1905, Washington; Ph.D., 1912, Cornell
\$Braker, Thelma, 1940Instructor in Nursing Education B.S. in Nursing, 1931, Washington; 1934, Graduate, Providence Hospital
Brown, Robert Quixote, 1919 (1941)Associate Professor of General Engineering B.S. in E.E., 1916, Washington
Brown, Robert Whitcomb, M.D., 1940Lecturer 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., 1938Lecturer in Nursing Education B.S., 1925, M.D., 1929, Minnesota
Buckley, Robert William, 1942Associate in Physical Education
Buechel, Henry Theodore, 1941Lecturer in Economics and Business B.A., 1929, M.A., 1937, Washington State
†Burd, Henry Alfred, 1924 (1927) Professor of Marketing; Director of the Summer Quarter B.S., 1910, Illinois Wesleyan; M.A., 1911, Ph.D., 1915, Illinois
Burgess, Janna P., 1937Associate in English B.A., 1918, Iowa; M.A., 1928, Washington
\$Burns, Harry H., 1934 (1936) Instructor in English B.A., 1928, Ph.D., 1935, Washington
Butler, Ralph H. R., 1942Associate in Physics B.S., 1940, Washington
Butterbaugh, Grant I., 1922 (1937)Associate Professor of Statistics A.B., 1916, Wisconsin; M.B.A., 1923, Washington; Ph.D., 1942, Chicago
†Butterworth, Joseph M., Jr., 1929Associate in English B.A., 1919, M.A., 1921, Brown
\$Byers, Jean, 1939
*†Cady, George H., 1938Assistant Professor of Chemistry A.B., 1927, A.M., 1928, Kansas; Ph.D., 1931, California
*†Cady, Willoughby Miller, 1941Assistant Professor of Physics A.B., 1927, Brown; Ph.D., 1932, Harvard
Campbell, Alex D., M.D., 1940Lecturer in Nursing Education B.A., 1930, Whitman; M.D., 1938, Johns Hopkins
† Member of Graduate School faculty.

* Leave of absence. § War leave.

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Carlson, William Hugh, 1942Lecturer in Librarianship; Associate Librarian A.B., 1924, Nebraska; M.A. in Librarianship, 1937, California
 Carpenter, Allen Fuller, 1909 (1926) Prof. of Mathematics; Executive Officer of the Department of Mathematics A.B., 1901, Hastings College; A.M., 1909, Nebraska; Ph.D., 1915, Chicago; D.Sc., 1937, Hastings College
†Carrell, James Aubrey, 1939 (1941)Associate Professor of Speech A.B., 1927, Nebraska Wesleyan; M.A., 1929, Ph.D., 1936, Northwestern
Chang, Thomas Jokon, 1942Instructor in Architecture B.F.A., B. Arch., 1935, Pennsylvania; Diploma de Architecture, 1936, Ecole des Beaux- Arts, France; M. Arch., 1937, Massachusetts Institute of Technology
Chapman, Wilbert M., 1938Lecturer in Fisheries B.S., 1932, M.S., 1933, Ph.D., 1937, Washington
Cheng, Ch'eng-k'un, 1942Associate in Sociology B.A., 1931, Yenching University (Peiping); M.A., 1937, Washington
*Chertkov, Morris, 1934 (1937)Assistant Professor of Business Law Ph.B., 1931, J.D., 1933, Chicago
†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
Christian, Byron Hunter, 1926 (1936)Associate Professor of Journalism B.A., 1921, M.A., 1929, Washington
*† Church, Phil E., 1935 (1937)
Assistant Professor of Geography and Meteorology B.S., 1923, Chicago; Ph.D., 1937, Clark
Clark, Earl F., 1935Associate in Physical Education
Clark, Lois, 1940Research Associate in Botany B.A., 1907, M.A., 1910, Washington; Ph.D., 1919, Minnesota
Cochey Stephen D. Major OMC 1932
Associate Professor of Military Science and Tactics
B.S., 1935, U.S. Military Academy
 Cochren, Stephen D., Major, C.M.C., 1922 Associate Professor of Military Science and Tactics B.S., 1935, U.S. Military Academy Cochran, Lyall Baker, 1923 (1937)Assistant Professor of Electrical Engineering B.S. in E.E., 1923, E.E., 1936, Washington
 Cochren, Stephen D., Major, 1962 Associate Professor of Military Science and Tactics B.S., 1935, U.S. Military Academy Cochran, Lyall Baker, 1923 (1937)Assistant Professor of Electrical Engineering B.S. in E.E., 1923, E.E., 1936, Washington Coe, Herbert E., M. D., 1942Lecturer in Nursing Education A.B., 1904, M.D., 1906, Michigan
 Cochren, Stephen D., Major, 1922 Associate Professor of Military Science and Tactics B.S., 1935, U.S. Military Academy Cochran, Lyall Baker, 1923 (1937)Assistant Professor of Electrical Engineering B.S. in E.E., 1923, E.E., 1936, Washington Coe, Herbert E., M. D., 1942Lecturer in Nursing Education A.B., 1904, M.D., 1906, Michigan Coffman, Grace, 1939Instructor in Nursing Education B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago)
 Cochech, Stephen D., Major, 1992 Associate Professor of Military Science and Tactics B.S., 1935, U.S. Military Academy Cochran, Lyall Baker, 1923 (1937)Assistant Professor of Electrical Engineering B.S. in E.E., 1923, E.E., 1936, Washington Coe, Herbert E., M. D., 1942Lecturer in Nursing Education A.B., 1904, M.D., 1906, Michigan Coffman, Grace, 1939Instructor in Nursing Education B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago) †Cohen, Joseph, 1932 (1941)Assistant Professor of Sociology B.A., 1925, M.A., 1927, Washington; Ph.D., 1935, Michigan
 Cochech, Stephen D., Major, 1992 Associate Professor of Military Science and Tactics B.S., 1935, U.S. Military Academy Cochran, Lyall Baker, 1923 (1937)Assistant Professor of Electrical Engineering B.S. in E.E., 1923, E.E., 1936, Washington Coe, Herbert E., M. D., 1942Lecturer in Nursing Education A.B., 1904, M.D., 1906, Michigan Coffman, Grace, 1939Instructor in Nursing Education B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago) Cohen, Joseph, 1932 (1941)Assistant Professor of Sociology B.A., 1925, M.A., 1927, Washington; Ph.D., 1935, Michigan Cole, Kenneth C., 1924 (1936)Professor of Political Science B.Lit., 1924, Oxford; Ph.D., 1930, Harvard

[†] Member of Graduate School faculty. * Leave of absence.

[†] Member of Graduate School faculty. * Leave of absence.

§Crain, Richard W., 1936 Instructor in Mechanical Engineering B.S. in E.E., 1930, B.S. in M.E., 1931, Colorado State College
†Cramlet, Clyde Myron, 1920 (1934)Associate Professor of Mathematics A.B., 1916, Walla Walla; M.S., 1920, Pb.D., 1926, Washington
Creel, Wilhelmine Schaeffer, 1940Instructor in Japanese B.M., 1927, M.M., 1929, American Conservatory of Music; work with Bela Bartok and Zolton Kodaly
SCreore, Alvin Emerson, 1940Instructor in Romanic Languages A.B., 1934, M.A., 1936, Rochester; Ph.D., 1939, Johns Hopkins
SCrescitelli, Frederick, 1940Instructor in Physiology Ph.B., 1930, M.S., 1932, Ph.D., 1934, Brown
Cross, Harriet, 1932 (1941)Assistant Professor of Nursing Education R.N., 1921, Columbia Hospital, Wisconsin; B.S., 1925, Minnesota
†Crounse, Dorothy, 1937Assistant Professor of Social Work; Supervisor of Field Work, Graduate School of Social Work B.S., 1921, Teachers College, Columbia; M.S.S., 1933, Smith College of Social Work
Curtis, Elizabeth, 1930Associate in Art B.F.A., 1929, M.F.A., 1933, Washington
Dahlgren, Edwin Harold, 1934Lecturer in Fisheries B.S., 1931, Washington
Dakan, Carl Spencer, 1919 (1923) B.S., 1909, Missouri Finance and Investments
[†] Daniels, Joseph, 1911 (1923)Professor of Mining Engineering and Metallurgy S.B., 1905, Massachusetts Institute of Technology; M.S., 1908, E.M., 1933, Lehigh
Darling, Linda Wollum, 1942Instructor in Nursing Education B.S. in Nursing, 1941, Washington
†David, Jean Ferdinand, 1936Assistant Professor of Romanic Languages A.B., 1924, Sorbonne, Paris; B.A., 1927, M.A., 1931, Saskatchewan; Ph.D., 1936, Johns Hopkins
Davidson, Frederick A., 1931Lecturer in Fisheries Ph.D., 1927, Chicago
Davis, Erma Nelson, 1926Associate in History B.A., 1918, Denver; M.A., 1924, Utah
Dawson, James R., Second Lieut., C.A.C., 1941 Instructor in Military Science and Tactics
B.S., 1940, Washington
[†] Dehn, William Maurice, 1907 (1919)Professor of Organic Chemistry A.B., 1893, A.M., 1896, Hope; Ph.D., 1903, Illinois
†Demmery, Joseph, 1928 (1934) Professor of Business Fluctuations and Real Estate
Ph.B., 1920, M.A., 1924, Chicago
§ On war leave.

† Member of Graduate School faculty.

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Law Sec.

- †Denny, Grace Goldena, 1913 (1934).....Professor of Home Economics A.B., 1907, Nebraska; M.A., 1919, Columbia
- †Densmore, Harvey Bruce, 1907 (1933)....Professor of Greek; Chairman, General Studies; Executive Officer of the Dept. of Classical Languages and Literature A.B., 1903, Oregon; A.B., 1907, Oxford
- deVries, Mary Aid, 1921 (1939).....Associate Professor of Physical Education B.A., 1920, Wisconsin
- †Dille, James M., 1936 (1941).....Professor of Pharmacology B.S., 1930, M.S., 1933, Nebraska; Ph.D., 1935, Georgetown
- 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
- *† Dorman, Helen Thompson, 1933 (1942)..Assistant Professor of Social Work and Supervisor of Field Work, Graduate School of Social Work B.A., 1928, Washington; A.M., 1939, Chicago
- Douglas, Howard Clark, 1941.....Instructor in 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
- Droker, Herbert Julius, 1942.....Associate in Business Law B.A., 1939, LL.B., 1942, Washington
- Duchow, Esther, 1940.....Associate in Bacteriology B.S., 1934, Washington
- Duggins, George Herbert, 1942.....Associate in Physical Education B.P.A., 1935, M.P.A., 1942, Purdue
- Dunlop, Henry A., 1931.....Lecturer in Fisheries B.A., 1919, M.A., 1922, British Columbia
- Dutton, Harry H., M.D., 1938.....Lecturer in Nursing Education M.D., 1914, Vermont
- *† Dvorak, August, 1923 (1937)...Professor of Educational Research and Statistics A.B., 1920, Ph.D., 1923, Minnesota
- 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

* Leave of absence.

[†] Member of Graduate School faculty.

- Eastman, Austin Vitruvius, 1924 (1942).....Professor of Electrical Engineering; Executive Officer of the Department of Electrical Engineering B.S. in E.E., 1922, M.S., 1929, Washington
- †Eastman, Fred S., 1927 (1939)...Associate Professor of Aeronautical Engineering B.S. in E.E., 1925, Washington; M.S., 1929, Massachusetts Institute of Technology

†Eastwood, Everett Owen, 1905 Professor of Mechanical Engineering; Executive Officer of the Departments of Aeronautical and Mechanical Engineering; Director Guggenheim Laboratories C.E., 1896, A.B., 1897, A.M., 1899, Virginia; B.S., 1902, Massachusetts Institute of Technology

- *† Eby, Edwin Harold, 1927 (1942).....Associate Professor of English Ph.B., 1923, Chicago; Ph.D., 1927, Washington
- †Eckelman, Ernest Otto, 1911 (1934).....Professor of Germanic Literature B.A., 1897, Northwestern College; B.L., 1898, Wisconsin; Ph.D., 1906, Heidelberg (Germany)
- Eden, John R., Colonel, Infantry, 1942....Professor of Military Science and Tactics A.B., 1910, De Pauw; Graduate of Infantry School, Company Officers' Course, 1922
- Edmundson, Clarence S., 1920.....Associate in Physical Education B.S., 1910, Idaho
- Eggers, Rolf van Kerval, M.D., 1942.....Lecturer in Nursing Education B.A., B.S., 1930, North Dakota; M.D., 1933, Chicago
- Egtvet, Percy, 1939.....Associate in Physical Education B.A., 1926, Washington
- Eichinger, Walter A., 1936 (1939).....Instructor in Music M.M., 1933, Northwestern
- Elliott, Henry Wood, 1943.....Associate in Physiology B.S., 1941, Washington
- Emery, Donald William, 1934.....Associate in English B.A., 1927, M.A., 1928, Iowa
- Engel, Ernest Dirck, 1934 (1941).....Assistant Professor of General Engineering B.S. in E.E., 1930, Washington
- Engle, Nathanael Howard, 1941 Professor and Director of the Bureau of Business Research B.A., 1925, M.A., 1926, Washington; Ph.D., 1929, Michigan
- Enquist, Lucille C., 1941.....Associate in Speech B.A., 1937, M.A., 1941, Washington
- Eriksen, Gosta, 1942.....Associate in Physical Education B.A., 1939, Washington
- †Esper, Erwin Allen, 1927 (1934).....Professor of Psychology B.A., 1917, M.A., 1920, Ph.D., 1923, Ohio State
- *Ethel, Garland, 1927.....Instructor in English B.A., 1923, M.A., 1927, Ph.D., 1928, Washington

† Member of Graduate School faculty. * Leave of absence.

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*Everest, Harold P., 1940Assistant Professor of Journalism B.A., 1939, Washington
[†] Falknor, Judson F., 1936Professor of Law; Dean of the School of Law B.S., 1917, LL.B., 1919, Washington
Farquharson, Frederick Burt, 1925 (1940)Professor of Civil Engineering B.S. in M.E., 1923, M.E., 1927, Washington
*Farwell, Raymond Forrest, Commander, U.S.N.R., 1921 (1940) Assistant Professor of Naval Science and Tactics; Professor of Transportation A.B., 1920, California; M.A., 1926, Washington
Felder, Clarence Bates, First Lieut., Infantry, 1942 Instructor in Military Science and Tactics B.S., 1936, Wofford College
†Ferguson, Grace Beals, 1941Assistant Professor of Medical Social Work A.B., 1917, Minnesota; M.A., 1930, Indiana
Ferrall, Michael, 1938 (1941)Instructor in Drama B.D.A., 1935, Goodman Theatre Art Institute, Chicago
†Fischer, Louis, 1935 (1941)Associate Professor of Pharmaceutical Chemistry B.S., Ph.C., 1926, M.S., 1928, Ph.D., 1933, Washington
Fish, Frederic F., 1934Lecturer in Fisheries B.S., 1928, Cornell; Sc.D., 1931, Johns Hopkins
Flothow, Paul G., M.D., 1940Lecturer 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
§Fordon, John Vivian, 1935 (1936)Instructor in Accounting B.B.A., 1931, M.B.A., 1934, Washington
Forman, Marie L., 1935Instructor in Nursing Education R.N., Methodist State Hospital, South Dakota; B.S., 1935, Washington
Foster, Frederic John, 1935Lecturer 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., 1940Lecturer in Nursing Education B.A., 1922, Washington; M.D., 1926, Washington University (St. Louis)
Franzke, Albert L., 1936 (1939)Associate Professor of Speech B.A., 1916, M.A., 1933, Lawrence
Freeman, George William, M. D., 1942Lecturer in Nursing Education B.S., 1924, Washington; M.D., 1928, Johns Hopkins
†Frein, Pierre Joseph, 1903Professor of Romanic Languages A.B., 1892, Williams College; Ph.D., 1899, Johns Hopkins

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Member of Graduate School faculty.
 Leave of absence.
 War leave.

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- †Frye, Theodore Christian, 1903......Professor of Botany B.S., 1894, Illinois; Ph.D., 1902, Chicago
- †Fuller, Richard E., 1930 (1940).....Research Professor of Geology B.S., 1924, M.S., 1925, Ph.D., 1930, Washington
- Furer, Samuel Henry, 1942.....Associate in Business Law A.B., 1937, Ohio State University; LL.B., 1939, Cincinnati

†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.....Associate in Anthropology B.A., 1928, M.A., 1931, Washington; Ph.D., 1939, Columbia

†Gates, Charles M., 1936 (1939)Assistant Professor of History B.A., 1926, Yale; M.A., 1928, Harvard; Ph.D., 1934, Minnesota

Gausman, Wilma Alice, 1942......Instructor in Nursing Education R.N., 1934, Bryan Memorial School of Nursing, Lincoln, Nebraska; B.S., in Nursing Edu., 1940, Washington State

- Gershevsky, Noah David, 1943.....Acting Instructor in Far Eastern Studies B.S., 1930, Montana School of Mines
- Gifford, Gilbert Lee, 1942.....Acting Assistant Professor of Transportation B.B.A., 1930, Washington State; M.B.A., 1938, Washington
- Gillette, Alletta Maria, 1929 (1931).....Instructor in English B.S., 1907, Smith; M.A., 1911, Washington
- Goehring, Viola Elsie, 1942.....Associate in Economics and Business B.B.A., 1925, M.A., 1933, Washington
- Goff, Willard Frederick, M.D., 1942.....Lecturer in Nursing Education B.S., 1931, Washington; M.D., 1935, Oregon
- [†]Goggio, Charles, 1920 (1936).....Professor of Romanic Languages A.B., 1910, Harvard; A.M., 1914, Ph.D., 1919, Wisconsin

[†]Goodrich, Forest Jackson, 1914 (1934) Professor of Pharmacognosy: 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
- [†]Gowen, Herbert Henry, 1909 (1914).....Professor of Oriental Studies St. Augustine's College (Canterbury); D.D., 1912, Whitman College
- *Gowen, Lance E., 1924 (1937).....Professor of Architecture B.A. in Arch., 1916, M.A. (Arch.), 1921, Gr. Arch., 1922, California
- Graf, Hubert Arthur, 1936.....Associate in Music Theoretical work with H. J. Williams, London, England; Enrico Tramonti, Chicago; Graduate, Holy Names Academy
- Graves, Dorsett V., 1922.....Associate in Physical Education
- Graves, Lucius Wallis, 1943.....L. B.B.A., 1922, Washington; M.A., 1923, CaliforniaLecturer in Economics and Business
- §Gray, Robert Simpson, 1939.....Associate in Drama B.A., 1936, M.A., 1938, Washington
- [†]Gregory, Homer Ewart, 1920 (1933)....Professor of Management and Accounting A.B., 1914, Washington State; M.A., 1917, Chicago

[†] Member of Graduate School faculty.

^{*} Leave of absence. § War leave.

†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
Groth, Miriam Terry, 1930 (1937)Assistant Professor of Music B.M., 1926, Washington
Gullikson, Albert Clarence, 1942Instructor in General Engineering B.S. in M.E., 1924, M.E., 1938, Washington
 * † Gundlach, Ralph H., 1927 (1937)Associate Professor of Psychology B.A., 1924, M.A., 1925, Washington; Ph.D., 1927, Illinois
†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 Roy 1014 (1028)
Professor of Psychology; Dean of the Graduate School A.B., 1907, A.M., 1910, Nebraska; Ph.D., 1912, Pennsylvania
Guthrie, Elton F., 1929 (1941)Assistant Professor of Sociology B.A., 1926, Ph.D., 1933, Washington
§Haendler, Helmut Max, 1939 (1940)Instructor in Chemistry B.S., 1935, Northeastern; Ph.D., 1940, Washington
§Hage, Robert Evans, 1940Instructor in Aeronautical Engineering B.S. in A.E., 1939, Washington; M.S., 1940, Massachusetts Institute of Technology
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 (1934)Assistant Professor of Music B.M., 1925, Washington
*†Hall, James Kendall, 1930 (1934) Professor of Public Utilities and Public Finance B.A., 1925, M.A., 1926, Oregon; Ph.D., 1929, Stanford
Hall, John F., 1931Lecturer in Social Work M.A., 1915, Yale
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 Accounting LL.B., 1916, Georgetown
†Hanley, John H., 1939 Assistant Professor of Botany and Forestry; Director of the Arboretum B.S.F., 1927, Michigan; M.S., 1933, Ph.D., 1937, Illinois
\$Hansen, Thomas Louis, 1941Instructor in Architecture B. Arch., 1930, Oregon; M.S. in Arch., 1934, Columbia; M. Arch., 1939, Massachusetts Institute of Technology
† Member of Graduate School faculty.

* Leave of absence. § War leave.

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Hardman, Stuart Floyd, 1941Associate in Drama B.S., 1938, Utah Agricultural College
Harrington, Donal Francis, 1938Instructor in 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
†Harrison, Joseph Barlow, 1913 (1933)Professor of English B.A., 1910, Washington; A.B., 1913, Oxford
Harrison, Roger W., 1933Lecturer in Fisheries B.S.(C.E.), 1925, Washington State; M.S., 1928, George Washington
*Harsch, Alfred E., 1930 (1940)Professor of Law B.A., 1926, LL.B., 1928, Washington
Harwick, Paul M., First Lieut., Q.M.C., 1942
Instructor in 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, 1928Lecturer 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, 1942Acting 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, 1940Instructor in Nursing Education R.N., 1931, Seattle General Hospital; B.S. in Nursing, 1939, Washington
Helmlingé, Charles Louis, 1911 (1940)Professor 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
Henderson, Lucile T., 1943Supervisor in Social Work B.A., 1926, Washington
Hennes, Robert G., 1934 (1941)Associate Professor of Civil Engineering B.S., 1927, Notre Dame; M.S.(C.E.), 1928, Massachusetts Institute of Technology
*†Henry, Bernard S., 1931 (1941) Professor of Bacteriology; Executive Officer of the Department of Bacteriology B.S., 1925, M.A., 1926, Ph.D., 1931, California
Henry, Dora Priaulx, 1932Research Associate in Oceanography and Zoology Ph.D., 1931, California
Hensley, Merdeces H., 1939Acting Associate in Art B.F.A., 1930, M.F.A., 1938, Washington

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[†] Member of Graduate School faculty. * Leave of absence.

Hermans, Thomas G., 1929 (1940)Assistant Professor of Psychology B.S., 1923, M.A., 1927, Washington
Herrman, Arthur Philip, 1923 (1937) Professor of Architecture; Executive Officer of the School of Architecture B.A. (Arch.), 1920, Carnegie Institute of Technology
Higgs, Paul McClellan, 1926 (1939)Assistant Professor of Physics B.S., 1919, Washington
Hill, Raymond L., 1927 (1934)Associate Professor of Painting Rhode Island School of Design, 1913
Hill, William Ryland, Jr., 1941Assistant Professor of Electrical Engineering B.S. in E.E., 1934, Washington; M.S. in E.E., 1938, E.E., 1941, California
Hillis, Norman Douglas, 1941Associate in General Engineering B.S., 1934, Washington
Hilsenberg, Ernest B., Second Lieut., Infantry, 1942 Instructor in Military Science and Tactics B.S., 1934, Washington
Hiltner, Walter Frederick, 1939 (1940)Instructor in General Engineering B.S. in C.E., 1934, Washington; M.S. in C.E., 1935, Massachusetts Institute of Technology
 †Hitchcock, C. Leo, 1937 (1941) Associate Professor of Botany; Executive Officer of the Department of Botany A.B., 1927, A.M., 1929, Pomona; Ph.D., 1931, Washington University (St. Louis)
Hoard, George Lisle, 1920 (1941)Professor of Electrical Engineering B.S. in E.E., 1917, M.S. in E.E., 1926, Washington
Hoffman, Katherine Janet, 1942Instructor in Nursing Education B.A., 1929, College of Puget Sound; R.N., 1934, Tacoma General School of Nursing
†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., 1931Lecturer in Fisheries B.A., 1922, M.A., 1931, Stanford
*†Holt, William Stull, 1940 Professor of American History; Executive Officer of the Department of History A.B., 1920, Cornell; Ph.D., 1926, Johns Hopkins
Horsfall, Frank, 1935Associate in Music
* † Horton, George P., 1934 (1939)Assistant Professor of Psychology B.S., 1926, M.A., 1930, Ph.D., 1932, Princeton
†Hotson, John William, 1911 (1936)Professor of Botany A.B., 1901, A.M., 1902, McMaster; Ph.D., 1913, Harvard
*†Huber, John Richard, 1939 (1942)Associate Professor of Economics B.A., 1931, Wooster; M.A., 1933, Ph.D., 1937, Princeton
\$ Hudson, Alfred Emmons, 1940Associate in Anthropology Ph.B., 1927, Ph.D., 1937, Yale
† Member of Graduate School faculty. * Leave of absence.

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§ War leave.

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- †Hughes, Glenn, 1919 (1930)
 - Professor of English; Director of the School of Drama B.A., 1916, Stanford; M.A., 1921, Washington

†Hutchinson, Mary Gross, 1919 (1936)..Professor of Physical Education; Executive Officer, Department of Physical Education for Women A.B., 1912, Goucher College; M.A., 1915, Columbia

- Hynes, Kyran Emmett, M.D., 1942.....Lecturer in Nursing Education B.S., 1933, Creighton; B.M., 1935, M.D., 1935, Louisiana Medical Center
- Ingalls, Ida, 1936 (1941).....Associate Professor of Home Economics B.A., 1920, Iowa; M.A., 1924, Columbia
- Irvine, Demar B., 1937 (1938).....Assistant Professor of Music B.A., 1929, M.A., 1931, California; Ph.D., 1937, Harvard

†Isaacs, Walter F., 1922 (1929) Professor of Fine Arts; Director of the School of Art B.S.(F.A.), 1909, James Millikin

- +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
- Jensen, Alfred, 1930 (1939).....Assistant Professor of General Engineering B.S. in C.E., 1925, M.S. in C.E., 1937, Washington
- Jensen, Merrill Monroe, 1935 (1942).....Associate Professor of History B.A., 1929, M.A., 1931, Washington; Ph.D., 1934, Wisconsin
- †Jerbert, Arthur Rudolph, 1921 (1937).....Associate Professor of Mathematics B.S., 1916, M.S., 1923, Ph.D., 1928, Washington
- †Jessup, John H., 1926 (1927).....Associate Professor of Educational Sociology A.B., 1920, Earlham College; M.A., 1924, Iowa
- Johnson, B. Pauline, 1941.....Assistant Professor of Art B.A., 1929, Washington; M.A., 1936, Columbia
- †Johnson, Charles Willis, 1903 (1904).....Professor of Pharmaceutical Chemistry; State Chemist; Dean Emeritus of the College of Pharmacy Ph.C., 1896, B.S., 1900, Ph.D., 1903, Michigan

War Leave.

Human, Donald Wesley, Second Lieut., S.C., 1942

Instructor in Military Science and Tactics B.E.E., 1942, Corneli

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 (1942)

B.S.F., 1927, Washington Assistant Professor of Military Science and Tactics

[†] Member of Graduate School faculty.

Kahin, Helen, 1930 (1936)Instructor in English B.A., 1909, Wilson College; M.A., 1911, Indiana; Ph.D., 1934, Washington
Kask, John L., 1935Lecturer in Fisheries B.A., 1928, British Columbia; Ph.D., 1936, Washington
*†Katz, Solomon, 1936 (1939)Assistant Professor of History A.B., 1930, Ph.D., 1933, Cornell
Keith, Wendell Paisley, 1939Instructor in Ceramic Engineering B.S. in Ceramics, 1934, Illinois
Kelez, George Bothwell, 1934Lecturer in Fisheries B.S., 1930, Washington; M.A., 1932, Stanford
†Kelly, Edgar Andrew, 1937Assistant Professor of Pharmaceutical Chemistry Ph.C., 1928, B.S., 1929, M.S., 1930, Ph.D., 1933, Washington
Kennedy, Fred Washington, 1909 (1938) Associate Professor of Journalism; Director of Journalism Laboratories
*Kenworthy, Ray W., 1929 (1939)Assistant Professor of Physics B.A., 1924, M.S., 1925, Iowa; Ph.D., 1938, Washington
*†Kerr, Clark, 1940Assistant Professor of Labor A.B., 1932, Swarthmore; A.M., 1933, Stanford; Ph.D., 1939, California
Kiang, Yi-seng, 1943Lecturer in Far Eastern Studies Grad., 1928, Comparative Law School of China; Doctor of Foreign Service, 1937, Southern California
Kidwell, Kathro, 1939Instructor in 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; Executive Officer of the Department of Zoology and Physiology
B.S., 1899, M.A., 1901, Washington; D.Sc., College of Puget Sound
Kingston, J. Maurice, 1940Associate in Mathematics B.A., 1935, Western Ontario; M.A., 1936, Ph.D., 1939, Toronto
*Kinscella, Hazel Gertrude, 1942Lecturer in Music B.M., 1916, B.F.A., 1928, B.A., 1931, Nebraska; M.A., 1934, Columbia; Ph.D., 1941, Washington
Kintner, Nancy Jane, 1942Instructor in Nursing Education B.S., 1940, Washington
Kirchner, George, 1919 (1939)Assistant Professor of Music Leipzig
Kirkland, Eric Brooks, 1942Associate in Physical Education B.S., 1937, Washington
†Kirsten, Frederick Kurt, 1915 (1923)Professor of Aeronautical Engineering B.S. in E.E., 1909, E.E., 1914, Washington
Kniseley, Wade A., 1942Associate in Speech B.A., 1936, Washington
Koenig, William A., Jr., Second Lieut., S.C., 1942 Instructor in Military Science and Tactics
Dioi, III E.E., 1996, DICKEI IIISIIIUIC Kathan Filian Lucila 1042
B.A., 1938, M.A., 1942, Washington

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[†] Member of Graduate School faculty. * Leave of absence.

Kuhn, Bertha M., 1940.....Associate in English B.A., 1916, M.A., 1917, North Dakota; Ph.D., 1940, Washington *Kunde, Norman Frederich, 1930 (1937). Assistant Professor of Physical Education B.S., 1928, M.A., 1932, 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) *Leahy, Kathleen M., 1927.....Assistant Professor of Nursing Education; Director of Public Health Nursing Field Work R.N., Stanford Hospital; A.B., 1926, Oregon; M.S., 1932, Washington †Levy, Ernst, 1937......Professor of History, Law and Political Science D.J.U., 1906, Berlin 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 *†Lockling, William Bruce, 1939.....Assistant Professor of Economics A.B., 1927, A.M., 1929, California; Ph.D., 1933, Illinois †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 Lorig, Arthur N., 1934 (1941) Associate Professor of Accounting B.A., 1922, Wisconsin; C.P.A., 1927; M.A., 1932, Stanford; Ph.D., 1936, Chicago *†Loucks, Roger B., 1936 (1939).....Assistant Professor of Psychology B.S., 1927, Ph.D., 1930, Minnesota *†Loughridge, Donald H., 1931 (1942).....Professor of Physics B.S., 1923, Ph.D., 1927, California Institute of Technology [†]Lucas, Henry Stephen, 1921 (1934).....Professor of History A.B., 1913, Olivet; A.M., 1915, Indiana; Ph.D., 1921, Michigan SLutey, William Glen, 1934 (1940).....Instructor in Liberal Arts B.A., 1930, M.A., 1931, Washington [†]Lynch, James E., 1931..... 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 * On leave. † Member of Graduate School faculty. War leave.
McCarthy, Joseph L., 1941 (1942)Instructor in Chemical Engineering B.S. in Chem.E., 1934, Washington; M.S., 1936, Idaho; Ph.D., 1938, McGill
McConahey, James M., 1921Lecturer in Accounting B.S., 1896, M.S., 1899, Washington and Jefferson; LL.B., 1899, Northwestern; C.P.A., 1910
McCoy, Keith L., Second Lieut., Infantry, 1942 Instructor in Military Science and Tactics
§McDuffee, Alice Ella, 1941Instructor in Nursing Education R.N., 1931, Good Samaritan Hospital, Portland, Oregon; B.S. in Nursing, 1940, Washington
†McFarlan, Lee Horace, 1927 (1934)Associate Professor of Mathematics B.S., 1917, Kansas State Teachers' College; A.M., 1921, Ph.D., 1924, Missouri
McGownd, Jane, 1924 (1928)Assistant Professor of Physical Education B.S., 1917, M.A., 1923, Columbia
McIntyre, Harry John, 1919 (1930)
Associate Professor of Mechanical Engineering B.S. in M.E., 1915, M.B.A., 1923, Washington
†McKay, George F., 1927 (1934)Associate Professor of Music B.Mus., 1923, Rochester
†McKenzie, Vernon, 1928
Professor of Journalism; Director of the School of Journalism B.A., 1909, Toronto; M.A., 1914, Harvard
McKinlay, Florence, 1937Associate in English B.A., 1908, Lombard College; M.A., 1931, Washington
McLean, Dougald Donald, 1942Associate in Anatomy B.S., 1942, 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, 1911 (1929) Professor Emeritus of Economics and Labo
B.A., 1899, M.A., 1901, Washington; Ph.D., 1909, Wisconsin
McMinn, Bryan Towne, 1920 (1939)Professor of Mechanical Engineering B.S. in M.E., 1918, Oregon State; M.S. in M.E., 1926, M.E., 1931, Washington
Mackenzie, Donald H., 1929 (1940)
Associate Professor of Management and Accounting B.B.A., M.B.A., 1925, Washington; C.P.A.
†Mackin, J. Hoover, 1934 (1940)Associate Professor of Geolog B.S., 1930, New York; M.A., 1932, Ph.D., 1937, Columbia
MacLean, Dorothy, 1936 (1939)Instructor in Physical Education B.S., 1933, Oregon; M.S., 1938, Washington
Magnusson, Harrison Willard, 1942Lecturer in Fisherie M.A., 1939, Wyoming
§Maki, John McGilvrey, 1939Associate in Oriental Studie B.A., 1932, M.A., 1936, Washington
†Mander, Linden A., 1928 (1937)Professor of Political Science M.A., 1921, Adelaide (Australia)
† Member of Graduate School faculty.

§ War leave.

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- †Mansfield, Robert S., 1932 (1937).....Assistant Professor of Journalism B.A., 1926, M.A., 1931, Michigan
- [†]Marckworth, Gordon Dotter, 1939......Professor of Forest Management B.S.F., 1916, Ohio; M.F., 1917, Yale
- Mark, Sara N., 1937.....Associate in English B.A., B.S., 1911, M.A., 1929, Washington
- †Martin, Arthur W., 1937 (1938).....Assistant 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

†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

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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

Mathany, Howard V., Lieutenant, D-V(S), U.S.N.R., 1942 Assistant Professor of Naval Science and Tactics B.A., 1928. M.A., 1937, Washington State College

May, Charles Culbertson, 1912 (1929)... Professor of Civil Engineering and Architecture; Superintendent of Buildings and Grounds B.S. in C.E., 1910, Washington

†Meyer, Herman Carl H., 1934 (1942)

Associate Professor of Germanic Languages B.A., 1924, Capital University (Ohio); Ph.D., 1936, Chicago

- Michael, Francis Henry, 1942.....Assistant Professor of Far Eastern History; Acting Executive Officer of the Far Eastern Department D.J.U., 1933, Freiburg
- Middleton, Albert Ernest, Captain, Q.M.C., 1942

Instructor in Military Science and Tactics B.S., 1935, State Teachers College, Murfreesboro, Tennessee

- *Mikesell, Raymond, 1937 (1941)...Assistant Professor of Economics and Business B.A., M.A., 1935, Ph.D., 1939, Ohio State
- +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
- §Miller, Mary Annice, 1941..... Instructor in Nursing Education B.S. in Nursing, 1939, Washington

Mills, Caswell Albert, 1942.....Associate in Physical Education B.A., 1935, Minot Teachers College

Meisnest, Frederick William, 1906.....Professor of Germanic Literature B.S., 1893, Ph.D., 1904, Wisconsin

[†] Member of Graduate School faculty. * Leave of absence. § War Leave.

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Moore, Esther M., 1942Lecturer in Social Work B.A., 1933, M.A., 1936, Ohio
†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
§Moser, Louise, 1940Instructor in Nursing Education A.B., 1930, Wittenberg College; R.N., Massachusetts General Hospital
Mossey, Robert Georges Jean, 1942 Special Research Professor in Economics and Business Lic. en droit, 1926, J.D., 1929, Lyons, France
Moulton, Ralph Wells, 1941Assistant Professor of Chemical Engineering B.S. in Chem.E., 1932, M.S. in Chem.E., 1934, Ph.D., 1938, Washington
Mullemeister, Hermance, 1918 (1928)Assistant Professor of Mathematics Ph.D., 1913, Royal University of Utrecht (Holland)
†Mund, Vernon A., 1932 (1937)Professor of Economics B.B.A., 1928, M.B.A., 1929, Washington; Ph.D., 1932, Princeton
†Munro, Kathleen, 1929 (1936)Associate Professor of Music B.M., 1924, Washington; M.A., 1929, Columbia; Ph.D., 1937, Washington
Myers, Oscar Levi, Major, Infantry, 1942 (1942) Assistant Professor of Military Science and Tactics B.S. in B.A., 1927, Missouri; M.A., 1934, Stanford
†Nelson, Everett J., 1930 (1941)Professor of Philosophy B.A., 1923, M.A., 1925, Washington; M.A., 1928, Ph.D., 1929, Harvard
Newhouse, Dean Scholfield, 1934Dean of Men B.A., 1930, Washington
Newsom, Bryan, M.D., 1935Lecturer in Nursing Education M.D., 1930, Northwestern; C.P.H., 1934, Johns Hopkins
Nicholson, Donald A., M.D., 1935Lecturer in Nursing Education M.D., 1897, Minnesota
Nix, Martha J., 1928 (1941)Instructor in English B.A., 1922, M.A., 1925, Washington
Norie, Esther Mary, 1942Instructor in Nursing Education B.S., 1926, Washington; R.N., 1942, French Hospital, San Francisco
Norlin, Agnes, 1934Associate in English B.A., 1927, Colorado; M.A., 1931, Washington
Normann, Theodore F., 1940Associate Professor of Music B.A., 1925, Macalester College; M.A., 1928, Columbia
SNorris, Albert R., 1940 (1941)Instructor in Anatomy B.S., 1939, Washington
Norris, Anna Church, 1938Research 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
† Member of Graduate School faculty. § On war leave.

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Northrup, Mary W., 1931Instructor in Nursing Education A.B., 1920, Vassar; M.S., 1923, Columbia
Nostrand, Howard Lee, 1939Professor of Romanic Languages; Executive Officer of the Department of Romanic Languages B.A., 1932, Amherst; A.M., 1933, Harvard; Dr. of Univ. of Paris, 1934
†Nottelmann, Rudolph H., 1927Professor of Law A.B., 1912, Monmouth; M.A., 1913, Illinois; LL.B., 1922, Yale
Nygren, Glen T., 1942Assistant Dean of Men B.S., Chem., 1939, Washington
Oberdorfer, Conrad Walter, 1941Assistant Professor of Law J.U.D., 1933, Munich; LL.B., 1939, Northeastern; LL.M., 1940, Harvard
*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
Odde, Solveig Karen, 1942Instructor in Nursing Education B.S. in Nursing, 1938, Washington
Olcott, Virginia, 1931 (1939)Assistant Professor of Nursing Education R.N., Peter Bent Brigham Hospital; B.S., 1927, M.S., 1931, Washington
Olschewsky, Henry, 1931 (1939)Assistant Professor of Architecture B.Arch., 1931, Washington
†Ordal, Erling J., 1937 (1938)Assistant 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., 1936Professor of Remedial and Experimental Education A.B., 1903, Central College; A.M., 1904, Vanderbilt; B.S.(Educ.), 1908, Missouri; Ph.D., 1921, Columbia
Oseran, Melville, 1942Associate in Business Law B.A., 1939, LL.B., 1942, Washington
Oustad, Carl B., Captain C.A.C., 1942Instructor in Military Science and Tactics B.S. in C.E., 1924, Minnesota
Palmer, Beatrice Rice, 1942 Field Work Supervisor, Graduate School of Social Work B.S., 1921, Oregon State College
Pask, Joseph Adam, 1941Acting Assistant Professor of Ceramic Engineering B.S. in Ceramic Engr., 1934, M.S. in Ceramic Engr., 1935, Washington
†Patterson, Ambrose, 1919 (1939)Professor of Painting Melbourne National Gallery, Victoria, Australia; Julien, Colorossi and Delocluse Acad- emies, Europe
Pauly, Jean, 1935Associate in Music
† Member of Graduate School faculty. * Leave of absence.

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Pautzke, Clarence, 1937Lecturer in Fisheries B.S., 1932, Washington
†Payne, Blanche, 1927 (1942)Professor of Home Economics B.S., 1916, Kansas State Teachers College; M.A., 1924, Columbia
Peacock, Alexander H., M.D., 1935Lecturer in Nursing Education M.D., 1903, Pennsylvania
*†Pearce, John Kenneth, 1921 (1934)Associate Professor of Forestry B.S.F., 1921, Washington
*Peek, Clifford, 1938Assistant Professor of Physical Education B.S., 1929, Washington; M.A., 1931, Columbia
Pellegrini, Angelo, 1930 (1940)Instructor in Speech B.A., 1927, Ph.D., 1942, Washington
§Pence, Orville Leon, 1941Associate in Speech B.A., 1935, M.A., 1939, Washington
Penington, Ruth, 1928 (1937)Assistant Professor of Design B.F.A., 1927, M.F.A., 1929, Washington
Perks, Lilian Charlotte, 1942Associate in Mathematics M.A., B.S., 1906, University of St. Andrews, Edinburgh, Scotland
Person, Henry, 1937 (1941)Instructor in English B.A., 1927, Washington
Peterson, Lorin W., 1941Associate in Journalism B.A., 1938, Washington
*†Phifer, Lyman D., 1928 (1939)Associate Professor of Oceanography; Assistant Director of Oceanographic Laboratories
B.S., 1928, M.S., 1929, Ph.D., 1932, Washington
†Phillips, Herbert Joseph, 1920 (1934)Assistant Professor of Philosophy B.A., 1920, Ph.D., 1933, Washington
Phillips, Ronald, 1935Associate in Music
Pierson, William H., 1937 (1938)Instructor in Geography B.A., 1925, Texas; M.S., 1934, Washington
Plein, Elmer M., 1938Instructor in Pharmacy Ph.C., B.S., 1929, M.S., 1931, Ph.D., 1936, Colorado
Posell, Edward A., M.D., 1938Lecturer in Nursing Education B.S., 1923, City of New York; M.D., 1927, Boston
†Powell, Sargent, 1919 (1934)Associate 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
Powers, Leland Earle, M.D., 1941Lecturer in Nursing Education M.D., 1933, Iowa; M.S. in Public Health, 1938, Michigan

† Member of Graduate School faculty. * Leave of absence. \$ War leave.

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*Pratt, Dudley, 1925 (1941)Associate Professor of Sculpture B.A., 1919, Yale
†Preston, Howard Hall, 1920 (1922)Professor of Money and Banking; Dean of the College of Economics and Business
B.S., 1911, Coe College (Iowa); M.A., 1914, Ph.D., 1920, Iowa; LL.D., 1938, Coe College
Pries, Lionel Henry, 1928 (1938)Associate Professor of Architecture A.B., 1920, California; M.Arch., 1921, Pennsylvania
Pritchard, Clyde Summerfield, 1941Instructor in 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
†Rader, Melvin Miller, 1930Assistant Professor of Philosophy B.A., 1925, M.A., 1927, Ph.D., 1929, Washington
Radford, Ethel Sanderson, 1919Associate in Chemistry B.A., 1895, McGill
†Rahskopf, Horace G., 1928 (1936)Associate Professor of Speech B.A., 1920, Willamette; M.A., 1927, Ph.D., 1935, Iowa
†Raitt, Effie Isabel, 1912 (1914) Professor of Home Economics; Director of the School of Home Economics B.S., 1912, M.A., 1919, Columbia
Ramsey, Walter P., Lieutenant-Commander, U.S.N., 1940 Associate Professor of Naval Science and Tactics B.S., 1921, U. S. Naval Academy
*Rankin, John Stewart, Jr., 1941Assistant Professor of Zoology B.A., 1933, M.A., 1934, Wesleyan; Ph.D., 1936, Duke
†Ray, Verne F., 1933 (1940)Assistant Professor of Anthropology B.A., 1931, M.A., 1933, Washington; Ph.D., 1937, Yale
†Read, William Merritt, 1927 (1936)Associate Professor of Classical Languages A.B., 1923, A.M., 1924, DePauw; Ph.D., 1926, Michigan
Reeves, George Spencer, 1935 (1939)Assistant Professor of Physical Education B.S., 1933, M.S., 1938, Oregon
*Rhodes, Fred H., Jr., 1927 (1936)Assistant Professor of Civil Engineering B.S.(C.E. and M.E.), 1926, C.E., 1935, Washington
Rice, Warren, 1942Lecturer in Art
*Richards, John W., 1931 (1937)Professor of Law B.A., 1923, Wisconsin; LL.B., 1926, LL.M., 1930, S.J.D., 1931, Harvard
Richards, Willard K., Lieutenant Colonel, C.A.C., 1940 Associate Professor of Military Science and Tactics B.S. 1910, U.S. Military Academy: Coast Artillery School 1916 1928; Command and
General Staff School, 1929 t Member of Graduate School faculty.

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* Leave of absence.

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tRigg 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
†Roberts, Milnor, 1901 Professor of Mining and Metallurgy; Dean of the College of Mines
D.A., 1899, Stantoru
†Robinson, Rex J., 1929 (1937)Associate Professor of Chemistry B.A., 1925, DePauw; M.A., 1927, Ph.D., 1929, Wisconsin
Roman, Herschel, 1942Instructor in Botany A.B., 1936, Ph.D., 1942, Missouri
Rosen, Moritz, 1909 (1928)Professor of Music Graduate, Warsaw Conservatory, Russia
**Rowlands, Thomas McKie, 1928 (1934)
Assistant Professor of General Engineering B.S. (Nav. Arch. and Marine Engr.), 1926, Massachusetts Institute of Technology
†Rowntree, Jennie Irene, 1925 (1932)Professor of Home Economics B.S., 1918, Wisconsin; M.S., 1924, Chicago; Ph.D., 1929, Iowa
Royal, Loyd Allen, 1941Lecturer in Fisheries B.S., 1931, Washington
Ruch, Helen Josephine, 1942Instructor in Nursing Education R.N., 1931, Michael Reese Nursing School; B.S., 1940, Bradley Polytechnic Institute
Rulifson, Leone Helmich, 1926 (1937)Assistant Professor of Physical Education B.S., 1922, M.A., 1935, Washington
Rutherford, Frederick Warner, M.D., 1942Lecturer in Nursing Education A.B., 1930, Illinois; M.D., 1935, Harvard Medical School
Ryan, Milo, 1942Acting Assistant Professor of Journalism B.A., 1928, M.A., 1934, Michigan
St. Clair, Laura P., 1937Associate in English A.B., 1915, West Lafayette; M.A., 1917, Adrian College, Michigan
Samson, Victor J., 1937Lecturer in Fisheries B.S., 1930, Washington
Sandberg, Roy H., 1942Associate in Physical Education B.A., 1923, Washington State
Sanderman, Llewellyn Arthur, 1928 (1936)Instructor in Physics B.S., 1923, Linfield; M.S., 1931, Washington
Sandin, Wanda N., 1943Acting Instructor in Home Economics B.S., 1938, Iowa State College
Sargent, Leonard Rundlett, Jr., Lieutenant D-V(S), U.S.N., 1942 Assistant Professor of Naval Science and Tactics
A.B., 1957, Franceion
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

^{*} Member of Graduate School faculty. * Partial leave of absence.

Schaefer, Milner B., 1937 Lecturer in Fisheries B.S., 1935, Washington
**Schaller, Gilbert Simon, 1922 (1937)Professor of Mechanical Engineering B.S., 1916, Illinois; M.B.A., 1925, Washington
Scheffer, Victor B., 1938
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
Schrader, O. H., Jr., 1936 (1941)Assistant Professor of Forestry B.S.F., 1931, Washington; M.S., 1932, Wisconsin
Schram, Lloyd W., 1940Acting Executive Secretary and Research Associate of the Bureau of Governmental Research B.A., 1934, LL.B., 1937, Washington; LL.M., 1938, Harvard
*†Schultheis, Frederic D., 1938 (1942) Associate Professor of Chinese Language and History B.A., 1929, Washington; M.A., 1931, Columbia
Sergev, Sergius, 1923 (1939)Associate Professor of Civil Engineering B.S. in M.E., 1923, M.E., 1931, Washington
Shattuck, Evelyn Rennie, 1941Instructor in Nursing Education R.N., 1936, Good Samaritan Hospital, Oregon; B.S., 1940, Washington
*Shattuck, Warren L., 1935 (1941)Professor of Law B.A., LL.B., 1934, Washington; J.S.D., 1936, Yale
Seels, Frances Margaret, 1943Instructor in Nursing Education B.S., 1942, Washington
Shefelman, S. Harold, 1930Lecturer in Law Ph.B., 1920, Brown; LL.B., 1925, Yale
Sheldon, Charles S., II, 1940B.A., 1936, M.A., 1938, Washington; A.M., 1939, Harvard
Sherman, John Clinton, 1942Associate in Geography A.B., 1937, Michigan; M.A., 1942, Clark
*Sholley, John Burrill, 1932 (1939)Professor of Law LL.B., 1932, Washington; J.S.D., 1937, Chicago
Short, Kenneth Powell, 1942Associate in Business Law B.A., 1939, LL.B., 1942, Washington
Shuck, Gordon Russell, 1918 (1937)Professor of Electrical Engineering E.E., 1906, Minnesota
Simpson, Lurline Violet, 1924 (1934)Assistant Professor of French B.A. 1920, M.A. 1923, Ph.D. 1928, Washington

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† Member of Graduate School faculty.
* Partial leave of absence.
* Leave of absence.

- †Sivertz, Victorian, 1926 (1936).....Assistant Professor of Chemistry B.S., 1922, Washington; M.S., 1924, West Virginia; Ph.D., 1926, McGill
- tSkinner, Macy Millmore, 1916 (1928).....Professor of Foreign Trade A.B., A.M., Ph.D., 1897, Harvard
- Slough, Ione O., 1941......Instructor in Nursing Education Grad., 1918, University of Michigan School of Nursing; B.S., 1934, Michigan State Normal College
- 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, Harriet H., 1931.....Assistant Professor of Nursing Education; Director of Nursing Service, King County Hospital R.N., Seattle General Hospital; B.A., 1918, Mount Holyoke
- Smith, Harry Edwin, 1914 (1929) Professor of Insurance; Director of Extension Service A.B., 1906, DePauw; Ph.D., 1912, Cornell
- Smith, Louis E., Jr., 1943.....Associate in Physics A.B., 1938, San Diego State College
- Smith, Richard T., 1940..... Ersteries 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
- Snyder, William Arthur, 1940.....Associate in Mechanical Engineering B.S. in M.E., 1939, Minnesota
- Soderstrom, Kenneth Malcolm, M.D., 1941.....Lecturer in Nursing Education M.D., 1931, Nebraska
- Somers, Raymond H., M.D., 1935.....Lecturer in Nursing Education B.S., 1921, M.D., 1921, Northwestern
- †Soule, Elizabeth, 1920 (1934)
 - Professor of Nursing Education; Director of the School of Nursing Education R.N., Malden Hospital, Massachusetts; B.A., 1926, M.A., 1930, Washington
- Spector, Ivar, 1931 (1942)

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- 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
- *†Spellacy, Edmund F., 1935 (1936) Associate Professor of Political Science A.B., 1927, A.M., 1931, Stanford; Ph.D., 1935, Harvard

[†] Member of Graduate School faculty.
* Leave of absence.

Sperlin, Ottis Bedney, 1921 (1923)Lecturer in English A.B., 1903, Indiana; Ph.M., 1908, Chicago
Starr, Mary Elizabeth, 1935 (1941)Assistant Professor of Home Economics B.S., 1929, M.A., 1935, Washington
†Steiner, Jesse Frederick, 1931Professor 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
Steiner, Robert A., 1942Lecturer in Marketing B.B.A., 1933, M.B.A., 1936, Washington
Stephens, Thomas Edward, 1943Lecturer in Geography B.A., 1935, Washington
Stevens, Belle, 1932Research Associate in Oceanography and Zoology Ph.D., 1931, Washington
Stevens, Edwin B., 1910 (1936)Professor of Higher Education and Guidance A.B., 1896, Tufts College; A.M.(Educ.), 1899, Harvard
Stevens, Leonard W., 1937Associate in Physical Education B.S., 1933, Washington
Stevenson, Margaret Whyte, 1941Associate in Speech B.A., 1929, Boston; M.A., 1935, Washington
Stirling, Brents, 1932 (1937)Assistant Professor of English LL.B., 1926, Ph.D., 1934, Washington
†Stone, Edward Noble, 1910 (1940)Professor of Classical Languages A.B., 1891, M.A., 1893, Olivet
Storvick, Clara A., 1941Assistant Professor of Home Economics A.B., 1929, St. Olaf College; M.S., 1933, Iowa State College
Stubbs, Lucile, 1940Associate in English B.A., 1922, Colorado
Stuntz, Daniel Elliot, 1940Instructor in Botany B.S., 1935, Washington; Ph.D., 1940, Yale
Sullivan, C. L., 1935Instructor in Mechanical Engineering
Suomela, Arnie J., 1935 Ecturer in Fisheries B.S., 1924, M.S., 1931, Washington
Sutermeister, Robert Arnold, 1940Associate in Economics and Business A.B., 1934, Harvard
Svelander, Katherine Theodora, 1941Instructor in Nursing Education R.N., 1928, Swedish Hospital; B.S., 1928, Washington
†Svihla, Arthur, 1938Associate Professor of Zoology A.B., 1925, Illinois; Ph.D., 1931, Michigan

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† Member of Graduate School faculty. § On war leave.

Svihla, Ruth Dowell, 1940Research Associate in Zoology and Botany A.B., 1920, Smith; M.S., 1923, Illinois; Ph.D., 1930, Michigan
 †Tartar, Herman Vance, 1917 (1927)Professor of Chemistry B.S., 1902, Oregon State; Ph.D., 1920, Chicago
*Tatsumi, Henry S., 1935 (1939)Assistant Professor of Japanese B.A., 1933, M.A., 1935, Washington
*†Taub, Abraham H., 1936 (1939)Assistant Professor of Mathematics B.S., 1931, Chicago; Ph.D., 1935, Princeton
*†Taylor, Edward Ayres, 1929Professor of English B.A., 1909, Denver; M.A., 1918, Ph.D., 1925, Chicago
[†] Taylor, George Edward, 1939 (1941)Professor of Far Eastern History; Executive Officer of the Far Eastern Department A. B., 1927, A.M., 1928, Birmingham, England
Taylor, Robert Lincoln, 1941
†Terrell, Margaret Elma, 1928 (1936)Assistant Professor of Home Economics; Director of Commons; Business Director of Dining Halls B.A., 1923, Penn College; M.A., 1927, Chicago
Thomas, Harlan, 1926 Professor of Architecture; Director Emeritus of the School of Architecture B.S., 1894, Colorado State College
Thompson, Carlisle H., Lieutenant Commander, U.S.N., 1940 Assistant Professor of Naval Science and Tactics B.S., 1922, U. S. Naval Academy
*†Thompson, Thomas Gordon, 1919 (1929) Professor of Chemistry; Director of Oceanographic Laboratories A.B., 1914, Clark; M.S., 1915, Ph.D., 1918, Washington
†Thompson, William F., 1930 Professor of Fisheries; Director of the School of Fisheries B.A., 1911, Ph.D., 1931, Stanford
†Thomson, David, 1902Professor of Latin; Vice Dean of College of Arts and Sciences; Vice President Emeritus
Thorgrimson, O. B., 1937Lecturer in Law LL.B., 1901, Nebraska
Thwing, William Harold, 1942Instructor in General Engineering B.S., 1941, Washington
*Tilden, Dorothy May, 1936 (1937) Assistant Professor of Home Economics A.B., 1922, California; M.A., 1934, Cornell
*Torney, John A., Jr., 1930 (1937)Assistant Professor of Physical Education B.S., 1928, Washington; M.A., 1930, Columbia
Totten, Helen Ruth, 1942Acting Assistant Professor of Social Work B.A., 1926, Wisconsin; M. Soc. Sci., 1928, Smith College School of Social Work

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[†] Member of Graduate School faculty. * Leave of absence.

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Truax, Arthur, 1924Lecturer in Finance						
Tschudin, Mary Stickels, 1942. Acting Assistant Professor of Nursing Education B.S. in Nursing, 1935, M.S., 1939, Washington						
Tuell, Joseph Irving, M.D., 1942Lecturer in Nursing Education B.S., M.D., 1932, Oregon						
Turner, Mabel Alexandra, 1941Instructor in Librarianship A.B., 1926, Oregon; B.S. in L.S., 1931, Columbia						
Tustin, Whitney, 1935Associate in Music						
Tweddell, Colin Ellidge, 1943Acting Associate in Far Eastern Studies						
Twelker, Neil Henry, 1942Instructor in General Engineering B.S. in C.E., 1942, Washington						
†Tyler, Richard G., 1929Professor 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						
*†Uehling, Edwin A., 1936Assistant Professor of Physics A.B., 1925, Wisconsin; M.A., 1930, Ph.D., 1932, Michigan						
Ulbrickson, Alvin M., 1927Associate in Physical Education B.B.A., 1927, Washington						
†Umphrey, George Wallace, 1911 (1922)Professor of Romanic Languages A.B., 1899, Toronto; A.M., 1901, Ph.D., 1905, Harvard; Litt.D., 1920, San Marios (Lima)						
 [†]Utterback, Clinton Louis, 1918 (1934) Professor of Physics; Acting Director of Oceanographic Laboratories B.S., 1908, Purdue; M.S., 1918, Washington; Ph.D., 1926, Wisconsin 						
†Vail, Curtis C. D., 1939Professor of Germanic Languages and Literature; Execu- tive Officer of the Department of Germanic Languages and Literature A.B., 1924, Hamilton; M.A., 1929, Ph.D., 1936, Columbia						
†Van Horn, Robert B., 1925 (1938) Professor of Hydraulic Engineering; Executive						
Officer of the Department of Civil Engineering B.S. in C.E., 1916, C.E., 1926, Washington						
Van Norman, Karl H., M.D., 1932 Director of Medical Instruction, King County Hospital						
M.D., 1904, Toronto						
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						
Vickner, Bertha Almen, 1920Associate in English B.A., 1910, Gustavus Adolphus; M.A., 1917, Washington						
Vickner, Edwin John, 1912Professor of Scandinavian Languages; Executive Officer of the Department of Scandinavian Languages						
A.B., 1901, A.M., 1902, Ph.D., 1905, Minnesota						
A D. 1920. Colifernia Infantry, 1941 Instructor in Military Science and Tactics						
R.D., 1707, California						
von Brevern, Maxim, 1934 (1942). Associate Professor of Political Science; Execu- tive Secretary of the Bureau of International Relations Graduate, Imperial and Royal Maria Theresian Military Academy, Wienerneustadt, Austria						
1907; Ph.D., 1935, Washington						
t Member of Graduate School faculty.						

Wade, Arthur E., M.D., 1928Lecturer in Home Economics B.S., Cornell College; M.D., 1905, Sioux City College of Medicine
Wagenknecht, Edward Charles, 1925 (1940)Associate Professor of English B.T., 1921, Union Theological College; Ph.B., 1923, M.A., 1924, Chicago; Ph.D., 1932, Washington
Wagner, Charlotte Fitton, 1940Associate in Speech B.A., 1937, Washington
Walker, Lauren McNeal, 1941Associate in Accounting B.A., 1939, Washington
Wallace, John Randall, Jr., 1941 (1942)Instructor in General Engineering B.S. in C.E., 1941, Washington
Walters, Margaret C., 1929 (1940)Instructor in English B.A., 1917, Mills; M.A., 1919, Yale
*Wangaard, Frederick, 1936 (1939)Assistant Professor of Forestry B.S., 1933, Minnesota; Ph.D., 1939, New York State College of Forestry
Ward, May Dunn, 1918Acting Dean of Women B.S., 1917, Washington; M.A., 1921, Columbia
Warner, Frank Melville, 1913 (1937)Professor of Engineering Drawing B.S.(M.E.), 1907, Wisconsin
Warren, John Thompson, Commander, U.S.N., 1941
Associate Professor of Naval Science and Tactics B.S., 1924, U. S. Naval Academy
Watson, M. Grace, 1941Instructor in Nursing Education R.N., 1919, Vancouver, B. C.; B.S. in Nursing, 1938, Washington
Watson, Marigale Osborne, 1943Associate in Mathematics B.S., 1936, M.S., 1940, Washington
Watters, Reginald Eyre, 1941Instructor in English B.A., 1935, M.A., 1937, Toronto; Ph.D., 1941, Wisconsin
Watts, Charles E., M.D., 1933Lecturer 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
*†Webster, Donald H., 1939Associate Professor of Political Science; Executive Secretary, Bureau of Governmental Research
B.A., 1929, LL.B., 1931, Ph.D., 1933, Washington
[†] 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
Welander, Arthur D., 1937Associate in Fisheries B.S., 1934, Washington
Welch, Ralph, 1942Associate in Physical Education
Welke, Walter, 1929 (1936)Assistant Professor of Music B.M., 1927, Michigan
t Member of Graduate School faculty.

Leave of absence.

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Wendelburg, George, Lieutenant Commander, U.S.N., 1941 Assistant Professor of Naval Science and Tactics B.S., 1933, U. S. Naval Academy Wenhe, Mary Bixby, 1937.....Associate in Speech B.A., 1931, M.A., 1936, Washington 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 Wheeler, Bayard O., 1941 (1942) Acting Associate Professor of Economics and Business A.B., 1928, California; M.A., 1930, Washington Whittlesey, Walter Bell, 1909 (1929).....Assistant Professor of French B.A., 1907, M.A., 1909, Washington Wienker, Curtis H., Captain, Infantry, 1940 Instructor in Military Science and Tactics B. of Arch., 1939, Washington Wilcox, Elgin Roscoe, 1920 (1936)... Professor of General Engineering; Executive Officer of the Department of General Engineering B.S., 1915, Met.E., 1919, Washington Wilkie, Richard Francis, 1937.....Associate in German B.A., 1934, M.A., 1936, Washington †Williams, Curtis Talmadge, 1920 (1936) Professor of Methods and Philosophy of Education A.B., 1913, Kansas State Normal; A.M., 1914, Ph.D., 1917, Clark Williams, Juanita Dav. 1942 Associate and Associate Director of the Nursery School B.A., 1933, Colorado; M.A., 1938, Teachers College, Columbia University §Willis. Park Weed, Jr., Lieutenant 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.....Lecturer in Far Eastern Studies 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 Wilson, William R., 1919 (1929) Professor of Psychology B.A., 1917, M.S., 1921, Ph.D., 1925, Washington t Member of Graduate School faculty. War leave.

- Winger, Roy Martin, 1918 (1925).....Professor of Mathematics A.B., 1906, Baker; Ph.D., 1912, Johns Hopkins †Winkenwerder, Hugo, 1909 (1912) Professor of Forestry; Dean of the College of Forestry B.S., 1902, Wisconsin; M.F., 1907, Yale †Winslow, Arthur Melvin, 1918 (1927).....Professor of Mechanical Engineering Ph.B., 1903, Brown; B.S., 1906, Massachusetts Institute of Téchnology Winther, Sophus Keith, 1925 (1940).....Professor of English B.A., 1918, M.A., 1919, Oregon; Ph.D., 1926, Washington †Witte, Ernest F., 1939 Professor of Social Work; Director of the Graduate School of Social Work B.Sc. in B.A., 1925, A.M., 1926, Nebraska; Ph.D., 1932, Chicago †Wood, Carl Paige, 1918 (1928) Professor of Music; Director of the School of Music B.A., 1906, M.A., 1907, Harvard \$Wood, Ralph F., Rear Admiral, U.S.N., 1940.....Lecturer in Naval Science. B.S., 1911, United States Naval Academy Woodcock, Edith, 1930 (1933).....Assistant Professor of Music B.M., 1925, Rochester; M.M., 1936, Washington [†]Woolston, Howard B., 1919..... Professor of Sociology A.B., 1898, Yale; S.T.B., 1901, Chicago; M.A., 1902, Harvard; Ph.D., 1909, Columbia †Worcester, John Locke, 1917 (1922) Professor of Anatomy; Executive Officer of the Department of Anatomy M.D., 1900, Birmingham School of Medicine Worden, Ruth, 1926 (1937) Professor of Librarianship; Director of the School of Librarianship B.A., 1911, Wellesley Worman, Eugenie H., 1919.....Associate in Design B.A.(Educ.), 1928, Washington Youngken, Heber Wilkinson, Jr., 1942.....Instructor in Pharmacy A.B., 1935, Bucknell; M.S., 1940, Ph.D., 1942, Minnesota Zeusler, Frederick A., Commander, U.S.C.G., 1937.....Lecturer in Oceanography Graduate, Coast Guard School Zillman, Lawrence J., 1930 (1937).....Assistant 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......Instructor in Mathematics B.S., 1932, California Institute of Technology; M.S., 1934, Chicago; Ph.D., 1936, California *Zumwalt, Eugene V., 1936 (1940).....Assistant Professor of Forestry B.S.F., 1934, California; M.S.F., 1938, Washington *†Zwermann, Carl Henry, 1939.....Assistant Professor of Ceramics B.S., 1929, M.S., 1937, Ph.D., 1939, Illinois
 - † Member of Graduate School faculty. * Leave of absence.
 - § On war leave.

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Alphabetical List of the Faculty

Walker-Ames Professors, Lecturers, and Associates

Crocker, William, 1943 (winter).....Professor of Botany Managing Director, Boyce Thompson Institute of Plant Research

Monroe, Day, 1942-43.....Professor of Home Economics Chief Home Economist, Bureau of Home Economics, Washington, D. C.

THE UNIVERSITY OF WASHINGTON

The University was established at Seattle by the territorial legislature in January, 1861, and classes were opened on November 4 of that year in a building erected on a ten-acre tract which now lies in the heart of Seattle's metropolitan district. The University was moved to its present location on the shores of Lakes Washington and Union in 1895. Under the constitution and laws of the State, the government of the University is vested in a Board of Regents, consisting of seven members appointed by the Governor by and with the advice and consent of the Senate. Each regent is appointed for a term of six years. The University derives its support from legislative appropriation, student fees, endowments, and the income from real estate owned by the University. The campus contains 605 acres within the city limits of Seattle between Lakes Washington and Union, with a shore line of more than one mile on Lake Washington and about a quarter mile on Lake Union.

The University Library contains 416,550 (November, 1942) bound volumes and receives currently about 8,180 serial publications. The Henry Suzzallo Library building houses the basic collection of books and provides facilities for students and faculty. Specialization is 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.

Two libraries are separately administered: the Law School Library, with 94,737 volumes, and the Drama Library, with 15,886 volumes. 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.

The service offered by the University Library staff includes instruction in the use of the Library and of its more specialized materials. Orientation tours are conducted for freshmen each fall and a printed guide to the Library is supplied to new students.

The museum of the University of Washington was created 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 in its traveling exhibits which are available to schools, libraries, and organized study groups.

The Horace C. Henry Gallery, with its collection representing the work of some 200 representative nineteenth century painters, was the gift of the late Horace C. Henry of Seattle. To supplement the permanent collections, traveling exhibitions are shown during the college year.

The Department of Commerce maintains at the College of Mines 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 development of industrial research in the University.

The Gatzert foundation for Child Development 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 Art

The School of Drama

The School of Fisheries

The School of Journalism The School of Music

The School of Nursing Education

The School of Physical Education

The School of Home Economics General Studies-for students with no major

B. The College of Economics and Business.

C. The College of Education.

D. The College of Engineering.

G. The School of Law.

H. The College of Mines.

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- E. The College of Forestry:
- I. The College of Pharmacy.
- F. The Graduate School, including the Graduate School of Social Work and the School of Librarianship.

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

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

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

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

Special Curricula within the Schools. Certain semi-professional curricula are given for which no special school or college is provided. Such is the curriculum in chemistry in the College of Arts and Sciences.

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

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

The Four-Quarter System. The University is operated on the four-quarter system, each quarter having approximately 12 working weeks. (For dates, see University Calendar, page 8.)

GENERAL INFORMATION

ADMISSION TO THE UNIVERSITY

Students May Enter the University in Any Quarter, Autumn, Winter, Spring, or Summer

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 regular school year. Students in most majors may begin their work in any quarter, autumn, winter, spring, or summer. By placing their attendance on a twelve-month basis, carrying a normal fifteen-credit schedule, students may graduate in three calendar years. Students who demonstrate unusual scholastic ability may carry up to twenty credits a quarter and graduate in as little as two and one-half years.

How to Obtain Information

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

Admission Procedure

Before a student may register for University classes, he must place on file with the Registrar complete credentials of all his previous secondary and college education. Credentials accepted toward admission to the University are kept on permanent file. For admission to the autumn quarter, the required credentials should be for-warded after high school graduation and before July 15. Prompt answer cannot be guaranteed to correspondence and credentials received less than thirty days before the opening of the session for which admission is sought.

Admission Requirements

Any prospective student will find that one of the ten following classifications fits his case. He should examine them carefully to determine which one refers to him, and then study the requirements listed thereunder to ascertain how he may be admitted to the University.

- 1. Beginning freshmen who have been graduated from an accredited* high school or secondary school in the State of Washington or in Alaska must:
 - a. Submit an official application for admission blank. (May be obtained from any high school principal or from the Registrar.)
 - b. Have completed at least 16 acceptable units** (or 15 units exclusive of activity credit in physical education, debate, etc.) with grades certifiable for college entrance. The University will not accept a student who has included in the 16 units, grades which are defined by his high school as being of lower value than the minimum passing grade of that high school. Such grades will be considered failures for purposes of admission to the University.
 - c. Have included in the 16 units, 3 units of English, and 6 additional units in academic fields (English, mathematics, foreign language, social science, natural science). The other seven units may consist of further academic study or may be selected from the subjects ordinarily known as nonacademic or vocational (agriculture, art, music, shop, domestic science, commercial courses, etc.). Less than a unit will not be counted in a foreign language.
 - d. Have completed the subject requirements of the college to which he seeks admission. (See chart, page 56.)

^{*}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 accrediting association. **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. In satisfying entrance requirements, with college courses, a minimum of ten quarter credits is counted as the equivalent of the entrance unit. of the entrance unit.

MINIMUM UNIT ADMISSION REOUIREMENTS

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

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College	Eng- lish	Mathematics	For. Lang.	Lab. Sci. ¹	Soc. Sci.	Other Academ. Subj. ²	Free Elec- tive
1. Arts and Sciences ²	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)	Mini- mum of 3	7
3. Education***	3	2 (Elem. Alg. & Pl. Geom. or 2nd yr. Alg.)	***	1*	1	Mini- mum of 2	7
4. Engineering	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geom.)	0	1 (Chem.) ⁴ 1 (Phys.) ¹⁸	0	1	7
5. Forestry	3	2½ (Elem. & Adv. Alg. & Pl. Geom.)	0	**	0	Mini- mum 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	Mini- mum of 4	7
8. Comprehen- sive (Admit to any college)	3	3 (Elem. & Adv. Alg., Pl. & Sol. Geometry)	2 of one*	1 (Chem.) ⁴ 1 (Phys.) ^{1a}	1	0	5

For other recommendations see statement of college concerned.

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

 a 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,

nomics. Some non-academic surjets are, commetent event, the second state of the second

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.

Admission

e. Probation Rule. Students entering with a grade point average of 2.0 or above enter as regular students. All other graduates of high schools of Washington and Alaska, satisfying the subject requirements of the University and its respective colleges will be admitted on probation. If, at the end of the first quarter, the work of any entering student is not satisfactory, he shall be subject to the action of the Admissions and Scholarship Board.

2. Beginning freshmen who have been graduated from an unaccredited high school in the State of Washington or in Alaska must:

- a. Submit an official application for admission blank. (May be obtained from any high school principal or from the Registrar.)
- b. Have completed at least 16 acceptable units** (or 15 units exclusive of activity credit in physical education, debate, etc.) with grades certifiable for college entrance. The University will not accept a student who has included in the 16 units, grades which are defined by his high school as being of lower value than the minimum passing grade of that high school. Such grades will be considered failures for purposes of admission to the University.
- c. Have included in the 16 units, 3 units of English and 6 additional units in academic fields (English, mathematics, foreign language, social science, natural science). The other seven units may consist of further academic study or may be selected from the subjects ordinarily known as non-academic or vocational (agriculture, art, music, shop, domestic science, commercial courses, etc.). Less than a unit will not be counted in a foreign language.
- d. Have completed the subject requirements of the college to which he seeks admission. (See chart, page 56.)
- e. Have a scholastic standing which ranks them in the highest 25 per cent of their graduating class. (Students of lower rank see section 4, below.)
- 3. Beginning freshmen who have been graduated from an accredited high school or secondary school not located in the State of Washington or Alaska must:
 - a. Submit an official application for admission blank. (May be obtained from any high school principal or from the Registrar.)
 - b. Have completed at least 16 acceptable units** (or 15 units exclusive of activity credit in physical education, debate, etc.) with grades certifiable for college entrance. The University will not accept a student who has included in the 16 units, grades which are defined by his high school as being of lower value than the minimum passing grade of that high school. Such grades will be considered failures for purposes of admis-sion to the University.
 - c. Have included in the 16 units, 3 units of English, and 6 additional units in academic fields (English, mathematics, foreign language, social science, natural science). The other seven units may consist of further academic study or may be selected from the subjects ordinarily known as non-academic or vocational (agriculture, art, music, shop, domestic science, commercial courses, etc.). Less than a unit will not be counted in a foreign language.
 - d. Have completed the subject requirements of the college to which he seeks admission. (See chart, page 56.) e. Have earned a "C" average (a grade point of 2.0).

 - f. Be eligible for admission to the university of their own state.

^{**} 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. In satisfying entrance requirements with college courses, a minimum of ten quarter credits is counted as the equivalent of the entrance unit.

Admission

- 4. Beginning freshmen who have not been graduated from any secondary school in the United States must meet requirements without deficiency by passing College Entrance Board Examinations. (Foreign students see Section 8.)
 - a. Complete information concerning the examinations may be obtained by writing to the College Entrance Examination Board, 425 West 117th Street, New York City, N. Y.
- 5. Advanced undergraduate students who have attended some other college or university must:
 - a. Submit complete official credentials covering both preparatory and college credits, together with a statement of honorable dismissal from the institution last attended. If the applicant has attended college for less than one year he shall be required to submit a credential from his high school in addition to his college transcript. If his high school record is unsatisfactory, he shall not be admitted until at least one year of college work has been completed with satisfactory grades.
 - b. Have earned over his total college record, and also in the last term, a "C" average (a grade point of 2.0).
 - c. Be in no scholastic difficulty at the institution last attended.

Allowance of Advanced Credit:

- (1) Students (under classifications 5, 6, and 7) who have completed advanced study in colleges and universities of recognized rank, will be allowed whatever credit is acceptable to the University. In no case, will more than three years' credit (135 quarter credits) be accepted toward a bachelor's degree requiring four years of college study. The entire last year's work (45 quarter credits) must be done at the University of Washington.
- (2) Transfer of credit from normal schools, junior colleges, and other institutions accredited for less than four years will not be accepted in excess of the accreditation of the individual school concerned. For example, no student will be permitted credit earned in a junior college accredited for two years after he has earned a total of 90 quarter hours (60 semester hours) of college credit.
- (3) Credits earned in unaccredited schools offering specialized instruction are accepted only after certification by the departmental examiner, the executive officer of the department, the dean of the college concerned, and the Registrar. The fee for such certification is \$5. Students seeking such certification must secure the proper forms in the Registrar's office.
- (4) For work done at institutions whose standing is unknown, or with private teachers, advanced credit will be granted only upon examination. (See page 60 for regulations.)
- (5) For information concerning admission to the School of Law or the School of Librarianship, see the bulletins of those schools. For information concerning admission to the Graduate School of Social Work, see Graduate School section, page 203.
- 6. College of Education. Requirements for admission to the College of Education are: (1) completion of the first year of work of any college of the University, or 45 quarter credits of college work in courses approved by the faculty of the College of Education and the faculty of the college concerned plus the required credits in military or naval science and physical education; (2) a 2.20 grade point average or better.

Admission

- 7. Graduate Students. A certificate of graduation with a bachelor's or higher degree from a college or university of recognized rank is required for admission to the Graduate School. Prospective candidates for graduate degrees should see that complete official transcripts of their graduate and undergraduate records are permanently filed in the Registrar's office. As these may not be withdrawn, the student should request of his alma mater a duplicate record for his own use when interviewing his major and minor departments and the Dean of the Graduate School. (See Graduate School Section, page 174.)
- 8. Foreign Students:
 - a. Must satisfy the same general requirements as those from American schools.
 - b. Must demonstrate sufficient working knowledge of English and acquaintance with American methods of instruction to enable them to carry regular college work successfully. Students from foreign schools whose standing is not known to be the equivalent of accredited American schools may be required to pass College Entrance Board examinations in representative subjects. A student graduating from a school system which provides for less than twelve years of instruction may be held for additional high school work.
- 9. Special Students—mature individuals (21 years of age or over) who are not eligible for admission as regular students. To be accepted as special students they must:
 - a. Submit all available credentials and records of previous work in secondary schools and colleges, together with the Application for Special Admission secured from the Registrar.
 - b. Secure the consent of the Board of Admissions of the University.
 - c. Be classified as residents of the State of Washington.
- A Special Student may:
 - (1) Take such regular courses as the dean of his college may approve.
 - (2) Become a regular student by fulfilling the admission requirements of the college and department in which he is enrolled.

A Special Student may not:

(1) Earn a degree.

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- (2) Participate in student activities.
- 10. Auditors. A student eligible for regular or for special standing may enroll as an auditor, after securing the consent of his college dean and the instructor of the course, and paying the auditor's fee of \$12.* He may audit as many courses as his college dean deems wise. An auditor may listen to lectures without doing the required work of the course. He may not participate in class discussion, or in laboratory work, and under no circumstances will he be allowed credit in the course. He may, in a subsequent quarter, take the course as a regular student and receive credit by fulfilling all the requirements of the course. No person may attend any course in which he has not been registered as a student or enrolled as an auditor.

^{*}During the summer quarter, tuition is the same as for regular students.

Freshman Davs

Freshman Days are the three days immediately preceding the beginning of instruction for the fall quarter. A variety of events is designed to give those students who are interested, an opportunity to meet other students and to become familiar with the campus. Attendance is optional. Attendance at the convocation on the first day of school is expected.

The period opens September 17, 1943, at 9:00 a.m., with the "Welcome Assembly" in Meany Auditorium, at which time the President of the University will deliver his Address of Welcome to the class of 1947.

Advanced Credit by Examination

Advanced Credit by Examination is governed by the following regulations:

1. The work of preparation for the examination must have been done by private study or in class work for which no credit has been granted toward graduation by any institution.

2. A student may not take an advanced credit examination in a course which he has audited, or for which he has been registered in an accredited institution.

3. Only a student enrolled for the current quarter in the University of Washington may apply for advanced credit examination.

4. A student may not apply for advanced credit examination in more hours of credit than he would be permitted to take in regular courses.

5. A student may not earn by advanced credit examination more than one-half the number of credits required for graduation. At least one-half the number of credits required for graduation must be residence credit (not home study, extension classes, or by examination).

6. A student must follow exactly this procedure in applying for and taking an Advanced Credit Examination:

- a. Obtain an application form at the Information Window, fill in Part I completely, and secure the certification of the Registrar in Part II.
- b. Secure the approving signatures of the examiner, the executive officer of the department, and the dean of the college indicated in Part III.
- c. Pay to the Comptroller a fee of \$2 per credit. (See Part IV.) d. Present Application Blank and receipt for fee at the Information Window and obtain a card authorizing the department to give the examination.
- e. Present the authorization card to the examiner at the time of the examination.

7. The examiner will fill in the back of the authorization card and mail it to the Registrar's Office, where the grade will be recorded.

8. If the examination for advanced credit 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 may be applied toward a degree only when all other requirements for the degree have been met and after the student has satisfactorily com-pleted one year in residence at the University of Washington. (For additional information, see Extension bulletins.)

Credits earned in Extension, like credits earned by Advanced Credit Examination, are not resident credits. A maximum of ninety non-resident credits may be counted toward the requirements for a bachelor's degree. Of the forty-five credits required in the senior year, not more than ten may be non-resident credits.

The Extension Service offers Saturday classes which meet on the campus and carry resident credit, but may not be used for an advanced degree.

No resident student may take an extension course without the consent of his dean, the Registrar, and the Director of the Extension Service, properly indicated on the forms provided by the Extension Service for the purpose.

Extension Credit from Other Institutions

The University reserves the right to accept or reject for degree credit, extension or correspondence courses offered by other institutions.

In general, it is the policy of the University of Washington to accept correspondence or extension credit only from accredited colleges and universities whose extension departments appear on the membership lists of the National University Extension Association.

Rules relating to application of extension credit toward a bachelor's degree :

1. Accepted extension credit will be added to a student's standing after he has been in residence for three quarters and has earned 35 residence credits.

2. Extension credit from other schools will not apply in the senior year.

Registration

At the beginning of each quarter, the student arranges his schedule of studies with the advice and assistance of his college adviser. A regular course consists of 15 or 16 credits.

Autumn Quarter. Students who followed the Spring Advisory Program may take advantage of a preferred registration period designed to assure them of the courses they have selected. This period extends from September 1 to 4:30 p.m. September 3. Students who do not take advantage of the preferred registration period may register from September 7 to 12 m. September 18, along with students who did not secure advice in the spring and with new students. In all cases, fees must be paid in advance. During the preferred period, registration must be in person, total fees must be paid in advance, and any change on the Yearly Program of Studies must be approved by the adviser.

Winter and Spring Quarters. See calendar, page 8, for dates.

Registration is complete when fees are paid, when the election blank has been signed by all required officers, and when approved by the Registration Office, 106 Education Hall.

Mail Registration. Students who were enrolled in the University Spring Quarter, 1943, and who planned their programs for 1943-1944 during the Spring Advisory Period, may reserve sections by mail in the following manner: mail Yearly Program of Studies and tuition to the Comptroller, University of Washington, before August 28. Students must fill out registration books in Education Hall 104 before mail registration is complete.

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

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. See calendar, page 8.

Medical Examinations

All students, regardless of classification, entering the University for the first time are required to pass a medical examination as a part of their registration requirements. Men will report to the Pavilion and women to the Gymnasium on the date and hour designated. 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.

EXPENSES

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 64 regarding late registration fines.

RESIDENT STUDENTS¹

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

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	Tui-	Inci-	10-1	A.S.U.W. FEE			TOTAL FEES		
Registration	Fee	Fee	Fees	Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate	\$15	\$12.50		\$ 5	\$2.50	\$2.50	\$32.50	\$30.00	\$30.00
Fresh. & new soph.	15	12.50	** \$25.00	5	2.50	2.50	\$ 57.50	30.00	30.00
Graduate	15	12.50	<u> </u>	*.	*	*	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 apprvd. 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								

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 mili-tary, naval, lighthouse, or national park service of the United States within the State of Wash-ington 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. If a 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. "*From this sum enrollees in the Army R.O.T.C. are required to purchase one pair regulation shoes costing approximately \$7.00; balance is refunded 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 Descriptions of Courses) should be added to the above when applicable.

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NON-RESIDENT STUDENTS1

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There are af	Tui-	Inci-	20-1	A.S.U.W. FEE			TOTAL FEES		
Registration	Fee	Fee	Fees	Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate	\$50	\$12.50		\$ 5	\$2.50	\$2.50	\$67.50	\$65.00	\$65.00
Fresh. & new soph.	50	-12.50	₩ \$25.00	5	2.50	2.50	\$92.50	65.00	65.00
Graduate	50	12.50	·	*	•	*	62.50	62.50	62.50
Law School	50	12.50	‡ 10	5	2.50	2.50	77.50	75.00	75.00
Auditors	12	· · · · · · ·		*	*	*	12.00	12.00	12.00
Ex-service men or women	25	12.50		5	2.50	2.50	42.50	40.00	40.00
†Undergrad. nurses in apprvd. 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								

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

¹ 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 resi-dence 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 ordinarily will change with that of his parents.

⁶Optional. 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.

**From this sum enrollees in the Army R.O.T.C. are required to purchase one pair regulation shoes costing approximately \$7.00; balance is refunded 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.

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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 Descriptions of Courses) should be added to the above when applicable.

Exemptions

Members of the teaching staff of the University are exempt from the tuition and incidental fees.

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 exception one-half the non-resident fee is granted non-resident students. This exception 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.)

Payment of Fees

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All fees are payable in advance of registration, except in the case of preregistered students who may pay fees any time prior to the date set for cancellation of classes. If classes are cancelled, students must re-register and pay fees when registering.

Fees of pre-registered students may be paid by mail. The remittance should be mailed to the Comptroller of the University for the *exact* amount due, and show the fee statement number.

Refund of Fees

Autumn, Winter, and Spring Quarters

All fees (except those indicated as not subject to refund) will be refunded in full if complete withdrawal is made during the first three calendar days; one-half of said fees will be refunded if withdrawal is made during the first thirty calendar days, except for R.O.T.C. uniform deposit, the unexpended portion of which will be refunded upon approval of the Military Science Department. Students registered for Chemistry and Pharmacy laboratory courses must secure a check-out clearance from the stockroom custodian. This clearance must be presented at the Registrar's office when withdrawal is made, as no withdrawal will be honored until this requirement has been met. At least ten days must elapse between payment and refund of fees. Unless specific instructions are received by the comptroller's office regarding the refund fees, 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 limitations 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 69.

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) will be charged for each examination outside the regular schedule, including the examination for foreign language reading. In the case of examination for advanced credit, a fee of two dollars (\$2) per credit hour is charged. (See page 60.)

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, \$6; two hours a day, \$10; three hours a day, \$12 each quarter.

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

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

Graduation Fee. Each graduate receiving a baccalaureate or higher degree is required to pay a graduation fee of five dollars (\$5). The fee for a three-year normal or six-year standard diploma is two dollars and fifty cents (\$2.50). The fee for other professional certificates is one dollar (\$1). The three-year normal or six-year standard diploma 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 master's degree contributes five dollars (\$5) and each recipient of a doctorate 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 normal diploma may secure from the University Health Center an X-ray plate to accompany the health certificate upon the payment of a fee of five dollars (\$5).

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

Certification of Credits from Unaccredited Schools. Credits based on credentials from unaccredited schools offering specialized instruction are accepted only after

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

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 shall be five dollars (\$5). Students seeking such certification must secure the proper forms in the Registrar's office.

Military and Naval Uniforms. See pages 162, 164 for details.

Living Costs

Board and room expense varies according to the type of accommodation desired.

1. The Students' Cooperative Association provides room and three meals a day for about \$93 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 houses will average from \$95 to \$105 per quarter for double room and two meals, or \$110 for three meals.

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3. Living costs in fraternity and sorority houses, exclusive of dues, averages about \$120 per quarter for room and three meals.

4. Single rooms in private homes rent from \$15 to \$20 per month.

5. Both the Commons and the Coffee Shop, located on the campus, serve excellent meals at reasonable prices. (See section on Housing, page 72.)

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.

SCHOLASTIC REGULATIONS

Degrees-Requirements

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

1. Grade Points Required. To be graduated from the University of Washington with the bachelor's degree, the candidate must have received twice as many grade points as the number of credits recorded for graduation, in no case less than 180 academic credits, plus the required credits in Military or Naval Science and in Physical Education activities.

Any college may make additional requirements for graduation.

See Senior scholarship for the last quarter in residence (8), under "Scholarship Rules," page 70.

For rule regarding repetition of courses in which grades of "D" or "E" were obtained, see "Repeating of Course," page 71.

2. 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 or Naval Science and Physical Education have been earned.

3. Applications for Degrees. 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 faculty for the quarter and, if approved by the faculty, 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 of the faculty present.)

NOTE: Applicants who are late in filing their applications cannot be assured of recommendations to the faculty, or of consideration of petitions for modification of requirements. Consideration of late applications is a privilege, which may be withheld at the discretion of the officials concerned.

Details concerning issuance of teaching certificates may be obtained from the College of Education section, page 144.

4. 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.

5. 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.

6. 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.

7. Degrees—Financial Obligations. In determining the fitness of a candidate for a degree, his attitude toward his financial obligations to the University shall be taken into consideration.

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

9. Degrees—Theses. 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" should be obtained at the thesis desk in the Library.

Commencement Exercises

1. Formal Commencement exercises shall be held only at the close of the spring quarter.

2. Diplomas shall be issued at the end of each quarter to such candidates as have completed requirements at that time.

Military Science Requirements

(See also page 161.)

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.

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- d. Men registered for six credits or less.
- e. Men registered in Naval R.O.T.C.

Scholastic Regulations

- f. Men who are not citizens of the United States.
- g. Men who are active members in the Army, Navy, or Marine Corps of the United States, or commissioned officers of the National Guard or Naval Militia, or reserve officers of the military or naval forces of the United States, or members of the Naval or Marine Corps Reserve.
- h. Entering students who present credits for military science received prior to matriculation. (Such students shall be allowed an exemption from military science up to the value of said credits, but shall be held for physical education.)
- i. Men who, because of physical condition, are exempted by the University Health Officer.
- Men whose petitions for exemption on other grounds than those listed above have been approved by the Department of Military Science and Tactics. j.

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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.

5. All male students who register for advanced military science in their freshman and/or sophomore years may substitute credits in excess of twelve hours for activity credits in physical education.

Naval Science Requirements

(See also page 163.)

1. Naval Science is a four-year course, but it may be completed in less than four years by attending summer quarter. No students are accepted unless they con-template completion of the course, are citizens of the United States, have passed a rigorous health examination, and have satisfied the following subject requirements:

a. High School: Plane geometry.
b. High School or College: Plane trigonometry, college algebra.
Recommended in High School: Advanced algebra, solid geometry, physics.

2. The first two years of naval science normally satisfy the requirement of military science and the requirement of physical education activity courses.

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 Uni-

- versity 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 in-dividual "carry over" activities during the six quarters of work.

2. All men of junior, senior, and graduate standing, whether by virtue of residence here, or transfer, and all men exempted from the six-quarter activity requirement because of age at entrance, must be formally registered for physical fitness in every quarter of residence.

3. 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 exempt from the health education course by passing a health knowledge test given the first week of each quarter.

Physical Education Requirements for Women

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

- (a) This requirement must normally be completed during the first six quarters of University residence. Students in the College of Arts and Sciences must complete the course, or its equivalent, within the first three quarters of residence.
- (b) Students who pass the medical examination may elect activities with the following provisions: one activity from the individual groups (tennis, golf, riding, canoeing, archery, fencing, badminton), one from the rhythmic group (folk, clog or interpretative dancing), one from swimming (unless student passes test). The remaining credits may be selected from the above and from volley ball, basketball, hockey, baseball, and bowling.

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

- (a) This requirement should be completed by the end of sophomore year.
- (b) A student may be exempt from the health education course by passing a health knowledge test given the first week of each quarter.

Marking System and Scholarship Rules I. MARKING SYSTEM

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

Grade	Grade Pts.	Grade	Grade Pts.
A-Honor		D-Poor (low pass)	
B-Good	3	E—Failed	
C—Medium			

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.

I-Incomplete.

N-Satisfactory without grade, used in undergraduate courses.

S-Satisfactory without grade, used in graduate courses.

W-Withdrawal.

UW—Ceased to attend; unofficial withdrawal.

- a. A grade of "N" is given in *undergraduate* hyphenated courses in which the grade is dependent upon the work of a final quarter; it indicates that work has been completed to that point but gives no credit until the entire course is completed. (The use of this symbol is optional.)
- b. A grade of "S" is given in *graduate* hyphenated courses indicating satisfactory work so far as the course has progressed. In some cases it may be used as a final grade.
- c. The grade of "E" is final and a student receiving a grade of "E" in a course can obtain credit for that course only by re-registering for and repeating it.

Scholastic Regulations

II. 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. At the end of any quarter in residence, a student who has not made satisfactory progress toward meeting graduation standards shall be reported to the dean of his college. The dean will take appropriate action, which may be to place him on probation or to require him to withdraw from the college. Satisfactory progress will normally be interpreted as 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 Admissions and Scholarship Board. 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 in the University.

5. Probation: When a student, because of low scholarship, has been placed on probation, the college concerned, through the office of the Dean, shall have complete authority over the student's academic and activity program. The college concerned is to decide when a student on probation, because of con-

The college concerned is to decide when a student on probation, because of continued low scholarship, shall be dropped from the college, or when, because of an improvement in his work, he shall be removed from probation.

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 85-206.)

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 of 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.

Incompletes

1. An Incomplete is given only in case the student has been in attendance and has done satisfactory work to a time within two weeks of the close of the quarter. Except in the case of one-term summer courses, the two weeks' limit may be extended to three weeks upon the approval of the dean of the college.

2. A student who has received an Incomplete in a course must, to obtain credit, convert it into a passing grade within his next four quarters of residence; otherwise, he must re-register 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, provided that if it is not again offered prior to the time at which the student expects to graduate, he shall have the right to convert it by taking a special examination.

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. The regular class exercises shall end at four o'clock on the fourth day before the end of each quarter. The remaining time of the quarter shall be set aside for two-hour examinations in the several courses as scheduled by the Committee on Schedule and Registration. 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, however, an instructor holds an examination at some time previous to that regularly scheduled, he nevertheless shall meet his class during the scheduled examination time and shall hold it for the full two-hour period.

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 and he may take another examination in the manner provided for removing Incomplete grades. (See rule governing Incompletes, page 70.) In all other cases of absence from examination, a student shall be given the appropriate grade of "E" or "UW."

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.

Honorable Dismissal and Withdrawal 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. (See withdrawal regulations, below.)

Withdrawals. 1. Withdrawal from the University is voluntary severance by a student of his connection with the University. It must be approved by the Dean of Men or Dean of Women.

2. Withdrawal from a course is voluntary severance by a student of his connection with the course; it must be approved by the dean of his college.

3. In either case, withdrawal is indicated on the student's record as follows:

a. Official withdrawal within the first six weeks of the quarter-"W."

- b. Official withdrawal after the sixth week:
 - (1) If the student's work in the course is satisfactory-"W."

(2) If the student's work in the course is unsatisfactory-"E."

4. Dropping a course without officially withdrawing, at any time in the quarter, is indicated on the student's record as follows:

- a. If the student's work in the course is satisfactory-"UW."
- b. If the student's work in the course is unsatisfactory-"E."

5. A grade of "UW" or "W" shall not be considered in computing grade point averages.

Withdrawal Regulations for 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

A leave of absence from the University involving excuses from classes may be granted by the dean concerned, except as hereinafter provided:

1. A student absent on account of sickness or for personal reasons who has not made previous arrangements must explain the cause of his absence to his instructors. The legitimacy of a student's verbal explanation of absence shall be determined by the instructors only.

2. Leaves of absence for recognized student activities are issued for women and men students respectively at the discretion of the Dean of Women and the Dean of Men.

STUDENT WELFARE

Housing

The University, through its personnel offices and health service, inspects and approves a wide variety of living accommodations for men and women students. Lists of such places are available at the dean of men's and dean of women's offices. 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 the cooperatives, and fraternity and sorority houses. Residence in the last mentioned awaits invitation to membership, but it is suggested that in all other cases (except apartment houses) residence should be arranged for on the basis of the school quarter, either by written or verbal agreement with the householder or board of trustees of the house. (See section on Living Costs, page 66.)

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 hoard and room, or both, 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 dean of women's office 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

In war-time both part-time and full-time employment opportunities are abundant. Unskilled workers may earn from seventy-five cents to one dollar and ten cents per hour and will find employers very cooperative in arranging shifts which will permit the carrying of a full-time study load. 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 Clark Hall. Women students desiring to earn room and board with some compensation should apply at the Dean of Women's Office in Clark Hall. In all cases a personal interview is required.

The National Youth Administration project affords an opportunity to a limited number of students, who must work in order to attend college, to work in the various departments of the University. The compensation for under-graduates is twenty dollars per month for approximately two hours work per day. Information as to eligibility may be received from Dean Herbert T. Condon, director of the project at the University of Washington.

Loans

There are several loan funds available to both men and women students. Experience has demonstrated the wisdom of limiting such assistance to students who have advanced standing, and who have demonstrated their ability as college students and their sincerity of purpose. Due to the heavy call upon loans, it has seemed necessary to limit the amount of individual loans to the cost of resident tuition and supplies. Funds available for loans usually are exhausted prior to the opening of each quarter. Therefore, students desiring loans should file application at least ten days prior to the day instruction begins. A few small emergency funds are available. These are very limited in amount and time. For information, consult the dean of men or dean of women.

Loans for Women. A number of community organizations maintain loan funds for women. These fall into two classes:

- 1. Emergency loans. Such loans are for small sums to be returned within the quarter borrowed.
- 2. Loans for upperclassmen. These loans are for the college expenses of students in their last two years of college work. Apply to the Dean of Women's office three days in advance for emergency

loans and from two weeks to one month for others.

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

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

University Health Center

The University maintains a health service which functions primarily in guarding against infectious diseases and incipient ill health due to remediable causes. The work is carried on in two main divisions: viz., a dispensary, and 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, constitute 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 (including physicians' attendance, nursing and medicines) for a period of one week each quarter free of charge. 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 offices of the dean of men and dean of women are concerned with the general welfare of the students of the University and welcome 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. These offices, which work closely with the advisory system of the colleges and schools of the University, are 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 colleges may often be removed through the friendly advice these officials stand ready to give. The Dean of Men's office will be glad to discuss with the students any problems concerning entering military service.

STUDENT ACTIVITIES AND CONDUCT

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. These committees should work in close cooperation with the dean of the college concerned.

Student Activities

Student activities are governed by the Committee on Student Welfare in accordance with the rules of the faculty. Students are responsible for acting in accordance with the specific rules of the Committee, information regarding which may be secured from the Dean of Men or the Dean of Women.

Pledging to Fraternities or Sororities

1. No student having less than junior standing shall be initiated into a fraternity or sorority until he or she shall have earned successfully 18 resident credits in two quarters or 14 in one quarter, at this University, in addition to the required credits in physical education activity and military or naval science.

2. Candidates for initiation into fraternities or sororities shall secure certification of eligibility from the office of the Dean of Men or the Dean of Women.

3. No student on probation may be pledged to a fraternity or sorority.

Student Publications

1. Only those publications so designated by the Dean of Men and the Director of Student Activities may make use of the good will of the University in soliciting advertising.

2. Permission to issue student publications is obtained from the President's office.

3. The editors of all student publications shall be held responsible for all matter that appears in their respective publications. Correspondents of all other publications shall be held similarly responsible for all items contributed by them to their respective publications.

4. No editions of *The Daily* by special sets of editors shall be allowed, except by express permission of the publications committee of the Board of Control.

Meetings and Speakers at Student Clubs

1. The buildings and campus of the University are primarily devoted to education; they are also used for cultural and recreational purposes incidental to the work of the University.

2. The University buildings and grounds are not available for commercial or other outside uses, except that its assembly halls may, by arrangement with the President's office, be used for graduation exercises and other special assemblages of the public schools.

3. Meetings of student organizations upon the campus are permitted for purposes educational, cultural, and recreational in their nature, connected with the work of the colleges or departments of the University.

4. All student groups desiring to make use of the facilities of the campus for meeting places shall apply at the beginning of each year to Professor Alfred L. Miller, chairman of the Executive Council of Student Campus Organizations; if organized during the school year, shall apply to the above committee before holding any meetings on the campus.

5. A student organization or group which is of a strictly professional character, or which is sponsored by an appropriate University department, may invite an outside speaker to address a meeting in a University building or on the campus but shall notify the President's office before the meeting is held. (An "outside speaker" shall be construed to mean any speaker not a registered student or a member of the staff.) Any other student organization or group desiring to invite an outside speaker to address a meeting in a University building or on the campus must have such invitation approved in advance by the Executive Council of the Student Campus Organizations Committee and by the President of the University. The terms "student organization or group" in this rule shall not be construed to refer to classes.

6. Arrangements and programs for meetings held under the sponsorship of a college or department of the University and open to the public shall be first approved by the President of the University. Departments or groups of departments desiring to have speakers for their students only shall apply to the President's office. Special lectures should be held in the afternoon in order not to disrupt regular morning classes.

7. Permission for the use of any space for outside organizations must be obtained by applying to the Secretary of the Board of Regents, Dean H. T. Condon, and to the President of the University. This permission is granted only for educational purposes.

8. Only all-University functions for which classes are generally dismissed may be designated as assemblies.

9. Necessary arrangements for rooms and space to be used between the hours of 8 a.m. and 5 p.m. will be made by applying to the Registrar's office. Rooms and space to be used between the hours of 5 p.m. and 8 a.m. will be secured by applying to the Buildings and Grounds' office.

10. All financial arrangements for the use of space shall be made through the office of the Comptroller of the University.

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 Dean of Men or Dean of Women 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.

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 announcements.

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.

Tutoring

1. Students seeking the services of a tutor may obtain assistance in the Student Employment Office, in the offices of the Dean of Men and the Dean of Women, 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 secured 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.

ASSOCIATIONS AND CLUBS

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, 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, including one copy of 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.

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. The fees are as follows: autumn quarter five dollars (\$5), winter quarter two dollars and fifty cents (\$2.50), spring quarter two dollars and fifty cents (\$2.50), spring quarter two dollars and fifty cents (\$2.50), summer quarter one dollar (\$1).

This 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, baseball games, tennis, track and wrestling meets, crew regattas, debates, oratorical contests, musical concerts as may be designated by the Board of Student Finance.

The management of the Associated Students is vested in the office of the Director of Student Activities. The administration of the affairs of the Associated Students is carried on through an annually elected Board of Student Finance and the Student Council.

The Board of Student Finance is composed of the seven following members: The Director of Student Activities of the University of Washington, the President of the Associated Students of the University of Washington, the President of the Associated Women Students, a representative appointed by the Director of Student Activities and three representatives appointed by the President of the University of Washington.

The Student Council is composed of the following members: The President, the Vice President, and Secretary of the Associated Students of the University; the President of the Associated Women Students; the Presidents of the Senior, Junior, Sophomore, and Freshman classes; a representative of the Managerial Council, Engineering Council, Inter-Fraternity Council, Adelphi, Phrateres, Panhellenic, and an ex officio member, the editor of the Daily.

HONOR AWARDS, FELLOWSHIPS, SCHOLARSHIPS, PRIZES AND AWARDS

(Subject to sufficiency and availability of funds.)

Honor Awards

Presentation of honor awards is made as follows:

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.

Fellowships and Scholarships for Graduates

University Fellowships. The various departments of the University grant fellowships each academic year which provide \$210 per quarter and exemption from tuition and incidental fees. The graduate student receiving such a fellowship divides his time equally between his studies and assistance in the teaching work of the department in which he is enrolled.

University Graduate Scholarships. Each year the University grants a number of scholarships to graduate students engaged in activities closely related to teaching, such as reading, laboratory assistance, etc., in the various colleges. Remuneration is in proportion to services performed with a maximum compensation of \$45 per quarter in addition to exemption from tuition and incidental fees.

University Honorary Fellowships. Three honorary fellowships have been established by the University. These, like the Sarah Loretta Denny fellowships, are open to students in any department of the University. They carry no stipend, and are designed to furnish recognition of exceptional scholastic excellence in the case of graduate students who are not eligible for the Sarah Loretta Denny or the Arthur A. Denny fellowships, either because they do not need financial assistance or because they are not giving their entire time to their work in the University.

Sarah Loretta Denny Fellowships. Three fellowships are open to graduate students in any department of the University. Not to be awarded for 1943-1944.

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Arthur A. Denny Fellowships. Six fellowships open to graduate students in the departments of civil engineering, education, English, history, mining engineering, and pharmacy, respectively. Awarded by the departments concerned on the basis of scholastic excellence and general merit, but only to residents of the State of Washington who need financial assistance. Not to be awarded for 1943-1944.

Research Fellowships. The College of Mines offers four fellowships for research in coal and other non-metallic mineral substances, in cooperation with the United States Bureau of Mines. The fellowships are open to graduates of universities and technical colleges who are properly qualified to undertake research investigations. The value of each fellowship is about \$720 to the holder, for the 12 months beginning July 1. Fellowship holders register as graduate students and become candidates for the degree of master of science in the proper subject in the College of Mines, unless an equivalent degree has previously been earned.

Each applicant should send a copy of his collegiate record from the Registrar of the college from which he has been graduated, or will be graduated in June. He should also send a photograph and a detailed statement of his professional experience, if any, and give the names and addresses of at least three persons who are familiar with his character, training, and ability. Applications should be submitted by April 1, and should be addressed to the Dean, College of Mines, University of Washington, Seattle, Washington.

Appointees to the fellowship report for duty on July 1, and are required to be on duty for a full year, except that in case of reappointment for a second year, the fellowship holder is given a vacation from June 15 to July 1. For the year 1943-1944, problems of the following nature will be selected for investigation: 1. *Coal.* Problems in the treatment and utilization of coal and coke. 2. Non-metallics. Problems in kaolin, olivine, talc, soapstone, silica sand, diatomite, and other industrial minerals.

The Agnes Healy Anderson Research Fellowships in Forestry. The income from the Agnes Healy Anderson Research Fellowship Fund is available for graduate research fellowships to be awarded on a competitive basis. The terms of the fund allow some leeway in the number of fellowships and the amount of each.

The E. C. Neufelder Scholarship. The E. C. Neufelder scholarship, established by the will of Lily C. Neufelder, is open to any graduate student who has already completed at least one quarter of graduate work in residence or who has finished his undergraduate work at the University of Washington. Award is made on the basis of excellent scholarship and financial need.

The Seattle Branch of the American Association of University Women Scholarship. This scholarship of \$100 is awarded annually to a deserving woman student enrolled in some department of the Graduate School, preferably in her second year of graduate enrollment. Award is made on the basis of scholastic ability, character, financial need, and promise. The Alpha Chi Omega Alumnae Scholarship. Iota Iota Alumnae Chapter of Alpha Chi Omega offers annually, in the spring quarter of each year, a scholarship of \$100 to a woman student who has satisfied the University of Washington's requirements for graduation and is returning the following year for further work preparatory to taking a professional or Master's degree. She must be partially or wholly self-supporting, must have a fine character, personality, and ability that shows promise.

The Arlien Johnson Scholarship. A scholarship of \$150 is awarded annually to a beginning student in the Graduate School of Social Work on the basis of scholarship and need. The holder of this scholarship may also arrange to render service to the University for which he may receive the equivalent of tuition charges. Applications should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The School of Drama Scholarships. Each year the School of Drama grants a number of tuition scholarships to deserving graduate and undergraduate drama students. Awards are made on the basis of scholarship, talent, character, and financial need. The value of each scholarship is \$92.50, the amount of resident tuition for the regular college year. When considered advisable, a scholarship may be divided equally between two candidates.

Sears, Roebuck and Company Scholarships. Three scholarships of \$200 each to be awarded to fifth year Home Economics students preparing to teach. Recipients of scholarships will be chosen by the School of Home Economics on the basis of scholarship, personality and aptitude for teaching, and need of assistance.

Scholarships for Undergraduates

(Subject to sufficiency and availability of funds.)

The Iota Sigma Pi Scholarship. The Oxygen Chapter of Iota Sigma Pi has established a scholarship for \$100 a year to be given to a woman majoring in chemistry, with sophomore standing or above, who has a meritorious academic record and other qualifications.

The Isabella Austin Scholarships. The Isabella Austin Memorial Fund offers two kinds of scholarships, one for a sophomore woman and three for freshmen women. The sophomore scholarship of \$100 is awarded on the basis of work done in the first three quarters of residence. The freshmen scholarships, sufficient for fees for one quarter, are awarded on the basis of work done in high school. It is expected that students using the freshmen scholarships will use them in connection with part time employment. All of these scholarships are based on high scholarship, strength of personality, and financial need.

The Kappa Alpha Theta Alumnae Scholarship. The Seattle Alumnae of Kappa Alpha Theta offer an annual scholarship of \$100 to the woman student who has to complete one more year in college to receive the degree of Bachelor of Science in Home Economics. She must be a student of high scholastic attainments, must be wholly or partially self-supporting, and must have a character and personality which show unusual promise.

The University of Washington Alumnae Association Scholarship. The Alumnae Association of the University of Washington offers an annual scholarship of \$100 to a woman student entering her senior year. She must be a student of promising character and personality, must have an outstanding record for high scholarship and participation in activities, and must be partially or wholly self-supporting.

The City Panhellenic Scholarship. The City Panhellenic Association offers an annual scholarship of \$100 to a fraternity woman registered in her senior or fifth year who has been a student in the University of Washington since her freshman year and has merited the award on the basis of her character, scholastic attainment, activity in campus affairs, and financial need.

The Gamma Phi Beta Scholarship. The Seattle Alumnae of Gamma Phi Beta offer an annual scholarship of \$100 to that woman among the English major students who most nearly fulfills the following conditions: partial or complete financial self-dependence, high scholarship, strength of personality, wholesomeness of influence and promise.

Beecher Kiefer Memorial Scholarship. This scholarship is awarded annually to the most talented man student of violin. This award is subject to competition before a committee from the School of Music. Not offered in 1943-1944.

Mu Phi Epsilon Scholarship. Mu Phi Epsilon, national honorary music sorority, offers to a woman student a scholarship of one lesson a week for a school year, in vocal or instrumental music. Auditions spring quarter.

Phi Mu Alpha Scholarship. Phi Mu Alpha, national music fraternity, awards to a man student a scholarship of one lesson a week in vocal or instrumental study. Auditions autumn quarter.

The William Mackay Scholarship in Mining. The income from a gift by the late William Mackay of Roslyn, Washington, is available for a scholarship of \$250 to be awarded to a junior or senior student in the College of Mines on the basis of character, scholarship, and need of assistance. Applications to the dean of the College of Mines are due in March.

The McKesson-Robbins Drug Company Scholarship. The McKesson-Robbins Drug Company of Portland, Seattle and Spokane has established a \$50 cash scholarship for a worthy senior of the College of Pharmacy. The award is based on the scholastic record of the student during his freshman, sophomore and junior years.

The Women's Auxiliary of the Washington State Pharmaceutical Association Scholarship. This organization gives a cash award of \$50 to a worthy student selected by the faculty of the College of Pharmacy. Selection is made on the basis of good scholarship and of financial need.

The Advertising Club Scholarship. An annual scholarship of \$25 awarded to a student majoring in advertising either in journalism, economics and business or the College of Arts and Sciences, on the basis of high scholastic ability and financial need.

The Bob Doble Memorial Scholarship. A fund established by Mrs. James Marshall in memory of her son: \$150 awarded each year to an outstanding third-year journalism student.

The Helen Nielson Rhodes Memorial Scholarship. The Lambda Rho Alumnae offer an annual scholarship of \$50 to a junior or senior student in the School of Art who has shown unusual ability in creative work. Applications should be made to the School of Art in March.

Sigma Epsilon Sigma Scholarship. Two or more scholarships of \$25 are awarded annually to women students who have completed one year of college work. They must be high in campus citizenship as well as scholarship, and must be partially self-supporting.

The Wealthy Ann Robinson Scholarships. The Wealthy Ann Robinson Scholarship Fund provides one or two \$100 scholarships each year for graduate nurses majoring in public health nursing during the senior or graduate years. Selection is based on need, good scholarship, and professional ability. The Frances Dickey Memorial Scholarship. The Seattle Alumnae Chapter of Mu Phi Epsilon offers to a student member of Tau Chapter a scholarship of one lesson a week in vocal or instrumental music. Previous winners of the Mu Phi Epsilon Scholarship shall not be eligible for the Frances Dickey Memorial Scholarship. Auditions spring quarter.

School of Drama Scholarships. See page 79.

The Kellogg Foundation Scholarships. The Kellogg Foundation of Battle Creek, Michigan, has given \$4,000 for scholarships and loans to the School of Nursing Education. The purpose is to help students stay in school for preparation in the field of nursing during the war emergency. The scholarships are available to students in the School of Nursing Education and are awarded on the basis of scholarship and financial need.

Scholarships Open to Entering Freshmen

(Subject to sufficiency and availability of funds.)

The A.S.U.W. Annual Scholarship. A \$100 tuition-scholarship to be awarded annually by the Associated Students of the University of Washington to the graduate from any state high school outside the city of Seattle, voted the state's outstanding candidate for admission to the University of Washington. Candidates shall be judged on the basis of financial need, conduct while in high school, use of leisure time for worth while high school activities, scholarship, and general personality. Applications should be submitted by April 13 to the Associated Students of the University of Washington.

The Paul Karshner Memorial Scholarships. Scholarships of \$100 each, given by W. M. Karshner, M. D., and Ella H. Karshner, awarded to a boy and to a girl who are graduates of the Puyallup high school. Not offered in 1943-1944.

The Isabella Austin Scholarships. See page 79.

The Pi Lambda Theta Tuition Scholarship. Tuition for the fall quarter will be given to an entering freshman woman selected by Pi Lambda Theta on the basis of scholarship, personality, promise, and need.

Prizes and Awards

Philo Sherman Bennett Prise. The Philo Sherman Bennett prize of approximately \$15 is awarded every year "for the best essay discussing the principles of free government."

The Carkeek Prize. The Vivian M. Carkeek cash prize of \$50 is awarded annually "for the best student contribution to The Washington Law Review on a point of Washington law, or any point of peculiar interest to Washington attorneys."

The Western Printing Company Prize. An award made annually to that student rendering the most valuable service to The Washington Law Review.

The Frank W. Baker Award. This annual award of \$250 is to be made "to the student in the Law School who shall prepare and submit to the Dean of the Law School the best thesis on a topic which will foster and promote an understanding of the duty of an American citizen to uphold and preserve the Constitution of the United States and the supremacy of the Supreme Court, and to counteract the tendency of students to succumb to the specious arguments of advocates of subversive doctrines."

Nathan Burkan Memorial Competition. The American Society of Composers, Authors and Publishers awards annually in each of the approved law schools of the country a prize of \$100 for the best paper by a graduating student on a subject within the field of Copyright Law.

The Ruth Nettleton Award. In memory of Ruth Nettleton, who died while a senior at the University of Washington, a few of her friends have established the Ruth Nettleton Memorial Fund, the interest from which is offered each year as a prize in sculpturing.

Scholarships, Prizes, Awards

The Charles Lathrop Pack Prise. The late Charles Lathrop Pack, for many years president of the American Tree Association, has provided an annual prize of \$25 for the best essay by a student majoring in forestry. The subject shall be chosen with reference to interesting the general public in forestry matters.

The Lehn and Fink Medal. The Lehn and Fink Drug Company of New York City awards each year a gold medal to a graduating senior in pharmacy, selected for this honor by the pharmacy faculty. The award is based on scholastic standing.

The Rho Chi Society Prise. Rho Chapter of Rho Chi Society, pharmacy honorary, grants a prize each year to the freshman completing the year's work with the highest grade point average of his class.

The Alpha Kappa Psi Plaque and Medallion Award. Rho Chapter of Alpha Kappa Psi, a professional fraternity in commerce, awards annually the Alpha Kappa Psi Scholarship Medallion to the male student pursuing a degree in the College of Economics and Business, who has attained the highest scholastic average for three years of collegiate work in this University.

The Alpha Rho Chi Medal. The Alpha Rho Chi Medal is awarded annually to that graduating senior of each school of architecture who has shown ability for leadership, performed willing service for his school, and given promise of real professional merit through his attitude and personality.

The A.S.U.W. Award. The Associated Students of the University of Washington offer a silver cup to those members of the Varsity Discussion squads who have been members for three years and have participated in public discussions during their senior year.

The American Institute of Architects' Awards. A medal for general excellence in design is annually awarded by the American Institute of Architects to a graduating senior. Two other outstanding graduating students receive one copy each of Mont Saint Michel and Chartres.

The Chi Omega Prize in Sociology. An annual award of \$25 is made by the Chi Omega sorority to a woman who has majored in sociology, graduating with high scholarship and recommended for achievement.

Circolo Italiano Universitario Award. A medal is awarded each year by the Circolo Italiano Universitario (Italian Club of the University of Washington), to the student making the best record in Italian 2, second-quarter Elementary Italian.

Delta Phi Alpha Prize. The national chapter of Delta Phi Alpha, honorary German fraternity, offers annually a book prize to each of its chapters. The Iota Chapter of the University of Washington awards this prize to that senior who has maintained the highest average in German courses throughout the four-year program.

Beta Gamma Sigma Alumnae Prize. The Alumnae of Gamma Epsilon Pi (now merged with Beta Gamma Sigma) give a prize of \$15 to the girl in the College of Economics and Business having the highest scholastic average in her first three quarters in the University.

Sigma Delta Chi Scholarship Award. Plaques or certificates are awarded to students of either sex. The award is made on the basis of one plaque or certificate for each ten of the graduating students in journalism.

Phi Sigma Award. A medal awarded for excellence in biological work to a student not necessarily a member of Phi Sigma.

The Robert T. Pollard Memorial Prize. The Robert T. Pollard Memorial Fund provides an annual cash prize for the purpose of recognizing scholastic merit among the students of the Far Eastern Department and related fields. It may be used as a loan fund at the discretion of the committee administering it.

The Alumni Prizes in Architecture. Three or more awards, aggregating \$100, are offered for solution of an architectural problem; offered to fourth and fifth year students. The prize money is donated by the Architecture Alumni group of the University.

The Beta Gamma Sigma Plaque and Certificate Award. Alpha chapter of Beta Gamma Sigma, Commerce scholastic honorary, awards annually a certificate to the sophomore man student having the highest grade record for the first five quarters of his University career and also inscribes his name on a bronze plaque which is hung in the corridor of Commerce Hall.

The Beta Gamma Sigma Alumnae Cup and Certificate Award. The Alumnae of Gamma Epsilon Pi (now merged with Beta Gamma Sigma) award annually a certificate to the girl having the highest record for her first two years in the College of Economics and Business. Her name is engraved on the cup which is kept in the College office.

The Sebastian Karrer Prize in Physics. A prize of \$50 each year is awarded to a graduate student nominated by the staff of the Department of Physics and approved by the President of the University.

The Howard Brown Woolston Prizes. Two prizes of \$15 each are awarded annually by Alpha Kappa Delta to the undergraduate and graduate students who submit the best reports showing the results of independent research in sociology.

The Zeta Phi Eta Plaque and Medallion Awards. Mu Chapter of Zeta Phi Eta, national speech arts sorority, makes annual awards of medallions to two outstanding students in Drama (one man and one woman) and two in Speech (one man and one woman). Awards are made on the basis of scholarship, character, and excellence in the activities of the two departments. Names of award winners are also engraved on plaques kept in those departments.

The Phi Mu Gamma Awards in Drama. Zeta Chapter of Phi Mu Gamma, national fine arts sorority, makes annual awards of statuettes to the man and woman who, during the year's public productions, have given the finest character portrayals.

The W. G. McLaren Prize in Law. An annual award of \$25 to that fourthyear student submitting the best solution of a problem in legal draftsmanship.

The Paul H. Johns, Jr., Memorial Awards. As a memorial to members and sons of members who give their lives in the defense of our country during World War II, the Tacoma Lumbermen's Club has set up a fund from which two annual awards of \$100 each are made, on the recommendation of the President of the University, to the outstanding junior and senior in the College of Forestry.

The Delta Phi Mu Award. Delta Phi Mu, underclass music sorority, offers an annual award of \$25 for excellence in music performance to a Delta Phi Mu freshman or sophomore member chosen through competition.

Fellowships and Scholarships Administered by Other Organizations

National Research Fellowships. Fellowships in physics and chemistry, offered by the National Research Council, are open to promising research students, who have already taken the doctor's degree or have equivalent qualifications. A successful candidate can pursue his research at any university or research institute chosen by him which is acceptable to the appointing board. The salary will ordinarily be \$1800 for the first year. Fellows are eligible for successive reappointments ordinarily with increase in salary. For details address the dean of the Graduate School or the heads of the departments.

The Family Society of Seattle Fellowships. Three fellowships with the Family Society of Seattle are available to advanced students in the Graduate School of Social Work. The holders of these fellowships devote an equal part of their time to the agency and to their professional studies. These fellowships provide monthly stipends of approximately \$60 per student. Those who render service to the University may receive the equivalent of tuition charges. Applications should be made to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Washington Children's Home Society Fellowship. One fellowship with the Washington Children's Home Society is available to an advanced student in the Graduate School of Social Work. The holder of this fellowship devotes an equal part of his time to the agency and to his professional studies. This fellowship provides a monthly stipend of approximately \$60. The holder of this fellowship may also arrange to render service to the University, for which he may receive the equivalent of tuition charges. Application should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Ryther Child Center Fellowships. Two work-study fellowships for men and women are available at Ryther Child Center, Seattle. These fellowships are of one or two years' duration and pay \$35 per month and full maintenance. Service is given the Center by the student through work on the House Staff, with the privilege of staff participation. The holder of this fellowship may also arrange to render services to the University, for which he may receive the equivalent of tuition charges. Applications should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Rhodes Scholarship. A scholarship of £400 a year at Oxford University is granted by The Rhodes Trust to a student between 18 and 25 years of age and of at least junior standing who wins one of four appointments annually made in six Northwest states. Has been discontinued for the duration of World War II.

Woman's Auxiliary of the American Institute of Mining and Metallurgical Engineers Scholarships. Annual scholarships awarded on the basis of character, scholastic standing, and the need of assistance of the student. Applications for appointment for the following academic year are made in November through the College of Mines, to the North Pacific Section of the Woman's Auxiliary.

Honor Societies

Phi Beta Kappa Tau Beta Pi Sigma Xi Order of the Coif Various societies in departmental and professional fields

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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 degrees of bachelor of arts or bachelor of science.

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

Fellowships, Scholarships, Prizes. See page 77.

Student Counselling

The college recognizes that many students, particularly entering freshmen, need assistance in working out educational programs which will contribute maximally to their after-college plans. Each department and school within the college, therefore, provides opportunity for its students to consult faculty advisers relative to this and to other problems. The Office of the Dean maintains a staff of advisers to counsel with students who have not yet affiliated themselves with a major department. (See Pre-Major, page 87.)

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 55-66. 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, nine credits.

English 1 and 2 may not be counted in fulfillment of the group requirements listed below under curricula. These are general courses required by the College, and may not be counted toward a major or minor. Admission to these courses is gained by a satisfactory grade in the English placement test, supplemented by extemporaneous and prepared papers and conferences where deemed necessary. As this test is graded for entrance and for placement, several assignments are possible in order to enroll the student in the courses most profitable to him. The usual groupings are (1) exemption from English 1 and 2, usually granted only to mature persons with writing experience; (2) assignment to 1, 2, and 3; (3) English A, a non-credit course required for entrance into English 1. In the College of Forestry, the grade in English 1 is contingent upon good work in English in subsequent forestry courses.

Physical Education 10, a five-credit academic course is required of all women during the Freshman year.

Physical Education 4, 6, and 8, (2 credits each) may be taken in place of Physical Education 10 when it seems advisable. Physical Education 15, a two-credit academic course is required of all men.

College of Arts and Sciences

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
Humanities Architecture Art Classical Languages Drama English Far Eastern General Literature Germanic Languages Journalism Liberal Arts Librarianship Music Romanic Languages Scandinavian Languages Speech	Social Sciences Anthropology Economics Geography History Home Economics Nursing Education Philosophy Physical Education Political Science Psychology Sociology	Sciences Anatomy Astronomy Bacteriology Botany Chemistry Fisheries Geology Mathematics Physics Zoology & Physiology Oceanography 1 Pharmacy 15

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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 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 bachlor's degree. Students who desire a major of this type should 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. At least sixty credits of the total 180 required for graduation must be in upper division courses.

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 103 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. Students usually decide upon a major before entering the University. However, some make this decision one or more quarters after entering. Students in this latter group may come in as pre-majors.

Pre-major students must meet general University and College requirements in the same manner as do students in any of the regular departments or schools— English 1-2, Physical Education, Military Science, and Group requirements.

Pre-majors are under direct jurisdiction of the Dean's office. They are assigned to faculty advisers who assist them in program planning, developing interests, and in deciding upon majors in keeping with these interests. 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, p. 174.

ANATOMY

John L. Worcester, Executive Officer, Anatomy Building

(See Biological Sciences, page 93)

ANTHROPOLOGY

Erna Gunther, Executive Officer, 211 Museum

DEGREE: Bachelor of Arts

Credits	Credits
 51, 52, 53. Introduction to Anthropology15 101. Basis to Civilization or 105. Invention and Discovery or 107. Methods of Archaeology3 or 5 111. Indian Cultures of Pacific N.W. or 112. Peoples of the Pacific or 114. Peoples of Central and Northern Asia 3 120. Cultural Problems of Western America 3 	141. Primitive Literature

A 2.5 grade point average in anthropology is required of all majors in the field. †To be arranged

This major should be supported by appropriate courses in psychology, zoology, geology, geography, according to special interests. It is necessary, if graduate work in the field is contemplated, to take two of the following: French, German, Spanish through Scientific Reading or to offer its equivalent.

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

ARCHITECTURE

Harlan Thomas, Director Emeritus, Physiology Hall Arthur P. Herrman, Executive Officer, 301 Physiology Hall

Member of Association of Collegiate Schools of Architecture

DEGREE: Bachelor of Architecture

Requirements for Degree. The credit requirement for graduation (outside of military or naval science and physical education) is set by this curriculum at 180 credits. No deviation or substitution of courses will be permitted except by consent of the director of the school. In the courses of design, Arch. 54, 55, 56 are known as Grade I; Arch. 104, 105, 106, Grade II; and Arch. 154, 155, 156, Grade III. How-ever, 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

Autumn Quarter Credits Arch. 1. Arch.Appreciation 2 Arch. 4. Elem. of Design. 4 Arch. 7. Graphics Building Construction . 3 English 4. Composition 3 Art 32. Freehand Drawing	Winter Quarter Credits Arch. 2 Arch.Appreciation 2 Arch. 5. Elem. of Design 4 Arch. 8. Graphics 1 G.E. 48. Elem. of Building Construction . 3 English 5. Composition 3 Art 33. Freehand Drawing 2 M.S. and P.E. or N.S+	Spring Quarter Credits Arch. 3. Arch.Appreciation 2 Arch. 6. Elem. of Design. 4 Arch. 9. Graphics 1 English 6. Composition 3 Art 34. Sculpture 2 P.E. 10 or 15 5 or 2 M.S. and P.E. or N.S+
	SECOND YEAR	
Arch. 40. Water Color 3 Arch. 51. Medieval History	Arch. 41. Water Color3 Arch. 52. Medieval History	Arch. 42. Water Color 3 Arch. 56. Design Gr. I 5 Math. 56. Arch. Math 3 Electives
	THIRD YEAR	
Arch. 101. History 2 Arch. 104. Design Gr. II 5 Arch. 120. Bldg. Constr 2 C.E. 116. Struct. Engin 4 E.E. 105. Elec. Wiring 2	Arch. 102. History 2 Arch. 105. Design Gr. II 5 Arch. 121. Bldg. Constr 2 C.E. 117. Struct. Engin 4 C.E. 151. Plumb. & San 2	Arch. 103. History 2 Arch. 106. Design Gr. II. 5 Arch. 122. Bidg. Constr 2 C.E. 118. Struct. Engin 4 M.E. 110. Heat. & Vent 2
	FOURTH YEAR	
Arch. 151. History 2 Arch. 154. Design Gr. III 5 Art 160. Life Drawing 3 Electives	Arch. 152. Theory 2 Arch. 155. Design Gr. III 5 Art 161. Life Drawing 3 Electives	Arch. 153. Theory 2 Arch. 156. Design Gr. III 5 Arch. 169. Specifications and Office Practice 2

Art	160.	Life	Drawing	••	3
Elect	ives				5

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Schools of Architecture, Art

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

Autumn Quarter Credits (Same as Architecture)		Winter Quarter Arch. 152. Theory A Electives G.E. 21. Surveying Arch. 180. Prin. of Arch. 190. C. P. D.	Credits Arch 2 3 Plan 2	Spring Quarter Arch. 153. Theory. C.E. 150. San. En C.E. 152. Mun. En Arch. 181. Prin. of Arch. 191. C. P. D.	Credits 22 g.&P.H. 3 1g3 Plan2
		FIFTH YE	AR		
Arch. 151. History E.B. 57. Sur. Bus. Lav fSoc. 165. The City Arch. 182. Prin. of Pla Arch. 192. C. P. Design	v 2 v 3 n 5 n 1 n 5	Electives E.B. 3. Economics. †E.B. 109. Prin. Re Arch. 193. C. P. De	2 2 2 2 2 2 2 2 2 2 2 3 2 2 3 2 3 2 3 2	Geog. 155. Inf. Geo Arch. 183. Prin. of Arch. 194. C. P. Do (Thesis)	. Env 5 Plan 2 esign 7

†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.

Curricula

REQUIRED FOR THE FIRST YEAR

Cri	edits:
Art 5. 6. 7. Drawing and Painting	9
Art 9, 10, 11. Design	9
English 4, 5, 6. English Composition.	9
Modern Foreign Language	15
Electives	3
Military Science and Physical Education or Naval Science	+

General Curriculum

For students who wish to acquire fundamental training in art, without specialization.

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Art 12. Art I Art 53, 54, 53 Art 56, 57, 58 and Paintin Art 72. Sculy Phys. Educ. plus Electin M.S. and P.I	Aistory5 5. Design9 8. Drawing 98 97 98 97 98 97 98 97 98 98 99 91 91 92 93 94 95 96 97 97 98 99 90	Arch. 3. Architec. Art 103, 104 or 1. Art 126. Hist. Mc Art 160, 161, 162 Approved Design Econ., Pol. Sci. 6 Lab. Science (see Electives	Apprec. 2 57, 158 6 d. Paint. 2 . Life 9 3 pr Soc 5 note)10	Art 20. Modern 5 Art 101. Elements Interior Design Art 150. Illustrati Art 163 or 164. (Electives	Sculpture 2 ary 1 2 ion 5 Comp 5 31

All women must include Phys. Educ. 10 in their first year schedule. Preferred electives for students interested in Costume Design, Art 169, 170, 171; 179, 180, 181; Home Economics courses in clothing and textiles 12, 25, 47; 101, 102; 160, 161 and 198. Norts: Only courses in the following departments will be recognized: botany, zoology, chem-istry, physics (except photography), geology.

College of Arts and Sciences

Art Education

Students wishing to prepare for teaching may follow the public school art curriculum of this school leading to the bachelor of arts degree, or the public school art curriculum in the College of Education leading to the degree of bachelor of arts. In either case the major and minor are both in art, but the candidate is expected to complete a second minor in some field other than art. An average standing of "B" in art subjects is required of all teaching candidates.

First Year	Credits	Second Year	Credits	Third Year	Credits
Art 5, 6 7. Drawing and Painting Art 9, 10, 11. Design. English 4, 5, 6. Compu- Educ. 1. Orientation Sociology 1 [†] Phys. Educ. 10 or Ph Educ. 15 (men) plu Electives M.S. and P.E. or N.S.	9 9 osit'n 9 2 5 ys. s 11	Arch. 3. Arch. Appred Art 12. Art History Art 53, 54, 55. Design Art 56, 57, 58. Dr. & Lab. Science (see noto Psych. 1. General Electives M.S. and P.E. or N.S. It is necessary to h. 25 credits of major fore taking Education	2 	Art 103, 104 or 157, Art 105, 106 Art 160 or 161 or 162. Sculpture (3) or Cost (2) plus Electives. Educ. 9. Psych. Sec. Educ. 60. Secondary Educ. 70. Methods Educ. 90. Measures Political Science 1†	1586 Life 3 Des. 12 Educ. 3 Educ. 3 5 5
Fourth Year Art 20. Modern Sculg Art 100. Elem. Crafts, Art 101. Elem. Int. D Art 102. Applied Desi Art 126. Hist. Mod. P Art 150. Illustration Art 163 or 164. Comp. Educ. 75A. Methods Electives	Credits pture 2 es 2 gn 2 'aint. 2 'aint. 5 5 5 5 	Fifth Year Educ. 71, 72. Cadet T. Educ. 120. Educ. Soo History 164 Phil. 129. Esthetics Electives	Credits each. 8 3 5 5 24	The bachelor's degr awarded upon the o of the requirement four-year course. Tl diploma will be awar the completion of th ments for the fifth y	ee will be completion s of the re normal rded upon e require- ear.

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[†]The social science requirement may be satisfied by 15 credits in one or more of the following depart-, ments: sociology, economics, political science. Not to be taken by first quarter freshmen.

Note: Only courses in the following departments will be recognized: botany, zoology, chemistry, physics (except photography), geology.

Commercial Art

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Art 12. Art H Art 20. Mod. Art 53, 54, 55 Art 56, 57, 58 and Paintin Art 72. Sculpt Econ., Pol. Sc Electives	istory 5 Sculpture 2 J. Design 9 Drawing g 9 ure 3 ci., or Soc. 5 2	Art 105. Letterin Art 106. Comm. J Art 126. History Modern Painti Art 129. App. of Art 160 or 161 c Art 169, 170, or Lab, Science (see Phys. Educ. 15 (ag 3 of 2 ng 2 Design 2 2 or 162	Art 107. Portrait Art 150 or 151. II Art 163 or 164. (Art 166. Design Econ. 57 Approved Journ Psych. 21 Electives	Paint'g 3 dustrat'n 5 Comp 5 3 10 to 15 8 to 13
		plus Electives			

Norn: Only courses in the following departments will be recognized: botany, zoology, chemistry, physics (except photography), geology.

Industrial Design

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Arch. 4, 5, 6. Eler of Design Arch. 7, 8, 9. Grapl Art 12. Art History Art 53, 54, 55. Desi Art 58. Water Colo Art 72, 73. Sculptu Phys. Educ. 10° or Educ. 15 plus Ele	nents nics . 12 hics . 3 5 gn . 9 r 3 ire 6 Phys, ctives 7	Arch. 3. Arch. Ap Arct. 3. Arch. Ap Art 80, 81, 82. Ft Design Art 103, 104. Ceran Art 116. Des. for J Art 126. History o Modern Painting Art 157, 158. Desi in Metal Chemistry Econ., Pol. Sci. or	prec 2 irn. 9 ic Art 6 Industry 3 f c 2 gn 6 10 Soc 5	Art 20. Mod. Scu Art 83. Hist. of 1 Art 105. Letterin Art 110, 111, or Art 172, 173, or Interior Design Art 129. Appreci of Design Econ. 57 Gen. Engineering Mech. Engin, 53,	Ipture 2 'urn 2 g 112, or 174. 5 ation
		Electives	2	Psychology Electives	5

Interior Design

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Arch. 1, 2, 3. Appre	ciation 6	Art 12. Art Hist	ory 5	Arch. 101, 102, 10	3. History
Arch. 4, 5, 6. Eleme	ents	Art 58. Water Co	olor 3	of Architecture	
of Design		Art 62. Essential	3 of	Art 20. Modern S	sculpture. 2
Art 20 21 22 Euro	D_{11CS}	Are 110 111 112		Modern Deintin	01 2
Art 83. Hist. of Fu	n 2	Design		Art 172, 173, 174.	Interior
Phys. Educ. 15 (me	en)	Econ., Pol. Sci.,	or Soc 5	Design	
plus Electives		Lab. Science (see	note)10	H.E. 25. Textiles.	5
M.S. and P.E. or I	v.s+	Electives	5	H.E. 41 or 47 plu	is Elec15

NOTE: Only courses in the following departments will be recognized: botany, zoology, chemistry physics (except photography), geology.

Painting

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Art 12. Art Histor Art 56, 57, 58. Dra and Painting Art 65, 66, 67. Dra and Painting Art 72. Sculpture. Phys. Educ. 15 (m plus Electives M.S. and P.E. or	y 5 awing awing 9 9 9 3 ten) 	Arch. 3. Arch. A Art 20. Modern S. Art 107, 108, 109. Art 126, Hist. Mo Approved Design Econ., Pol. Sci. c Lab. Science (see Electives	opprec 2 culpture. 2 Portrait 9 d. Paint. 2	Art 160, 161, 1 Art 163, 164. C Electives	62. Life 9 omposition.10 26
		Sculpti	ıre		
Second Year	Credits	Third Year	Credits	Fourth Year	Credits

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Art 12. Art Histor Art 56, 57, 58. Dra and Painting Art 72. 73, 74. Sc Phys. Educ. 15 (m plus Electives M.S. and P.E. or	y 5 wing ulpture. 9 en) 22 N.S+	Arch. 3. Arch. Ap Art 20. Mod. Sculj Art 103, 104. Pott Art 122, 123, 124. Art 126. Hist. Mod Econ., Pol. Sci., or Lab. Science (see 1	prec 2 pture 2 ery 6 Sculp 9 I. Paint. 2 r Soc 5 note)10	Art 132, 133, 13 Art 136, 137, 13 Sculpture Con Art 160, 161, 16 Electives	4. Sculp 9 8. 1p 9 2. Life 9 18
		Electives			

Preferred electives-Architectural Design and History of Ornament.

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NOTE: Only courses in the following departments will be recognized: botany, zoology, chemistry physics (except photography), geology.

Teaching Major and Minor in the College of Education

MAJOR IN ART EDUCATION

The following art courses are required for the degree of bachelor of arts. For the normal diploma recommendation an average grade of "B" or better is required. Both the major and minor are in art, and the candidate is expected to have a second minor in another field.

Applicants for the normal diploma are required to complete the curriculum of the current catalogue, unless the diploma is granted within five years from the date of entrance.

Samples of art work must be presented to the Director of the School of Art if advanced credit is desired. Creditable work done elsewhere may be substituted for equivalent required courses.

Major	Credits	First Minor for Art Majors	Credits
5. 6. 7. Drawing and Painting	9	12. Art History	5
9. 10. 11. Design	9	20. Modern Sculpture	2
53, 54, 55, Design	9	100. Elementary Crafts	2
56, 57, 58, Drawing and Painting		101. Elementary Interior Design	2
Sculpture or Costume Design	.3 or 2	102. Applied Design	2
150. Illustration	5	103, 104 or 157, 158, Ceramics or Me	tals. 6
160 or 161 or 162. Life	3	105, 106. Lettering, Commercial Design	а б
163 or 164. Composition	5	126. History of Modern Painting	2
	_	Arch. 3. Architecture Appreciation	2
Minimum total	52 or 51		-
		Minimum total	
Suggested	Electives:	15, 116, 161, 162, 164.	
Minor for	Non-Majors	Credits	

Minor for Non-Majors	U 1	60113
5, 6, 7. Drawing and Painting	••••	. ?
12. Art History		5
53, 54. Design		. 6
105. Lettering	•••••	3
Minimum Total		.36

MINOR OPEN TO HOME ECONOMICS	MAJORS IN TEXTILES AND CLOTHING
Credits	Credits
Art 5, 6. Drawing 6 Art 9, 10, 11. Design	Art 105. Lettering
Art 53, 54, 55. Advanced Design 9	
	Minimum total

BACTERIOLOGY

Russell S. Weiser, Acting Executive Officer, 420 Johnson Hall

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

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

Transfer students entering the undergraduate curricula shall be considered by a departmental committee and any examinations deemed necessary shall be required before the student is eligible for sponsorship by the department. A grade point average of 2.5 in all courses in bacteriology shall be required for

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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 Quarter Credits Winter Quarter English I. Composition 5 English 2. Chem. 1 or 21. General 5 Chem. 2 or *Zool. 1 or 3. Introduction Zool. 2 or 4 or Bot. 1. Elementary* 5 Bot. 2. El M.S. and P.E. or N.S+ M.S. and 1	er Credits Spring Quarter Credits omposition 5 Chem. 23, Qual. Analysis. 5 2. General 5 Women Introduction P.E. 10 or Soc. 1 5 Psych. 1 5 Men 2. or N.S+ Psych. 1 5 Soc. 1 5 M S and PE or N.S+

SECOND YEAR

Chem. 131. Organic 5	Chem. 132. Organic 5	Chem. 111. Quan. Analysis 5
Physics 1 or 4. General 5	Physics 2 or 5. General 5	Bact. 100. Fundamentals
Elective**	Elective**	of Bacteriology10
M.S. and P.E. or N.S+	M.S. and P.E. or N.S+	M.S. and P.E. or N.S+
*Medical Laboratorians are	advised to elect zoology.	
AAC		at to a state of the second second second

**Students planning to take option "a" (see below) in their third and fourth years are urged to use these electives for foreign language courses.

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 Bact. 105. Infec. Disease Anat. 105. Histology	<i>Credits</i> s 5 6	Winter Quarter Bact. 102. Sanitary and Clinical Methods	Credits	Spring Quarter	Credits
Group Option		Group Option		Group Opti	on
(a) Biology elective (b) Bact. 103. Pub. Hygi (c) Elective	5 ene 5 5	 (a) Chem. 140. Physical. Biology elective. Biology elective. Biective. (b) Elective. Anat. 101. General. (c) Elective. Bact. 107. Control of Micro-Org. 	3 5 5 3 5 5	 (a) Chem. 141. Physi Bact. 104. Serolog Bact. 120. Applic Elective (b) Bact. 104. Serolog Zool. 107. Parasit Elective (c) Bact. 120. Applic Bot. 115. Yeasts 4 	cal 3 sy 5 d 2 sy 5 ology 5 ology 5 d 5 S Molds 5

Elective

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Biological Sciences

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		
Group Option	1	Group Option		Group Optio	n.
 (a) Chem. 161. Physiol (b) Bact. 120. Applied (c) Bact. 130. Industria 	logical 5 5 al 5	 (a) Chem. 162. Physiol (b) Zool. 121. Microsco Technique 	ogical 5 pic	 (a) Electives. (b) Bact. 122. Applied Elective. (c) Boot. 132. Industry 	
		(c) Bact. 131. Industria	J 5	Bact. 122. Applied	

Cooperating Laboratories

Children's Orthopedic Hospital Lab.; director: Hildur Truesdon, B.S. Physicians' Clinical Laboratory; director: G. A. Magnusson, M.D. Polyclinic Laboratory; director: Homer Wheelon, M.D. Providence Hospital Laboratory; director: Alfred Balle, M.D. Seattle Department of Health Laboratory; director: Marie Mulhern, B.S. State Board of Health Laboratory; director: A. U. Simpson, M.D. Swedish Hospital Laboratory; director: D. H. Nickson, M.D. United States Department of Agriculture, Bureau of Agricultural Chemistry, and Engineering Western Regional Research Laboratory: T.L.

and Engineering, Western Regional Research Laboratory; director: T. L. Swenson, Ph.D.

U. S. Bureau of Fish and Wild Life, Technology Laboratory; director: Roger W. Harrison, M.S.

Virginia Mason Hospital Laboratory; director: Freda Holmes, M.S.

BIOLOGICAL SCIENCES

Anatomy-John L. Worcester, Executive Officer, Anatomy Building Botany-C. L. Hitchcock, Executive Officer, 306 Johnson Hall Zoology and Physiology-Trevor Kincaid, Executive Officer, 202 Johnson Hall

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

In this curriculum the student must select a major in anatomy, botany, or zoology. On selecting his major subject, the student should at once consult his major department, a member of which will act as his adviser. The adviser will plan a special curriculum for the student, fitting him for his chosen work.

FIRST YEAR

Autumn Quarter Cred. English 1. Composition 5 Botany or Zoology 5 Electives	 Winter Quarter English 2. Composition Botany or Zoology *Math. or Elective M.S. and P.E. or N.S 	Credits 5 5 5 +	Spring Quarter Mathematics or Elective. Electives M.S. and P.E. or N.S	Credits 5 10 +
	SECOND YEAR	2		
Chemistry or Physics S Major S Electives S M.S. and P.E. or N.S+	Chemistry or Physics Major Electives M.S. and P.E. or N.S	5 5 5 +	Major Electives M.S. and P.E. or N.S	5 10 +
	THIRD YEAR			
Major	Major. Pol. Sci., Soc., or Econ Electives	5 5 5	Major Electives	5 10
	FOURTH YEAD	R		
Major	Major Electives s of mathematics required,	5 10 which	Electives may be taken in high se	15 chool or

University. **All women must include Phys. Educ. 10 during their first year. The total number of credits must include Phys. Educ. 15 for men.

BOTANY

C. L. Hitchcock, Executive Officer, 306 Johnson Hall

(See Biological Sciences, page 93)

Students who wish to specialize in botany may choose between the group requirements on page 86 which lead to the degree of bachelor of science and the curriculum in Biological Sciences on page 93 which leads to the degree of bachelor of science in botany.

Students majoring in botany as a means of securing a liberal education may find the group requirements more advantageous. Students preparing for professional work in botany will probably prefer the curriculum in Biological Sciences.

There are several lines of professional work for which the preparation should consist of basic work in botany and supporting sciences followed by special training for the particular field chosen by the student. In some lines the special training can be advantageously taken here, while in other lines it would be better for the student to go to some other institution for the last year.

Students intending to major in botany should come to the office of the department, 306 Johnson Hall, for a conference to plan their work. It is desirable that this conference should be held at the beginning of the freshman year. If students transfer to botany from another department of the University or from another institution, the conference should be held at the time of transfer.

Teaching Major or Minor in the College of Education

Credits

Major			Minor	
Courses	Credits	Courses		Credi
1. Elementary Botany or its 3. Elementary Botany 8. Heredity 101. Ornamental Plants 24 or 25. Plant Propagation.	equivalent 5 	1. Elementary 2. Elementary 3. Elementary 101. Ornamental	Botany or its Botany Botany Plants	equivalent. 5
105 or 106 or 107. Morphology	& Evolution 5	Other courses to	make a minim	um total of 25

Other courses to make a minimum of.....40

CHEMISTRY

H. K. Benson, Executive Officer

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 courses, shall be required for graduation. Upon completion of the first 90 credits (equivalent to the work of the freshman and sophomore years) every student will be passed upon by a departmental committee which shall consider his academic record and other qualifications, and give any comprehensive examinations deemed necessary, to determine whether or not the department desires to sponsor the student in further work in his curriculum. All students from other schools entering the undergraduate curricula shall first be considered by a departmental committee, which shall pass on the credentials presented in chemistry courses and give any examinations that may be deemed necessary to determine the proper place to begin courses in this department.

Elective Curriculum

DEGREE: Bachelor of Science

The elective curriculum is designed for those desiring to major in chemistry as part of a broad general education or in preparation for teaching, or preliminary

Chemistry

to entering medicine. 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, pre-medical students may present 161-162); 15 credits each in college mathematics and physics; 10 credits in French or German. At least 20 credits in chemistry and 10 credits in physics should be completed among the first 90 credits (end of the sophomore year). The intention of the student to graduate with a major in chemistry should be declared not later than the end of the sophomore year.

Prescribed Curriculum

DEGREE: Bachelor of Science in Chemistry

FIRST YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Chem. 1 or 21. General.	5	Chem. 2 or 22. Generation	al 5	Chem. 23. Qual. Anal	lysis5
Math. 4. Plane Trig English 1. Composition	5	Math. 5. College Alge English 2. Composition	bra 5	Math. 6. Anal. Geom	
M.S. and P.E. or N.S	+	M.S. and P.E. or N.S	+	M.S. and P.E. or N.S.	+

SECOND YEAR

Physics 1 or 97. General 5 Physics 2 or 98. General 5 Physics 1 or 97. General 5 Math. 107. Calculus 5 Math. 108. Calculus 5 Math. 108. Calculus 5 Math. 108. Calculus	3 or 99. General 5 109. Calculus 5 1d P.E. or N.S+
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THIRD YEAR

Group options: (a) General; (b) Industrial; (c) Biochemical; (d) Oceanographical. In the curricula below, the letters (a), (b), (c), and (d) refer to these options respectively.

Autumn Quorter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Chem. 131. Organic Electives	5 5	Chem. 132. Organic ³ Electives	5 5	Chem. 133. Organic *Electives	5
Group Option	n	Group Optio	n	Group Optic	m
(a) Electives (b) ³ Chem. 121, Chem.	5	(a) Electives (b) Chem. 122. Inorga	5	(a) Electives (b) Chem. 123. Organi	5
Eng. Materials. (c) Physiol. 151. Adv.	5 or	Chem. Industrie (c) Physiol, 152, Adv.	s 5 or	Chem. Industrie (c) Physiol, 153. Adv.	s 5 or
Bact. 101. Gener (d) ⁴ Phys. 101. Intro. 1	al 5 Mod.	Bact. 102. Sanita (d) ⁴ Phys. 102. Intro.	ation5 Mod.	Bact. 103. Publi Hygiene	
Theories Elective	3 2	Theories Elective	····· 3 ···· 2	(d) 'Electives	5
		POURTH V	EAP		

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Chem. 181. Physical and Theoretical	۱ ۲	Chem. 182. Physical as Theoretical	nd 	Chem. 183. Physical Theoretical	and
Electives	4	Chem. 190. History of	Cnem. 2	Chem. 191. History (or Unem. Z
Group Option (a) Electives	8 5 1 5 3	Group Option (a) Electives (b) Chem. 172. Unit Operations Chem. 177. Chemin Engineering The	n 8 5 cal sis 3	Group Opti (a) Electives (b) Electives (c) Chem. 163. Biolo Electives (d) Electives	ion
 (c) Chem. 161. Biologics Electives	al 5 3 al 5 3	 (c) Chem. 162. Biologi Chem. 166. Bioche Preparations (d)⁴ Chem. 162. Biolog or Elective 	ical 5 mical 3 fical 5		

¹ Electives must be approved by department. Women must register for Phys. Educ. 10.
 ² In addition to the subjects specially listed above, 10 credits in either French or German are required to be completed before the end of the third year.
 ³ Chem. 51 and 52 (Chemical Calculations) are suggested before registering for Chem. 121.
 ⁴ Twenty-five credits of electives must be taken in the biological sciences or geology. The total number of credits for graduation must include Phys. Educ. 15 for men.

Major in Chemical Engineering

See College of Engineering, page 152.

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, with a grade point average of 2.5 therein and in all 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 (Latin and Greek)

H. B. Densmore, Executive Officer, 213 Denny Hall

DEGREE: Bachelor of Arts

Greek

For an undergraduate major at least 36 credits are required. These must be in courses above 1-2 and at least one-half of them must be in courses numbered 100 or higher. Two years of Latin in high school or Latin 1-2, 3 in the University are required, as is also a satisfactory showing in the Senior Examination given at the end of the senior year. A reading knowledge of German is recommended.

Latin

For an undergraduate major, the requirement is 36 credits, at least. These must be in the courses above 6 and at least half of them must be in courses numbered 100 or higher. Fifteen credits in Greek are required and, at the end of the senior year, the Senior Examination must be passed with a satisfactory grade.

NOTE: Courses in Classical Antiquities do not count towards a major or minor in Greek or Latin.

Teaching Major or Minor in Latin in the College of Education

For the teaching major, Greek 1-2, 3 are required, in addition to thirty-five approved credits in Latin and the senior examination. At least 18 credits must be in upper division courses.

Twenty approved credits, including Latin 106, are required for the minor. The student will be given an examination planned to test his knowledge of the Latin ordinarily taught in a standard four-year high school.

The prerequisite for any work toward either a major or a minor in Latin is three and one-half years of high school Latin or its equivalent. Courses 1-2, 3, 4, 5, 6 do not count toward a major or a minor.

2

Those who expect to teach not more than two years of Latin in the high school will receive a recommendation from the department on the satisfactory completion of ten credits from courses numbered 21 or above. Prerequisite for admission to the sections of courses 21-25 that will be specially adapted for this purpose will be Latin 4, 5, 6 or work implying equivalent capacity.

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 normal diploma in the College of Education. Usually, supplementary studies in literature are required. These should include English 64, 65 and two courses from 170, 171, 172.

Major	Credits	Minor	Credits
Drama 1. 2. Introduction to the Theatre.	4	Drama 1, 2. Introduction to the Theatre.	4
Drama 46, 47, 48. Theatre Speech	9	Drama 46, 47, 48. Theatre Speech	9
Drama 51, 52, 53. Acting	9	Drama 51, 52, 53. Acting (2 otrs.)	б
Drama 103. Scene Construction	3	Drama 103. Scene Construction	.)
Drama 104. Scene Design	3	Drama 104. Scene Design	.1
Drama 105. Theatrical Costume Design		Drama 105, Theatrical Costume Design	16
and Construction	3	and Construction	
Drama 106. Make-up	3	Drama 106. Make-up	.(
Drama 114. Stage Lighting	3	Drama 114. Stage Lighting	.)
Drama 121, 122, 123. Advanced Acting		• • •	-
(2 quarters)	6	Drama 127, 128, 129. Hist. of the Theatre.	.)
Drama 127, 128, 129. Hist. of the Theatre	6	07	} 6
Drama 151, 152, 153. Representative Play	's 9	Drama 151, 152, 153. Rep. Plays (2 qtrs.).	.]
Drama 181, 182, 183. Directing (1 quarter	r) 2		-
Drama 197. Theatre Organ. & Manageme	nt 2	Drama 197. Theatre Organ. & Managemen	t 2
Senior Major Examination	0		-
•			33
	62		

ECONOMICS

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

DEGREE: Bachelor of Arts

The major in Economics in the College of Arts and Sciences appeals particularly to four classes of students: (1) those who wish to take advantage of the opportunity to acquire a general training in economic principles; (2) students desiring to enter the School of Law and who wish to have a fundamental background training in economics; (3) students looking forward to a career in government service; and (4) students desiring preparation for pursuing graduate study in the social sciences.

Majors in economics in the College of Arts and Sciences must meet the general requirements of that college. They must take Economics and Business 1-2, 60, 105, 185, 187, and four additional cuorses selected from the following: 103, 104, 106, 107, 108, 109, 120, 121, 125, 131, 141, 142, 161, 163, 164, 171, 172, 175, 177, 181.

Courses 103 to 109 are intermediate courses and may be taken in the third quarter of the sophomore year.

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. An academic major or minor in economics must include the following:

Major	Credits	Minor	Credits
E.B. 1-2. General Economics E.B. 60. Statistical Analysis E.B. 105. Economics of Labor B.B. 185. Advanced Economics D. 187. Develop de Economics	5 5 5	E.B. 1-2. General Economics E.B. 185. Advanced Economics Additional credits chosen from the following list	
Additional credits chosen from the following list	<u>20</u> <u>20</u> 50		20

Electives from which to choose additional credits: E. B. 103, 104, 105, 106, 107, 108, 121, 131, 141, 142, 161, 163, 171, 172, 175, 177, 181, 187.

ENGLISH

Composition and Creative Writing English Language and Literature

D. D. Griffith, Executive Officer, 107 Parrington Hall

DEGREE: Bachelor of Arts

Major Curricula in the College of Arts and Sciences and Major and Minor Curricula in the College of Education

Majors and minors in English may be earned by credit in accordance with the schedules listed below. Variation in the schedules is permitted if approved in writing by the department and if the variation represents a coordinated study program. Normally, from 45 to 60 credits are required for a major of which 50 per cent must be upper division.

Majors in either of the divisions of English may be offered in the College of Arts and Sciences or in the College of Education. Minors may be offered in the College of Education for a normal diploma and are presented here for others who desire a basic organization of English work requiring fewer credits than the major. The minor is normally from 29 to 38 credits.

Note that there is some variation in schedules below for those desiring professional certification as teachers of English. Education 75H, I, or J is required of majors in literature, or composition. A grade point average of 2.25 in upper division English courses is required of majors and minors desiring certification for a normal diploma. English 1 and 2 are general college requirements and may not be counted toward a major or a minor.

At the end of the senior year, all majors in the College of Arts and Sciences and in the College of Education are required to pass the senior examination given by the division of English in which the major falls. These examinations are divided into two parts, the first testing the general knowledge of the field of the major and the second testing the student's knowledge of two special fields and his ability to write stylistically effective and well organized papers in these special fields. The major is responsible for review of his previous courses, independent reading which will advance him in the knowledge and the scholarly methods of his chosen field, and for continual growth in speaking and writing skills. For schedules leading toward the degree of master of arts or doctor of philosophy with major work in English, see Graduate School section, page 174.

Composition and Creative Writing

As the individual student objectives vary, no formal schedule is outlined for a major in Composition. In general, the requirements are eighteen credits from the Composition and Creative Writing major courses listed below, supplemented by English 58, 64, 65, 66, and ten credits selected from literature major courses (Shakespeare recommended) and from English 104, 106, 148, 166. For a teaching major, Speech 79 and English 117 are added to the above requirements.

English 110, 111, 112. Advanced Verse Writing. English 131, 132, 133. Advanced Non-Fictional Writing. English 137, 138, 139. Advanced Short Story Writing. English 156, 157, 158. Novel Writing. English 184, 185, 186. Creative Writing Conference. Drama 141, 112, 113. Playwriting. Drama 144, 145, 146. Dramatic Writing. Journalism 173, 174-175. Short Story Writing.

It should be noticed that these are all upper division courses for which there are lower division prerequisites.

The first minor in Composition and Creative Writing requires fifteen credits from the writing courses listed above, supplemented by English 58, 64, 65, 66. The second minor requires fifteen credits of advanced writing courses (English

The second minor requires fifteen credits of advanced writing courses (English 51 and above), supplemented by English 58 and at least one other literature course chosen from the list given above under the major.

English, Far Eastern

English Language and Literature

In literature, various types of courses are offered to satisfy the objectives of students desiring to elect English studies or to major in English. In English literature, English 64, 65, 66 comprise a survey which emphasizes the principal classics and their relations to their historic periods. Similarly, in American literature (English 67) important American writers are studied. English 117, 140, 148, include more than one historic period and emphasize important influences on modern thought.

Other courses are organized to develop the student's ability to understand literature of various types. Such courses are English 57, 58, 73, 96, 104, 106, and 166. All of these courses are designed both for the general student and the English major.

Courses known as *major* courses are intended for those desiring to continue English studies as an intellectual interest, as a history of culture, or in preparation for advanced studies. The courses of this type are provided and recommended as year courses: 180, 181, 182; 150, 151, 153; 170, 171, 172 and/or 154; 167, 168, 169; 144, 145, 177; 177, 178, 148; 174, 175, 176 or 106; 161, 162, 163.

The department also accepts for elective credit toward an English major, courses in General Literature, courses in foreign literatures offered by the ancient and modern language departments in English translation, and courses in speech and drama.

Major Cre	dits
English 64, 65, 66	15
English 170, or 168, or 144, or 145	5
English 177, or 174, or 162	ş
Composition. Literature. Speech or Drama, elective	5 15
Senior Examination	Ö
	50

For a teaching major in the College of Education, the above electives must include Speech 79, English 117, and three credits of advanced composition.

First Minor	Credits	Second Minor	Credits
English 64, 65, 66	15	English 64, 65, 66 or 57, 58, 117	15
Comp., Lit., Speech, or Drama elective.		Comp., Lit., Speech, or Drama elective.	š
	36		24

For a teaching first minor in the College of Education, the above electives must include Speech 79 and either advanced composition or English 117.

FAR EASTERN

George Edward Taylor, Executive Officer, 228 Denny Hall

DEGREE: Bachelor of Arts

One general and four specialized curricula are offered to students desiring to major in the Far Eastern Department, of which the student is required, after consultation, to select one. This choice must ordinarily be made not later than the sophomore year.

GENERAL MAJOR

MAJOR IN JAPANESE STUDIES

Credits		Credits
10. Problems of the Pacific	10. Problems of the Pacific 1. Japanese Language. Intensive A 107. Japanese Language. Intensive B 109. Japanese Language. Intensive C Elect.: 41, 90, 91, 115, 180, 181, min. of	5 10 10 10 10 15 50
47		

In addition to the above, F.E. 44 and 147, Chinese Language, are strongly recommended.

MAIOR IN CHINESE STUDIES

MAJOR IN SLAVIC STUDIES

			•		_
-	R	а	12	r	s

Lredits	Creaus
10. Problems of the Pacific	7. Russian Language Intensive A 10
44. Chinese Language Intensive A 10	141. Russian Language Intensive B 10
147. Chinese Language Intensive B 10	162. Russian Language Intensive C 10
149. Chinese Language Intensive C 10	130. Russian Literature 5
90. Ancient Chinese History 5	136. Modern Russian History 5
180. Modern Chinese History 5	10. Problems of the Pacific or
115. History of Religion 3	116. History of Religion
Approved elect.: 40, 192, minimum of 3	Appr. elect.: 40, 190, 196, min. of 5
51	48-50

MAJOR IN ORIENTAL LANGUAGES

Credits 10. Problems of the Pacific..... 5 Language electives (Hebrew, Sanskrit, Arabic, Aramaic, Chinese, Japanese) min. of. .45 Approved electives: 50, 52, 115, 116, 170, 171, or reading courses......15 65

FISHERIES

W. F. Thompson, Director, 2 Fisheries Building

DEGREE: Bachelor of Science-elective course

DEGREE: Bachelor of Science in Fisheries

Effective since the fall quarter of 1939, 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.

Prescribed Curriculum in Fisheries

DEGREE: Bachelor of Science in Fisheries

FIRST YEAR

Aulumn Quarler	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 1. Composition Zool. 1. Animal Biology Chem. 1 or 21. General. Fish. 108 M.S. and P.E. or N.S.	5 5 1 +	English 2. Compositio Zool. 2. General Zool. Chem. 2 or 22. General Fish. 109 M.S. and P.E. or N.S	m 5 5 1 +	Elective Zool. 5. Embryology. Chem. 23. Qual. Anal Fish. 110 M.S. and P.E. or N.S.	5 5 1 +
		SECOND Y	EAR		
*German or French	5	*German or French	5	Elective	5

Zoology or Fisheries (see options A, B, or C) 5 Math. 4 or 31 5 M.S. and P.E. or N.S+	Zoology or Fisheries (see options A, B, or C)5 Math. 5 or 325 M.S. and P.E. or N.S+	Zoology or Fisheries (see options A, B, or C) 5 Math. 6, 13 or 33
.		

*German is recommended. 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. Physical Education 15 must be included.

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 remaining elective credit hours under options B and C must be chosen from subjects recommended by the School of Fisheries.

Fisheries, Food Technology

Option A. General Fisheries Biology. Fish. 101, 102, 103, 105, 106, 107 are required. A student must earn not less than 39 credits in fisheries and not over 96 credits in any two departments. The remaining elective credits must be approved by the School of Fisheries. Zoology 129 and 130 are recommended to students interested in fresh water fish and game management.

Option B. Life History and Conservation. Fish. 101, 102, 103, 105, 106, 107, 157, 158 are required. Courses 125, 126 may be substituted for 157 and 158. In addition 15 credits of mathematics besides that specified in the second year are required.

Option C. Hatchery Biology, Propagation and Rearing of Fish. Fish. 101, 102, 103, 105, 106, 107, 151, 152, 153, 154 are required. Fish. 125 or 157 may be substituted for 103. Chem. 144 (or 161-162), Biological; Bacteriology 101, General, are required.

Recommended Electives. In options (B), and (C), any fisheries, zoological or oceanographical course may count as an elective. The following additional subjects are recommended as electives: Chemistry: 109, 110, or 111, Quantitative Analysis; 131, 132, 133, Organic; 161-162, Biological. Mathematics: 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.

Elective Curriculum in Fisheries

DEGREE: Bachelor of Science

Students may choose the elective departmental major when they do not wish to follow the prescribed curriculum in fisheries.

The requirements, other than those here specified, will be as for elective departmental majors in the College of Arts and Sciences, page 86. In connection with these requirements, the departments of the College are divided into three groups.

For the first two years in the School of Fisheries, there is required a minimum of thirty credits in Group III, 20 credits in either Group I or II and 10 credits in the remaining group, subject to the approval of the School. At least thirty-nine credits must be completed in Fisheries for the major.

FOOD TECHNOLOGY

B. S. Henry, Chairman, 420 Johnson Hall; W. L. Beuschlein, H. C. Douglas, 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.

College of Arts and Sciences

DEGREE: Bachelor of Science in Food Technology

FIRST YEAR

Autumn Qaarter Credits Chem. 1. General 5 English 1. Composition 5 Physics 1. General 5 M.S. and P.E. or N.S +	Winter Quarter Credits Chem. 2. General 5 English 2. Composition 5 Physics 2. General 5 M.S. and P.E. or N.S +	Spring Quarter Credits Chem. 23. Qual. Analysis. 5 Physics 3. General5 Math. 1 or 45 P.E. 15 or P.E. 10, or exemption exam2-5 M.S. and P.E. or N.S+
	SECOND YEAR	
Chem. 131. Organic 5 Zool. 1. Animal Biology 5	Chem. 132. Organic 5 Zool. 2. General 5 or	Chem. 111. Quant.Analysis 5 Bact. 100. Fundamentals10 M.S. and P.E. or N.S +
Bot. 1. Elementary 5 M.S. and P.E. or N.S + Group Option	Bot. 2. Elementary 5 M.S. and P.E. or N.S + Group Option	
(a) Math. 4 or 5 5 (b) H.E. 15 5	(a) Math. 5 or 6 5 (b) H.E. 115 3 Elective 2	
	THIRD YEAR	
Chem. 161. Biochem 5 Soc. Science Elective 5	Chem. 162. Biochem 5 Chem. 140. Elem. Physical 3 Bact. 107. Spoilage 5	Chem. 104. Food Anal 4 Chem. 141. Elem. Physical 3 Bot. 115. Yeasts & Molds. 5
Group Option	Group O <u>p</u> tion	Group Option
(a) Bact. 105. Infect. Dis. 5 (b) H.E. 107. Nutrition 5	(a) Elective 2 (b) H.E. 108. Nutrition 3	(a) †H.E. 110. Food Prep. 3 †H.E. 111. Nutrition. 3
	FOURTH YEAR	
Bact. 130. Industrial 5 Optional*	Bact. 131. Industrial 5 Optional [*] 5	Bact. 132. Industrial S
Grou <u>p</u> Option	Group Option	Group Option
(a) Chem. 121. Industrial. 5(b) Bact. 105. Infect. Dis. 5	(a) Chem. 122. Industrial. 5 (b) Elective 5	(a) Elective 6 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

The Department of General Literature offers a synthetic view of European literature and considers literature in general as a form of human expression.

A major in general literature requires a reading knowledge of two foreign languages. French and German are especially recommended. 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 should earn 18 credits in lower division courses in either English, Latin, Oriental, or Romance literature.

For his major, the student should select in supplementary courses from history (especially History 3 and 4, Survey of Western Civilization), philosophy (especially Esthetics and the History of Philosophy), English, and translated literature in Chinese, German, Greek, Japanese, Latin, Persian, Romance, Russian, Sanskrit and Scandinavian. Such preparatory and supplementary courses are:

English Literature: 57, 58, 64, 65, 66, 104, 106, 140. Far Eastern: 50, 52, 130, 170, 171. French: 118, 119, 120; 154, 155, 156. General Literature: 51-52-53. German: 100, 103. Greek: 11, 13, 17, 18.

Italian: 121, 122, 123; 181, 182; 184. Latin: 11, 13. Romanic Languages: 34, 35, 36; or 134, 135,

136. Scandinavian Literature: 109, 110, 111; 180,

181, 182. Spanish: 118, 119, 120.

The student should consult his adviser as early as possible and arrange a logical sequence of courses. This sequence should include a comprehensive survey of at least one national literature, some studies in several, and detailed knowledge of one.

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. A 10-20-30 distribution of credits in the lower division groups with a grade point average of 2.0.

2. 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. The special fields at present are:

Social Science

Language and Literature

Physical Science Biological Science

Fine Arts

Special subjects may include any phase of thought or vocational objective from any branch of knowledge that can be handled effectively in General Studies with the help of the instructors in the other departments concerned.

3. Formulation of a curriculum covering the final two years or more of the course, to be recommended by the adviser and approved by the committee.

4. Completion of at least 70 credits in the chosen field or subject. The Bachelor of Arts degree is awarded when the major subject is in Group I or II; the Bachelor of Science, when the major subject is in Group III.

5. Completion of at least sixty upper division credits. This number may need to be increased considerably in order to meet the further requirement that at least half of the credits in the major be upper division.

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

Prospective majors should consult the chairman for assignment to an adviser on courses of study and major interest.

Curricula developed in General Studies give admission to the School of Librarianship and to the Graduate School of Social Work. There are at present special curricula for the Blind, in Radio Production and Management, the less specialized aspects of Industrial Management, Advertising, Art and Ceramics, Music for Radio, Latin-American Studies, Anthropology, Anthropology of the Americas, Home Relations, and Personnel Work, in addition to the numerous programs made out to supply the special needs of individual students.

Latin-American Studies. The major in Latin-American Studies is directed by an interdepartmental committee (Professors H. L. Nostrand, chairman; H. B. Densmore, ex-officio; and department representatives as follows: Economics and Business, Professor Macy Skinner; Geography, Professor Albert L. Seeman; History, Professor C. Eden Quainton; Political Science, Professors Linden A. Mander and Maxim von Brevern; Romanic Languages, Professors G. W. Umphrey and Carlos Garcia-Prada). The objectives of the major are, first, the student's general education, pursued through a many-sided and coherent study of a foreign culture; and secondarily, preparation for possible service to inter-American relations, presumably as an expert in some branch of science, technology, business, finance, government or scholarship. The program of study is adapted to individual cases, but it must meet the requirements for graduation in General Studies, and should include the following courses as a minimum:

College of Arts and Sciences

The following courses are suggested as being particularly helpful: Anthropology 51, Race and Language; Economics and Business 107, World Economic Policies; History 159, U. S. in World Affairs; Music 161, 162, Music in the Americas; Philosophy 2, Social Ethics; Political Science 1; Psychology 118, Social Psychology; Sociology 169, Pacific Rim.

For advice as to additional courses in any of these fields, the student should consult the member of the committee who represents the college or school concerned.

GEOGRAPHY

Howard H. Martin, Executive Officer, Social Sciences Hall

DEGREE: Bachelor of Arts

Major in Geography

Credits

Credits

Geog. 1-101. Regional Geography or Geog. 7. Economic Geography Geog. 11-111. Climatc Geog. 12. Regional Climatology or Geog. 22. Physical Geography	5 5	Geog. 102. United States Geog. 155. Influences of Geog. Environment Geog. 170. Conserv. of Natural Resources Approved geography electives	5 5 15

Majors should elect courses in economics, political science, history, sociology, and anthropology. Students desiring to specialize in climatology or meteorology should consult with the department concerning a program.

Pre-Meteorology

Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Physics 1. General 5	Physics 2. General 5	Physics 3. General 5
Math. 4. Trigonometry 5	Math. 5. College Algebra. 5	Math. 6. Analyt. Geom 5
Geog. 1. Regional, or	Geog. 1. Regional, or	Geog. 1. Regional, or
Geog. 2. Physical, or	Geog. 2. Physical, or	Geog. 2. Physical, or
Geog. 11. Climate 5	Geog. 11. Climate 5	Geog. 11. Climate 5
Geog. 11 or 2 may be taken	before 1.	
Flectives sonroved by the d	enartment may be substituted for	not more than 15 credits

Preferred electives: Gen. Engr. 1, any language, Women must include P.E. 10.

Teaching Major or Minor in the College of Education

Major	Credits	First Minor	Credits
Geog. 1-101. Regional Geog. or Geog. 7. Economic Geography Geog. 102. United States Geog. 101. Pacific Northwest Geog. 140. Geog. in the Social Studies Geog. 155. Influence of Environment Geog. 170. Conservation Approved Geography electives	5 5 5 5 5 5 5 5 5 5 5 5 5 5	Geog. 1-101. Regional Geog., or Geog. 7. Economic Geography Geog. 102. United States Geog. 110. Pacific Northwest Geog. 170. Conservation Geog. 140. Geog. in the Social Studie Approved Electives Minimum total	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Minimum total	45		
Second Minor			Credits –
Geog. 1-101. Regional Geogra Geog. 7. Economic Geography Geog. 102. United States Geog. 110. Pacific Northwest. Geog. 125. Geographic Backgr Geog. 140. Geography in the	phy. or ound of H Social Stud	istory.	5 5 3 3

Minimum total

Geology

GEOLOGY

G. E. Goodspeed, Executive Officer, 114 Johnson Hall

DEGREE: Bachelor of Science

Recommendations applying to all undergraduate curricula in Geology:

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

DEGREE: Bachelor of Science in Geology

FIRST YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Chem. 1 or 21. Genera Math. 4. Trigonomet G.E. 1. Engin. Draw P.E. 4 (women); Elective (men) M.S. and P.E. or N.	ral 5 ry 5 ing 3 2 S+	Chem. 2 or 22. Gen. Math. 5. College A G.E. 2. Engin. Drav P.E. 6, 8. (Women, Elective (Men) M.S. and P.E. or M	eral 5 lgebra. 5 ving 3) 4 2 V.S+	Chem. 23. Qual. A English 1. Compos G.E. 21. Plane Sur G.E. 3. Drafting F M.S. and P.E. or	nalysis. 5 iition 5 rveying. 3 Problems 3 N.S+
		SECOND Y	EAR		
Geol. 5. Rocks & Mine Physics 1. General Zool. 1. Elementary M.S. and P.E. or N.S.	rals 5 5 5 +	Geol. 6. Elem. Physics Physics 2. General Lit. 67. Sur. American M.S. and P.E. or N.S.	raphy 5 5 Lit5 +	Geol. 7. Historical Ge Geol. 121. Mineralog English 2. Compositi M.S. and P.E. or N.S.	cology 5 y 5 on 5 S+
		THIRD YE	AR		
a 1 a		Carl ANA Datasanah		Cash 105 Determent	L

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FOURTH YEAR

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

*Por those who desire to specialize in stratigraphical geology, the professional electives should include such courses as Mesozoic geology, Tertiary geology and stratigraphy. For petrological geology, courses in physical chemistry and quantitative analysis are essential, and for mining geology, courses in mining en-gineering, metallurgy and metallurgical analysis. For physicographic geology, courses in map interpretation, geomorphology and glacial geology are necessary. A fifth year may be necessary for the completion of the above schedule, if all of the important pro-fessional electives are to be included. The total number of credits must include Physical Education 15 for man

The total number of credits must include Physical Education 15 for men.

Teaching Major or Minor in the College of Education

Major	Credits	Minor ·	Credits
Geol. 5 or 105. Rocks and Miner Geol. 6 or 106. Physiography Geol. 7 or 107. Historical Geolog Geol. 112. Physiography of Easte Geol. 113. Physiography of West Approved electives	als	Geol. 1. Introduction to B Geol. 5 or 105. Rocks and Geol. 6 or 106. Physiograp Approved electives Minimum total	arth Science 5 Minerals
Minimum total			

College of Arts and Sciences

GERMANIC LANGUAGES AND LITERATURE

Curtis C. D. Vail, Executive Officer, 111 Denny Hall

DEGREE: Bachelor of Arts

Students becoming majors in this department should have had college German 1, 2, 3, plus three credits of second-year German, or the high school equivalent, to be determined by the executive officer of the department.

Departmental Requirements

Ger. *4. 7, 10, 30. Ger. 120, 121, 122. Ger. 128. Phonetics Electives	Second year work, about Grammar and Composition	Cred	1113 5 6 2 23
			36

*Two credits of this 5-credit course count toward a major or a minor.

For the major, 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.

It is advised that the student distribute his major work over the entire college course, in order to avoid periods of disuse.

Teaching Major or Minor in the College of Education

For the major in the College of Education, 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; onethird 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, the teachers' course. Students presenting a minor in German with a major in another foreign language may, with special permission, be excused from this requirement.

HISTORY

W. Stull Holt, Executive Officer, 308B Social Sciences Hall

DEGREE: Bachelor of Arts

Departmental Requirements

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.

Advanced Degrees. See Graduate School section, page 174, for requirements for advanced degrees.

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 at least ten additional hours in American history. The remaining credits are to be selected from upper division courses.

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

General Major. Students who anticipate graduate work and need a background of foreign language and extended work in the basic sciences may find the General Major best suited to their needs. Required Home Economics courses include the following: H.E. 12, 15, 25, 107-108, 141, 144, 145, 147, 181, 190, and their prerequisites.

Textiles, Clothing and Art Major: Required home economics courses include: 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, the director of the School should be consulted concerning substitution of courses in economics and business for equivalent art requirements.

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

Professional Curricula

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

Teacher Training

Bachelor of Science in Home Economics

This curriculum requires the completion of 225 credits plus five quarters of physical education. Students may, with the consent of the director, substitute ten credits in other subjects for home economics courses.

Students who do not intend to teach but wish to combine Home Economics and Social Work, may omit Education courses.

Students interested in home economics in business may, with the consent of the director, substitute Speech 40, Journalism 130, and H.E. 126 for courses in Education.

Five years of college training are required for the three-year normal diploma, requisite for high school teaching in the State of Washington. Completion of the teacher-training curriculum in general home economics, together with the completion of the requirements for the three-year normal diploma, entitles a graduate to a certificate to teach vocational education in any high school which is subsidized by the federal government under the Smith-Hughes and George-Deen acts.

College of Arts and Sciences

FIRST YEAR

Autumn Quarter Credits English 1 5 H.E. 7 2 Art 9 3 Elective in Language, Literature, or History. 5 Physical Education +	Winter Quarter Credits English 2 5 Chem. 1 or 21. General 5 Elective in Language, Literature, or History 5 Physical Education	Spring Quarter Credits H.E. 12. Costume Design 5 Chem. 2 or 22. General . 5 P.E. 6
	SECOND YEAR	
Physiol. 7. Elementary . 5 Chem. 135. Organic 4 H.E. 15. Food Preparation 5 P.E. 4 2 Physical Education+	Physics 89 5 Chem. 136. Organic 4 H.E. 115. Food Prep	Physics 90 5 Bact. 101. General
	THIRD YEAR	
H.E. 107. Nutrition 5 H.E. 112. Costume Design 3 E.B. 4. Survey 5 Electives 2	H.E. 108. Nutrition 3 H.E. 113. Costume Design 3 Educ. 9. Psychology of Secondary Education 3 Psych. 1. General 5	H.E. 116. Advanced Food Preparation 5 H.E. 114. Costume Design 3 H.E. 141. The House, Equip., Management 5 H.E. 144. Income

FOURTH YEAR

Management 3

Educ. 70. Intro. to H.S. Procedure5 Hist. 164. Northwest 5 N.Ed. 5. Home Nursing . 3	Educ. 90. Measurement . 2 Soc. 1 or 150. Survey 5 H.E. 145. Fam. Rel'nships 3 H.E. 190. Child Care 5 Educ 5	H.E. 147. Home Furn 5 Educ. 120. Educ. Sociol 3 Electives
Elective	Educ. 75NA 3	

FIFTH YEAR

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

Educ.	30.	State Manual 0	Educ. 60. Principles	Credits 3
Educ.	90.	Measurement 2	and Flectives to total 225 credits	

For secondary certification, History 164 and fifteen quarter credits of contem-porary social problems must be included. Courses in current history, political science, economics and sociology will satisfy this requirement.

Preferred electives: Language; Literature; History; Psychology 131, Child Psy-chology; S.W. 176, The Rural Community; H.E. 180, Family Incomes and Consumption.

Students who have high school chemistry may substitute Chem. 137 for Chem. 135-136.

A teaching minor in Textiles and Clothing requires Home Economics 12, 25, 147, 112, 113, 114, and Art 9. A Bachelor of Science degree will be awarded upon the completion of 180 credits plus 5 credits of Physical Education as scheduled in the first four years in the Teacher-Training curriculum.

Institution Administration

Bachelor of Science in Home Economics

This curriculum requires the completion of 195 credits plus five quarters of physical education. Students may, with the consent of the director, substitute ten credits in other subjects for home economics courses.

Students interested in home economics in business may, with the consent of the director, substitute Speech 40, Journalism 130, and H.E. 126 for H. E. 121, 122, 123, 124. Students who have credit in high school physics may omit Physics 89-90.
FIRST YEAR

Autumn Quarter Credits English 1 5 H.E. 7 2 Art 9. Design 3 Elective in Language, 1 Literature, or History 5 5 Physical Education +	Winter Quarter Credits English 25 Chem. 1 or 21. General 5 Elective in Language, Literature, or History 5 Physical Education+	Spring Quarter Credits H.E. 15. Food Prep5 5 Chem. 2 or 22. General5 5 P.E. 62 2 Arch. 32 2 Physical Education+ 2
	SECOND YEAR	
Physiol. 7. Elementary 5 H.E. 181. Consum'r Probs. 3 H.E. 115. Food Prep 3 Chem. 135. Organic 4 Physical Education+	Physics 89 5 Chem. 136. Organic 4 E.B. 1. Principles 5 P.E. 4. 2 4 H.E. 131. Clothing 2 Selection 2 Physical Education 2	Physics 90 5 E.B. 2. Principles 5 Soc. 1 or 150. Survey 5
	THIRD YEAR	
H.E. 107. Nutrition 5 H.E. 141. The House, Equip., Management 5 Psych. 1. General 5	H.E. 108. Nutrition 3 H.E. 26. Institution Textiles	H.E. 190. Child Care 5 Chem. 144. Physiological. 5 Elective 5
	FOURTH YEAR	
H.E. 147. Home Furn 5 H.E. 144. Income Mgmt. 3 Educ. 70. Introduction to H.S. Procedure 5 Elective	H.E. 122. Institution Purchasing	H.E. 121. Institution Food Preparation 5 H.E. 123. Instit. Mgmt. I. 3 H.E. 191. Diet Therapy 3 Elective

H.E. 145. Family Relationships 3 E.B. 62. Prin. of Acct'g. 5

FIFTH YEAR

Electives to total 180 credits will be accepted for the duration.

Preferred electives: See Teacher Training Curriculum, also H.E. 175.

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.

The University Commons and Residence Halls are operated under the supervision of the School of Home Economics. They are used as practice fields for students in Institution Administration.

Textiles, Clothing and Art

Bachelor of Arts in Home Economics

This curriculum requires the completion of 180 credits plus five quarters of physical education.

FIRST YEAR

Autumn Quarter English 1 H.E. 7 Art 9. Design P.E. 10. Physical Edu Physical Education	Credüts 5 2 3 1c 5 +	Winter Qua English 2 Chem. 1 or Art 10. De Art 5. Drav Physical Ed	21. Gener sign wing ducation	Credüts 5 al 5 3 3 +	Spring Quarter H.E. 25. Textiles Chem. 2 or 22. Gene Art 11. Design Art 6. Drawing Physical Education	Credits 5 2ral 5 3 3 +
		SEC	OND YEA	R		
H.E. 12. Costume Des Hist. 1. Med. & Mod. European History Psych. 1. General	ign. 5 5 5	E.B. 4. Su Hist. 2. Me Elective Physical Ed	rvey d. & Mod ducation	5 5 +	Soc. 1. Survey of So Arch. 3 H.E. 147. Home Fur Elective	nc 5 2 n 5 3

Psych. 1. General..... 5 Physical Education.....+

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College of Arts and Sciences

THIRD YEAR

H.E. 112. Costume Design 3 Art 169. Costume Design. 2 H.E. 181. Consumer Problems	H.E. 113. Costume Design 3 Art 170. Costume Design. 2 Electives10	H.E. 114. Costume Design 3 Art 171. Costume Design. 2 H.E. 144. Income Mgmt. 3 Electives7
--	---	--

FOURTH YEAR

Hist. 114. Culture of the Renaissance	H.E. 198. Historic Textiles 3 H.E. 161. Adv. Costume Design & Construction. 5 Electives	H.E. 145. Fam. Relations. 5 H.E. 133. Hist. of Costume 5 Phil. 1. Introduction to Philosophy 5
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Teaching Major or Minor in the College of Education

G

See Teacher Training curriculum, page 107.

Teaching Major in General Home Economics-College of Education

Students in Home Economics may satisfy the requirements for a major and one minor by work in Home Economics.

I.E. 12. Costume Design and Construction 5	
I.E. 15. Pood Preparation	
I.E. 107-108. Nutrition	
I.E. 112, 113, 114. Costume Design and Construction	
LE. 141. Household Management 5	
I.E. 144, 145. Household Management and Family Relationships	
I.E. 148. Home Management House	
L.E. 181. Consumer Buying	
Minimum total	

Prerequisites: Art 9, Chem. 1 and 2, Chem. 135-136, Physiol. 7. Related courses that should be included: Physics 89-90; Arch. 3; Bact. 101; Nursing 5; Zool. 17; Econ. 4; Sociol. 1; Psych. 1. Major must include Educ. 75NA.

Home Economics and Journalism

Bachelor of Science in Home Economics

195 credits required

FIRST YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 1	5	English 2	5	English 3 or Lang.,	
Art 9	2	Lang., Lit., or Hist.	erai . 5	Lit., or History Chem. 2 or 22 Gene	5
Journalism 1	1	Physical Education	+	Physical Education .	+
Lang., Lit., or Hist. Physical Education				Group Optio	n
				b. P.E. 10	
				c. P.E. 6	2

1	1	n	
1		v	

School of Journalism

SECOND YEAR

Autumn Quarter Soc. 1 Physical Education Group Op a. Physiol. 7 Chem. 137 b. H.E. 12 Physiol. 7	Credits 5 1 + tion 5 5 5 5	Winter Quarter E.B. 1. Psych. 1. Physical Education Group Opt. a. H.E. 24 H.E. 24 b. H.E. 25	Credits 5 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Spring Quarter E.B. 2 Journalism 51 H.E. 141	<i>Credits</i> 55 55
		THIRD YE	AR		
H.E. 181 Group Op a. H.E. 41 H.E. 107 H.E. 131. b. H.E. 147. H.E. 112	tion 3 5 2 5 5 5 5 5 5	H.E. 145 Group Opti- a. H.E. 108. H.E. 115. b. H.E. 113. Elective	on 3 3 3 3 3	H.E. 144 Group Opt. a. H.E. 190 H.E. 116 b. H.E. 114	ion 3
		FOURTH Y	EAR		
Pol. Sci. 1 Journ. 147	5	Journ. 149 Journ. 150	5	Journ. 152 Journ. 153 Journ. 154	5

Journ. 147	5 Journ	. 150	5 Jour	n. 153
Journ. 148	5 Journ	. 151	5 Jour	n. 154

Preferred elective: H.E. 126, Speech 40, 161, Economics 54.

FIFTH YEAR

Electives to total 195 credits.

Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 174.

IOURNALISM

Vernon McKenzie, Director, Lewis Hall

DEGREE: Bachelor of Arts

Admission. Students to qualify as third-year majors in journalism in the College of Arts and Sciences must complete 90 scholastic credits, including the lower division requirements of the college, plus the required six quarters in military or naval science and physical education. Students not having upper division standing may be admitted, on recommendation of the director, to upper division standing 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. The purpose of this conference is to discuss the aptitude of the student, not only for a major in journalism, but for following the specialized courses in journalism which he may decide to elect.

Transfers. Students planning to transfer with junior standing, from normal schools, junior colleges, or from other universities, are strongly advised to communicate with the head of the Journalism school before registering. Only in certain cases will these transfer students be permitted to enroll, during their first year on the University of Washington campus, in Third Year Journalism, which is a complete year's course which must be started in October and concluded the following June. Transfer students are advised to take their non-journalism required and elective subjects during their first transfer year. They are advised to take the complete Third Year Journalism in their graduating year.

Graduation Date. Transfers and other students who take Third Year Journalism in their graduating year will not be awarded degrees formally until August. Because the Third Year Journalism comprehensive final examinations do not take place until the concluding week of spring quarter it is not possible for the Journalism faculty to make returns to the Registrar's office in time to permit awarding of June diplomas. Such students, however, may participate in graduation exercises in June; their diplomas will be available at the end of the summer quarter.

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Journalism Curriculum. From the beginning of the freshman year a specific curriculum of studies is required of students expecting to major in journalism. Courses in the profession of journalism, the newspaper and society, news writing and contemporary affairs are open to lower division students. Entrance to Third Year Journalism is granted on ability shown by the individual in these courses to do newspaper work successfully.

Typewriting. All written work in the School of Journalism must be done on a typewriter. Students who have not had one semester of typing in high school must present credentials from a business college showing they are capable of making an average speed of 45 words per minute on the typewriter.

Graduation. The curriculum of the School of Journalism leads to the degree of bachelor of arts for which 180 credits must be obtained, plus five quarters in physical training and six quarters of military or naval science. Forty of these credits must be in required upper-division journalism and seven in prescribed lower-division pre-journalism. An average class grade of "B" or better must be earned in all journalism subjects. At the discretion of the journalism faculty, any student not maintaining this grade may be dropped as a journalism major.

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.

Students transferring to the University of Washington with less than 90 quarter credits will be held rigidly to the requirements specified in the journalism curriculum. Students transferring with 90 or more quarter credits (that is, upper division standing) may be exempted from certain requirements—other than those specified by the University for the degree in the College of Arts and Sciences—on application to, and at the discretion of, the director of the School of Journalism.

Graduate Study. Advanced degrees are not given in journalism, but a minor in journalism, toward the Master of Arts degree, may be arranged by agreement with the departments of history, economics, political science, sociology, and English.

CURRICULUM

Requirements for the degree of bachelor of arts, major in journalism, are scheduled below. A student seeking this degree is required to take the College of Arts and Sciences lower division requirement; seven credits of specified prejournalism; 40 credits of additional journalism; 25 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 heads of the departments concerned, a student may elect his "secondary 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 "secondary minor," although only one is required.

School of Journalism

Freshman Registration

Freshmen planning to enter the School of Journalism will register for the first year schedule given below. Thirty-seven credits are required and 10 credits of sci-ence must be selected from Group III. (By special arrangement certain geography courses may be substituted for a laboratory science elective.)

FIRST YEAR-Required

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 1	5	English 64	5	English 65	5
Geog. 70	5	Psych. 1	5	E.B. 1	5
Journ. 1	1	Pol. Sci. 1		Elective science	5
Elective Science	5	Journ. 2		M.S. and P.E. or N	1.S+
M.S. and P.E. or N.S	+	M.S. and P.E. or	N.S+		
	161		16-		151
			107		137
SECOND YEAR	K−−−Requi	rements (25 credi	ts), and sugges	ted electives (20 c	redits)'
		Credits			Credits
†Journ. 51. Preliminary	News V	Vriting 5	E.B. 54, 55.	Business Law	
Journ. 91, 92. Contem	porary A	Affairs 2	E.B. 60. Stat	istical Analysis	5
†Soc. 1 ² . Survey of So	ciology		†Speech 38. ⁸ E	ssen. of Argumen	tation 5
Soc. 55. Human_Ecol	ogy		or		
Soc. 66. Group Behav	vior		†Speech 40. ³ I	ssentials of Speak	ing 5
Psych. 2. Psychology	ot Adjus	tment 5	Speech 41. A	dvanced Speaking	••••• 3
Pol. Sci. 54. Internati	onal Rel	ations 5	Speech 43. T	he Speaking Voice	3
Pol. Sci. 60. American	Govern	ment 5	Drama 51, 52	, 53. Elementary A	Acting 2
Thist, 2. Medieval and	Modern		English 58. 1	ntroduction to Fic	uon 5
Hist 5 English Dol		al History F	English yo. 1	ne Bible as Literat	ure 2
Hist. 5. Eligible Fol. a		ial Trends 10	LAA. I. INCO	. to Modern Inou	ignt 5
Hist 155 Social and	Fron H	istory	A++ 0 10 11	Art Structure	le Arts 3
of Canada	130011. 11	5	Music A Inte	All Shutter	
tE.B. 2 Principles of	Economi	5	Music 20 An	Drecistion	· · · · · · · · · · · 4
12.2. 2. 2. merpies or .	200110111		Music 21 Su	rvey of Music	
				avey or studies	

NOTES:

E.B. 1 is hyphenated. Students are required to take E.B. 2 in sophomore year.

E.B. 1 is hyphenated. Students are required to take E.B. 2 in sophomore year. Science requirements, 10 credits, are elective. Two laboratory sciences are strongly recom-mended. A student may not elect more than five credits of non-laboratory science. A modern foreign language "deficiency" must be cleared up in the sophomore year, except by special arrangement. P.E. 10 or P.E. 15 must be taken by all students. P.E. 10 (for women), 5 credits must be substituted in freshman year for one elective science. P.E. 15 (for men) may be taken in third quarter of freshman year; if not then taken, it must be included in sophomore schedule as early as nossible in that year.

as possible in that year. tCourses so marked are required. Select your courses with your minor field in mind. If pos-sible, take 10 credits (of the required 20) of your minor field during your freshman and sopho-more years. In any event, not more than 15 credits of the minor may be deferred until the fourth

¹ In making up schedules students should also refer to Descriptions of Courses section for listing of other courses. ² Soc. 1 or Soc. 150 will fulfill this sociology requirement. If taken in sophomore year, it will be Soc. 1; if taken in senior year, Soc. 150. Soc. 150 may not be taken by students who have had Soc. 1. ³ Speech requirements may be fulfilled by *either* 38 or 40. It should be kept in mind that Speech 40 is the prerequisite for several upper division speech subjects.

A student graduating from the School of Journalism must have a total of 25 credits in English, of which 15 (as noted above) are required. Suggestions for additional courses are listed above, as well as below.

THIRD YEAR-Non-elective

Journ. 147-148-; 149-150-151-; 152-153-154.

Pre-journalism students completing 80 scholastic credits, and passing their sixth quarter staff conferences, may then register for the non-elective Third Year. The Third Year starts at the beginning of the autumn quarter and concludes at the end of the spring quarter.

Pre-journalism students with less than 80 scholastic credits may apply and, if grades are sufficiently high, be permitted to register for the above non-elective year's work.

In the third year no grades or credits will be awarded to students doing satisfactory work until the end of the year. (For purposes of fraternity and sorority records, extra-curricular activities, etc., any student presenting a grade card will receive either a "Satisfactory" or "Unsatisfactory" thereon.) At the end of each quarter students whose work as journalism majors is unsatisfactory will be awarded grades ("C", "D" or "E") and such journalistic credit as they may have earned. They must then arrange with their advisers in the College of Arts and Sciences to choose another major.

Majors in journalism in the Third Year will take their regular quarter examination in Geog. 102, and be awarded their grades in the usual way. Majors in journalism in the Third Year will take a comprehensive examination,

written and/or oral, covering seven days, during the final month of the spring quarter. Those receiving "A" or "B" grades will be eligible to continue toward their degrees, with a major in journalism. Those falling below "B" will be forced to change their major field. Credit, however, will be given in the latter case as well as in the former.

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-Wholly Elective Advertising Sequence

Cardina

Credits

7

	0.00000
Journ. 130. Fundamentals of Advertising	5
Tourn 131 Display Advertising	Š,
Town 122 Advertising Transport	
Journe 135. Muvernank Tabokrahna	
Journ. 116. Propaganda as a Social and Political Force	5
Journ. 201. Propaganda Seminar	5
Soc. 150. ² General Sociology	5
Soc 104 Public Opinion	
bee 194. I done opinion for the formation of the formatio	
Speech 161-162-163. Radio Speech	2
Speech 188. Advanced Problems in Speaking	5
FR 60 Statistical Analysis T	
D.D. O. Claustical Analysis I	
E.B. 106. Economics of Marketing and Advertising	5
F.B. 134 Wholesaling	Č,
TO 127 Detaile	•••• 2
E.B. 135. Retaining	3
E.B. 136. Advertising	5
FR 103 A B C Problems of Wholessling Detailing and Advertising	··· ē
	3
General Sequence ³	

Credits Magazine and Feature Writing..... Journ. 171-172.

Editorial Sequence

Journ. 90, 91, 92. [†] Contemporary Affairs	2
Journ. 160. Editorial Writing	3
Journ. 191, 192, 193. Advanced Journalism	Ż
Journ. 199. Problems of Journalism	4
Journ. 116. Propaganda as a Social and Political Force	5
Journ. 201. Propaganda Seminar	5
Soc, 150. ² General Sociology	Ś
Speech 161-162-163. Radio Speech	2
Soc. 194. Public Opinion	3
E.B. 103. Money and Banking	Ś
E.B. 175. Business Fluctuations	5
Pol. Sci. 196, 197, 198. Probs. of National Administration in War Time	ŝ.

Pol. Sci. 100. Post-War Planning and Administration...... 5 ³ Soc. 1 or Soc. 150 will fulfill this sociology requirement. If taken in sophomore year it will be Soc. 1; if taken in the senior year, Soc. 150. Soc. 150 may not be taken by students who have had Soc. 1. ⁴ The advertising sequence is designed primarily for those who plan to go into general adver-

The advertising sequence is designed primarily for those who plan to go into general advertising, newspaper advertising or agency work.
 ⁶ The general sequence is designed primarily for those who plan to go into radio continuity work; into magazine work; into publicity work; or into free lance writing.
 ⁶ The editorial sequence is designed primarily for those who plan to go into daily or weekly newspaper, editorial and reportorial work, or into one of the press services.
 ⁷ Journ. 90, 91 and 92 may each be taken for credit more than once, as the subject matter changes each quarter.

* Journ. 25, 226 and 227 are graduate courses, and may not be taken in the fourth year * Journ. 225, 226 and 227 are graduate courses, and may not be taken in the fourth year except by an exceptional student who may have taken 173, 174-175, by special permission, in the sophomore year; or by a student who may have attained professional status.

Soc. 194, Public Opinion, three credits, and Jour. 201, five credits, may be included either under sociology or journalism.

Journalism, Librarianship

Major in Home Economics and Journalism

See School of Home Economics, page 107.

Minor Fields

A minimum of 20 credits will be required to complete the work in a Minor Field. The Minors recommended are: sociology, psychology, political science, geography, history or economics. For guidance of journalism students the following sequences in the Minor Fields are suggested:

Sociology: †1, 2, 55, 66, 112, 165, 194.

Psychology: †1, 2, 112, 118, 126.

Political Science: †1, 54, 60, 113, 126, 152, 157.

Geography: †70, 103, 104, 105, 106, 111, 155.

History: †2, 5, 10, 57-58-59, 124, 131.

Economics and Business: †1-2, 103, 171, 172, 175.

Home Economics: 12, 15, 25, 41, 104, 131, 141, 144, 145, 181, 190.

Teaching Major or Minor in the College of Education

Major students in education who have had Jour. 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 students majoring in journalism.

Minor in Journalism. Students wishing to minor in Journalism, regardless of major, must include the following courses in their minor: Jour. 1, 2, 51, 147, 149, and 125. These courses shall constitute the standard minor sequence.

[†] Courses so marked are required. Select your courses with your minor field in mind. It possible, take 10 credits (of the required 20) of your minor field during freshman and sophomore years. In any event, not more than 15 credits of the minor may be deferred until the fourth year.

College of Arts and Sciences

MATHEMATICS

A. F. Carpenter, Executive Officer, 237 Physics Hall

DEGREE: Bachelor of Arts or Bachelor of Science

For a major in mathematics the following courses in mathematics are reauired.

Prerequisite, 1/2 unit advanced algebra, 1/2 unit solid geometry in high school or university. Castin

	0100103
1. Plane Trigonometry	ş
5. Analytical Geometry.	5
107, 108, 109. Differential and Integral Calculus	15
Minimum total credits.	

ť

Students planning to elect any of the above courses subsequent to course 31 must consult the department before registering.

> **DEGREES:** Bachelor of Science in Mathematics **Bachelor of Arts in Mathematics**

Minimum requirements for the degree of Bachelor of Science in Mathematics. In addition to the regular University requirements in English composition, physical education and military or naval science, the student shall earn the indicated number of credits in the following groups:

Subjects	Credits
Mathematics, an academic major plus eight approved U.D. credits	
Physics, chemistry	15
Astronomy, geology, zoology, botany	15
LanguageT, literature, art, architecture, music	

†Students who expect to proceed to graduate work in mathematics should acquire a reading knowledge of both German and French.

Minimum requirements for the degree of Bachelor of Arts in Mathematics. The same as above, except that a minimum of 15 credits in science (physics, chem-istry, astronomy, geology, zoology, botany) is allowed; and the preponderance of the student's credits, including mathematics, should be in liberal arts courses. The foregoing requirements can be met in a great variety of ways, depending upon the student's high school preparation and his individual needs.

Teaching Major or Minor in the College of Education

Major	Credits	Minor	Credits
4. Plane Trigonometry 5. College Algebra	5	4. Plane Trigonometry 5. College Algebra	
6. Analytical Geometry. 107, 108, 109. Diff. & Integral Calculus		6. Analytical Geometry U.D. Electives in Mathematics	5
Approved Electives in Mathematics Minimum total	·····15 45	Minimum total	

Before beginning the above program, the student should have had in high school advanced algebra and solid geometry. Otherwise their equivalents, Math. 1 and Math. 2, must be taken without credit toward the major or minor.

Mathematics 1 can be taken concurrently with Mathematics 4; Mathematics 2 can be taken concurrently with 4, 5, 6, 107, and 102.

School of Music

Mathematics 11 will not count toward a teaching major or minor.

Students who select mathematics as an academic major or minor must earn a grade of "C" or higher in a total of 45 and 25 hours respectively, exclusive of a grade of "C" or higher in a total of 45 and 25 hours respectively, exclusive of courses 1 and 2.

MUSIC

Carl Paige Wood, Director, 101 Music Building

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

General Information

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. High school music courses are not required for entrance to the School of Music,

but their election in schools where they are adequately taught may make it possible to enter more advanced courses in the University. Modern language, history, and literature are desirable high school electives for students intending to major in music.

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.

Freshmen will not ordinarily be given advanced credits in music, but will substitute other approved courses for those omitted.

Students other than freshmen whose training and proficiency in music, gained before entering the University, may warrant advanced standing, must make application during their first quarter of residence. In no case will more than 18 credits in yocal or instrumental music be allowed students entering with advanced standing.

Classification of Courses

I. Materials and Composition

14, 15, 16. Fundamentals 51, 52, 53, 101. Harmony 109, 163. Counterpoint	112, 143. Form and Orchestration 157, 158, 159, 177, 178, 179. Composition	

II. Music Literature and History

21, 22, 23, 24. Courses for non-majors 4. Freshman Major Course 54, 55. Sophomore courses 132. Haydn, Mozart, and Beethoven

193. Senior Reading Course
87, 105, 106, 145, 151, 153, 160, 161, 162, 181, 187, 190, 191, 192. Elective courses

III. Music Education

40, 41, 42. Orchestral Instruments 113, 116, 155. Educ. 75R. School Music

98, 128. Choral Music 165, 166, 167. Piano Pedagogy

IV. Choral Ensembles

10, 11, 12. University Chorus 65, 66, 67, Glee Clubs

.

80, 81, 82. University Choir 121, 122, 123. Madrigal Singers

V. Instrumental Ensembles

90, 91, 92. Concert Band 93, 94, 95. Symphony Orchestra 138. Accompanying

VI. Conducting

180. Orchestral Conducting

VII. Vocal and Instrumental Music

1, 2, 3, 7, 8, 9. Group Instruction 60, 62. Advanced Orchestral Instruments 18, 19, 20, 48, 49, 50, 68, 69, 70, 118, 119, 120, 199. Senior Recital 148, 149, 150, 168, 169, 170. Individual Instruction.

VIII. Courses for Graduates

 200. Introduction to Musicology
 230, 233. Seminars

 210, 211, 212, 221, 222, 223. Hist. & Literature
 240, 241, 242. Composition

 218, 219, 220. Vocal and Instrumental Music
 250, 251, 252. Research and Thesis

Participation Groups

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 choral organizations are the University Chorus, the Men's Glee Club, the Women's Glee Club, the University Choir and the Madrigal Singers.

The instrumental organizations include the University Orchestra, the Concert Band, the Marching Band, and smaller units such as string quartets.

Concerts and Student Recitals

In addition to the concerts given by the various ensemble organizations, the School of Music schedules a number of student recitals which provide opportunity for individual public performance. All music students are urged to attend these recitals.

The University Broadcasting Studios make it possible for students to study recordings of their own performances and to appear on occasional public broadcasts.

CURRICULA IN MUSIC

In addition to the specific requirements listed below, all music majors must satisfy the University requirements in Physical Education, Military Science, and English Composition. Not less than twenty of the total 180 academic credits must be earned in Group II of the College of Arts and Sciences (see page 86), and ten credits in Group III.

Each student who registers for Music 14, 15, or 16 (Fundamentals) is given a placement examination at an early meeting of the class. As a result of this examination he may be required to change his registration, either to make up deficiencies or to enter a more advanced class.

Prescribed Curricula

Bachelor of Arts in Music

A total of eighteen credits must be earned in ensemble courses, so distributed that not less than six are in choral groups and six in instrumental groups. An ensemble course may be repeated once with credit.

semble course may be repeated once with credit. The total required in vocal or instrumental music varies from eighteen to thirty-six credits, according to the major chosen.

118

30, 31, 32. Elementary Band 37, 38, 39, 139. Piano Ensemble 43. Elementary Orchestra 124, 125, 126. Chamber Music

136, 195. Choral Conducting

School of Music

First Vaar Cra	dite Second Vear	Credite
		C720#3
Music 4, Intro. to Music History	2 gMusic 52, 55. Harmony	
*Music 14, 15, 16, Fundamentals,3-	9 Music 54 or 55. History and	Lit
Music 40 or 41, and 42, Orches, Instrum.	6 Music 109. Counterpoint	
Music 51. Harmony	5 Music 98. Choral Music	
Vocal or Instrumental Music	9 Vocal or Instrumental Music	
Ensemble	6 Ensemble	3-6
	Physics 50, Sound	
	*Education 1	

*Depending on placement at entrance. †Except for Voice majors. §Students in Music 51 will be given a test for exemption from Music 52. ‡For Music Education majors only.

After the first two years the specific requirements are as follows:

I. Major in Vocal or Instrumental Music

A student must show marked talent for performance-before proceeding further. Of the 36 credits required in Vocal or Instrumental Music, 30 must be in the major branch (e.g., piano) in addition to the Senior Recital (Music 199). No course below Music 48 may be included in these 30 credits.

Music 101, 112, 143, 157	Music 199
U.D. Music electives	Philosoph

Credits 9. Senior Recital..... (4 yrs. total) y 129. Aesthetics.... ...18

Voice majors take Music 160, English 57, ten credits of German and ten credits of either French or Italian. The requirement of Music 40, 42, and 157 is omitted.

Piano majors take Music 138. 139. 165. 166, 167. Violin majors take Music 124, 125, 126. Organ majors take Music 145 and 163.

II. Major in Music Education

A grade-point average of 2.2 must be maintained. As a prerequisite to cadet teaching, students must demonstrate proficiency in piano and voice equivalent to Music 9AX and 9CX.

Music 101, 112, 128 Music 113, 116 Music 132, 193 U.D. Music electives	Credits 12 Music Vocal Vocal 7 Ensen 6 Educa Psych	136, 180 Credits or Instrumental Music (4 yrs. total) 18 ble (4 yrs. total) 18 tion 9, 70, 75R
and the second		

The Bachelor of Arts in Music degree will be awarded upon completion of the foregoing requirements.

To qualify for the state teacher's certificate it is desirable to choose, not later than the junior year, a teaching minor in two academic fields. The three-year teacher's certificate will be awarded upon satisfactory completion of 45 additional credits including the following requirements:

Credits	Credits
Music 155	Vocal or Instrumental Music

The total of 225 academic credits must include History 164, and at least 10 other credits in contemporary social problems approved by the College of Education (see p. 146).

College of Arts and Sciences

III. Major in Composition

	Credits	Credits
Music 101, 112, 143, 163		Vocal or Instrumental Music (4 yrs. total) 18
Music 136, 180	6	Ensemble (4 yrs. total)
Music 132, 193	7	Philosophy 129. Aesthetics 5
Music 157, 158, 159, 177, 178, 179		••
U.D. Music Electives	6	

In addition to the foregoing three prescribed curricula leading to the degree of Bachelor of Arts in Music, the School of Music offers a broader non-professional curriculum leading to the degree of Bachelor of Arts.

Elective Curriculum in Music

Bachelor of Arts

The requirements for the first two years include twenty credits in Group II of the College of Arts and Sciences and ten credits in Group III (see p. 86). At least 60 of the total 180 academic credits must be in upper division courses.

Music Fundamentals and Harmony......16 Music History and Literature......18

*Major students in this curriculum will be given an examination in vocal or instrumental music not later than the end of their second year, and may be required to take additional work in this field.

Teaching Major or Minor in the College of Education

Students in the College of Education desiring a major or minor in music must satisfy the department of music as to their qualifications. These include the equivalents of Music 4 and 16 as prerequisites to the courses listed below.

Proficiency in piano and voice equivalent to Music 9AX and 9CX must be demonstrated not later than the junior year. A grade-point average of 2.2 must be maintained.

Majors in music must take cadet teaching in music (Education 71-72).

Minors in vocal school music must earn six credits in vocal music above the level of Music 9CX.

Minors in instrumental school music must demonstrate satisfactory proficiency in both wind and string instruments.

Major Music 51, 53. Harmony Music 109. Counterpoint Music 40 or 41, and 42. Orches. J Music 58, 128. Choral Music Music 13, 116, 155, Educ. 75R. School Music	Credits 	Credits Minor (for non-music majors) Music 40, 41 or 42. Orchestral Instr
Music 136, 180. Conducting Vocal and Instrumental Music Minimum total Minor (for majors in mu Music 101. Harmony U.D. Music electives	12 	32 Minor (for vocal school music) Music 51. Harmony
	20	Music 40, 41, 42. Orchestral Instr

120

NURSING EDUCATION

Elizabeth S. Soule, Director, Nursing Education Building

Admission Requirements

Basic and advanced courses in nursing require full matriculation in the College of Arts and Sciences, subject to its admission requirements.

Students in basic nursing curriculum "A" seeking affiliation for professional instruction are subject to the entrance requirements of the hospital division selected. A limited number of basic students will be admitted to the Harborview division in any one quarter.

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 such as public health and nursing supervision must be graduates of approved hospitals, with services in the four major fields: obstetrics, medicine, surgery, and pediatrics. A deficiency in one of these basic services may be made up through post graduate work in an institution offering a course approved by the University of Washington. These students must supply a transcript of their record and recommendations from their schools of nursing together with evidence of their professional registration in the State of Washington.

Correspondence relative to affiliation for institutional or field work should be addressed to the School of Nursing Education, University of Washington, and should specify the institution in which the applicant is interested.

Health. Students in basic and advanced nursing courses must be in sound physical and mental condition upon entrance. Recommendations for entrance to professional divisions will not be given without evidence as to the state of the applicant's health. The University Health Service has general supervision over the health of all students. Nursing Education 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. Any defects which can 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.

For post-graduate nurses where professional service is rendered of value exceeding educational program offered in return, salary may be graded according to type of maintenance, service and course. Adjustment is subject to institutional, educational and professional regulations. Post-graduate students provide their own uniforms, textbooks, and special supplies and pay their own University tuition.

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.

Group I. Basic Courses

3

CURRICULUM A

Quarters in Campus Division

Autumn Quarter Credits English 4. Composition3 Chem. 1 or 21. General5 N.Ed. 1. History3 Elective	Winter Quarter Credits English 5. Composition 3 Chem. 2 or 22. General 5 Soc. 1. Survey	Spring Quarter Credits Chem. 137. Organic 5 Physiol. 53. Human 5 Anat. 101. Gen. Human . 3 Elective
Home Econ. 9. Nutrition 6 Physiol. 54. Human 5 Psych. 1. General 5 Physical Education 1	Home Econ, 105. Advanced Nutrition	Bact. 102. Sanitary and Clinical Methods 5 Pharm. 51. Elementary 2 N.Ed. 120. Elem. Nursing 5 Elective 2
	Quarters in Hospital Division	
Anat. 105. Pathology 3 Phar. 61. Elementary 2 N. Ed. 121. Adv. Nurs 5 N.Ed. 122. Intro. Hosp. & Spec. Ther. Pract 5 N.Ed. 129. Prin. Spec. Ther	N.Ed. 123. Intro. Hosp. & Spec. Ther. Practice 5 N.Ed. 124. Prin. Gen. Med. Surg. Oto. Nurs 5 N.Ed. 130. Prevent. Med. 3	N.Ed. 125. Prin. Med. Surg. Spec. & Nurs. Care 5 N.Ed. 128. Medical Nursing Practice 6
N.Ed. 137. Intro. Public Health Nursing 2 N.Ed. 132. Surgical Nurs- ing Practice	N.Ed. 100. Prof. Probs 2 *Soc. 128. Field of Social Work 3 N.Ed. 133. Operating Room Practice	N.Ed. 134. Out-Patient Nursing Practice 6 N.Ed. 141. Prin. Obstetrics & Obstetrical Nurs 5
N.Ed. 139. Principles of Pediatric Nursing 5 N.Ed. 140. Pediatric Nursing Practice 6	Elective 3 N.Ed. 142. Obstetrical Nursing Practice 6	Elective
	N.Ed. 147. Prin. Psychiatry and Psych. Nurs 5 N.Ed. 148. Psych. Nurs.	

*Preferred elective. Twenty elective credits must be taken in Group I or II.

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.

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 4. Composition 3 N.Ed. 1. History 3 Psychology 1. General 5 Elective	English 5. Compositio Chem. 1 or 21. Genera Anat. 100. Lectures Soc. 1. Survey Physical Education	n 3 5 3 5	Chem. 2 or 22. Gene Home Econ. 9. Nutri Physiol. 53. Human. Physical Education.	ral 5 tion 6 5 1	
		Summer Quarter Physiol. 54. Human Anat. 101. General Hu Bact. 101. General Elective Physical Education	Credits 5 5 5 2 1		

Group II. Curricula for Graduate Nurses

CURRICULUM A

The University offers this course to enable 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.

		FIRST YE	SAK		
Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
English 1. Composition. Psychol. 1. General Elective	5 5 5	Chem. 1 or 21. Genera English 2. Composition Elective	ai 5 on 5 5	Chem. 2 or 22. Gener E.B. 4. Survey Elective	rai 5 5 5
		SECOND Y	EAR		
Physiol. 53. Human Electivo	5 10	Physiol. 54. Human N.Ed. 150 Soc. 1. Survey	5 5 5	Home Econ. 105 or 1 Elective	065 10
		THIRD Y	EAR		
Bact. 101. General N.Ed. 167. Prin. P.H.N. N.Ed. 169. Pub. Health	5 3 3	Bact. 102. Sanitary as Clinical Methods N.Ed.168.Spec.Fids.F	nd 	Bact. 103. Public Hy Elective	giene 5
N.Ed. 151. Administrati	ion 5	N.Ed. 104. Epidemio	logy 2		
N.Ed. 153. Hosp. Adn Elective	nin 5 5	N.Ed. 152. Supervision Elective	on 5		

CURRICULUM B

Leading to Certificate in Public Health Nursing

This course includes five quarters of academic work at the University and one quarter of field work, or four quarters of academic work and two quarters of field work, depending upon the experience the individual student has had in the public health nursing field.

Credits	Credits
N.Ed. 167. Prin. Public Health Nursing	*N.Ed. 166. Advanced Field Work
	Total credits required 90

*Electives.

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CURRICULUM C

Leading to a Certificate in Institutional Nursing Supervision

The University offers the course leading to a certificate in nursing supervision for graduate nurses who wish preparation as head nurses or supervisors. 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. These may be elected from the fields of obstetrics, pediatrics, medicine, surgery, operating room, psychiatry, emergency and neuro-surgery, out-patient, tuberculosis and diet therapy. Credit in professional practice: Six credits per quarter may be obtained by the

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. Students with a deficiency in one of the four major basic services are expected to remove this.

Prerequisite Courses

	Credits				Credits
Psych. 1. General	5	Home Ec	con. 105.	Nutrition	5
Soc. 1. Survey	5	or Home Ea	con. 106.	Nutrition	5

Advanced Supervisory Program

Academic Courses	Credits	Professional Practice	Credits
Pharm. 101E. Advanced Pharmacy	2	Review, supervision and advanced	admin-
N.Ed. 150. Principles of Teaching	5	istration in classes and practice of	major
N.Ed. 152. Supervision Hosp. Depts. N Ed. 153 Hospital Administration	2	and minor specialties selected.	3.6
or		2nd Minor Service	
N.Ed. 151. Admin. Nursing Schools	5	Major Service	
N.Ed. 154. Cadet Teaching and Ward		Advanced Administration and Teach	ning .10
Administration	10	Total Hospital Practice	
Minimum Credits Required	45	Required 2.	4 Quarters

Group III. Graduate Curricula

Graduate work in Nursing Education is offered with a major in the fields of (1) Administration in Schools of Nursing, (2) Teaching and Supervision, (3) Public Health Nursing. The minor must be chosen from the allied fields. If the Master of Science is desired the minor should be in the fields of bio-

If the Master of Science is desired the minor should be in the fields of biological or physical sciences such as physiology, anatomy, bacteriology, or chemistry. If the Master of Nursing is desired the minor should be in the fields of social sciences, education or home economics. For further information see graduate school.

OCEANOGRAPHIC LABORATORIES

See bulletin of the Oceanographic Laboratories, available upon request. For courses, see page 299.

PHILOSOPHY

William Savery, Executive Officer, 264 Philosophy Hall

DECREE: Bachelor of Arts

Major Requirements

2. Introduction to Social Ethics	Cr .	5
5. Introduction to Logic.	• • • • • • • • • • • • • • • • • • • •	5
Electives.) 7
Minimum total credits		5

Fifty per cent of the credits in the major must be in upper division courses. Psychology 1 is required, and major students are urged to elect courses in psychology.

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 Teacher Education.

An extensive program in intramural sports and recreational activities is conducted for both men and women. The program provides for organized competition, clubs, and the use of facilities for recreational purposes.

Professional education is offered in the fields of physical education, recreational leadership, and health education. Application for admission to professional curricula is required after completion of 75 credits. The required foundation courses and pro-fessional courses are listed below. For additional requirements for the three-year normal diploma, requisite for high school teaching in the State of Washington, see College of Education, page 144.

Group A. Major in Physical Education (For the non-professional student)

Required foundation and related courses:

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•	Creans	Cra	an.
Zool. 1. Animal Biology	5	Soc. 1. Survey of Sociology	5
Zool. 2. General Zoology	5	Psych. 1. General Psychology	5
Zool. 16. Evolution.	2	Speech 40. Essentials of Speaking	5
Zool. 17. Eugenics.	2	[†] P.E. 11, 12, 13. Physical Education	
Chem. 1-2. General Chemistry	10	Activities for Freshman Majors +	6
(Unless taken in high school)		[†] P.E. 51, 52, 53. Physical Education	
Anat. 100. Anatomy Lectures	3	Activities for Sophomore Majors +	6
Physiol. 50. Physiology	6	*P.E. 5. 7, 8; 9, 10, 11. Phys. Educ.	
H.E. 104. Nutrition for Non-majors	2	Activities for Majors +	6
*Lib. Arts 1	5		_
†P.E. 4, 6	4	†64+1	2
English 1-2	10	Total credits required*71+18-2	4
*Mil. or Nav. Sci	+12-18		

* Required of men only. † Required of women only.

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125

Credits

Required professional courses:

Men	Credits	Women	Credits
102-103. Problems in P.E	2	102-103. Problems in P.E	2
107. Personal and General Hygien	e 3	110. First Aid	
109. School Dance Program	2	111. Rhythmic Activities for	Small Child 2
*116. First Aid and Athletic Train	ing 3	112, Elem, School Athletic	Program 3
115. Physiology of Muscular Exer	cise 5	115. Physiology of Muscular	Exercise 5
145. Principles of Physical Educat	ion 3	118. Analysis of Rhythm	3
146. Principles of Health Education	n 2	128. Admin. & Org. of Cam	p Programs 3
150. School Physical Education Pr	rogram 5	145. Principles of Physical I	Education 3
153. Meth. & Materials in Health	Teaching 3	146. Principles of Health E	ducation 2
158. Methods in Teaching Apparat	us,	156. Meth. & Materials in T	eaching Dance 2
Tumbling and Stunts	2	162. Meth. & Materials in To	eaching
161. Meth. in Teaching Boxing, W	restling, 2	Folk, Tap. and Clog Dar	ncing 2
163. Meth. & Material in Teaching	g Sports. 2	163. Meth. & Materials in T	eaching Sports 2
165. School Health Education Prog	gram 3	164. Meth. in Teaching Swit	nming 3
		165. School Health Education	a Program 3
Total credits required			
-		Total credits required	

Group B. Major in Recreational Leadership (For the professional student in the field of recreation)

Required foundation and related courses:

	Credit.
English 1, 2	10
†P.E. 11, 12, 13. P.E. Activities for	
Freshman Majors	+6
†P.E. 51, 52, 53. P.E. Activities for	
Sophomore Majors	+6
*P.E. 5, 7, 8, 9, 10, 11. P.E. Activities	
for Majors	+6
P.E. 4, 6. Health Education	4
*P.E. 107. Personal & General Hygiene.	3
Zool. 1. Animal Biology	5
Zool. 2. General Zoology	5
Zool. 16. Evolution	2
Zool. 17. Eugenics	2
Physiol. 50. Physiology	6
H.E. 104. Nutrition for Non-Majors	2
Anat. 100. Anatomy Lectures	3

Required professional courses:

Men	Credits
102-103. Problems in P.E	2
109. School Dance Program	2
*116. First Aid and Athletic Training.	3
115. Physiology of Muscular Exercise.	
124. Activities and Recreational Method	s 3
125. Administration of Play & Recreation	on. 3
126. Observation and Practice Teaching	2
145. Principles of Physical Education.	
146. Principles of Health Education	
158 Meth in Teb Annar Tumbl Stu	nte 2
161. Meth in Tch Boxing & Wrestling	2
163 Math & Motarials in Teaching Spo	
164 Meth in Teaching Swimming	16 2
165 School Health Education Dearman	•••• 4
170 on 171 on 172 on 172 Addate Con	
170 of 171 of 172 of 175. Athletic Coac	a o
Total credits required	42

Speech 40. Essentials of Speaking	5
Chem. 1-2. General Chemistry (Unless taken in high school) Sociology Elective	10 10
- Total credits required	t69+12 *68+ 6
Blective Related: Forestry 6. General Forestry Forestry 65. Forest Recreation Librarianship 180. Story Telling	····· 3 ···· 3 ···· 3

Psych. 1. General Psychology....

Credits

.. 5

Librar	iansbij	5 180.	Story	Telling		 3
Music	22. 23	. 24.	Music	Annreci	lation.	 2
Peych	118	Social	Pavel	hology		 Ē
r sych.	110.	Outai	Layu	101053	•••••	

Total credits required......51

*Required of men only.

†Required of women only.

School of Physical Education

Group C. Professional Teacher Training (For the professional student in health and physical education)

TEACHING MAJOR IN PHYSICAL EDUCATION IN THE COLLEGE OF EDUCATION

Required foundation and related courses:

Credits

Zool. 1. Animal Biology 5	
Zool. 2. General Zoology 5	
Zool. 16. Evolution 2	
Zool. 17. Eugenics 2	
Chem. 1-2. General Chemistry10	
(Unless taken in high school)	
Anat. 100. Anatomy Lectures	
Physiol. 50. Physiology	
H.E. 104. Nutrition for Non-Majors 2	
*Lib. Arts 1 5	
tP.E. 4-6 4	
English 1-2	
u	

Required professional courses:

Men	1	Credits
Men 102-103. 107. Per 109. Sch *116. Fin 115. Phyl 122. Kin 127. Tes 135. Ada 145. Prin 146. Prin 150. Sch 153. Met 163. Met 164. Met 164. Met 165. Sch Athena Sch 165.	Problems in Physical Education rsonal and General Hygiene tool Dance Program rst Aid and Athletic Training ysiology of Muscular Exercise tesiology of Muscular Exercise apted Activities apted Activities nciples of Physical Education ool Physical Education Program th. & Materials in Health Teachi h. in Tch. Apparat., Tumbl., Stu th. in Teach. Boxing, Wrestling. th. & Materials in Teaching Spo thods in Teaching Swimming tool Health Education Program.	Credits 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
		_

Total credits required......54

* Required of men only.

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† Required of women only.

TEACHING MINOR IN PHYSICAL EDUCATION IN THE COLLEGE OF EDUCATION

Required foundation course:

Required professional courses:

Men	Credits	Women	Credi
 107. Personal and General Hygi 109. School Dance Program *116. First Aid and Athletic Tr *145. Principles of Physical Ed 146. Principles of Health Educ 158. Meth. in Tch. Apparat., Tu 161. Meth. in Teach. Boxing, V 163. Meth. & Materials in Teach 165. School Health Education I Athletic Coaching Total credits required 	iene	 P.E. Activities for Sop 52. P.E. Activities for Sop 112. Elementary School A 145. Prin. of Physical Edu 146. Prin. of Health Edu 150. School Physical Edu 150. School Physical Edu 151. Meth. & Materials in 162. Meth. & Mat, in Tea Tap, and Clog Danci 163. Meth. & Mat, in Tea 165. School Health Educa Electives 	homore Majors +2 homore Majors +2 thetic Program. 3 c

	Credits
Soc. 1. Survey of Sociology	5
Psych. 1. General Psychology	5
Speech 40. Essentials of Speaking	5
Nurs. Ed. 104	2
P.E. 11, 12, 13. Physical Education	
Activities for Freshman Majors	+6
P.E. 51, 52, 53. Physical Education	
Activities for Sophomore Majors	+6

E. 5, 7, 8, 9, 10, 11. Physical Education Activities for Majors.....+6

Women	Credits
102-103. Problems in Physical Education	tion 2
101. Meth. & Mat. in Gym., Stunts,	Tumbl. 3
111 Dhuthmin Antivitian for Small C	
110 Elemente Cohool Addatis De	andren Z
112. Elementary School Athletic Pro	ogram. 3
115. Psychology of Muscular Exerci	se 5
118. Analysis of Rhythm	3
122. Kinesiology	3
128. Admin. & Organization of Camp	Prog. 3
145. Prin. of Physical Education	3
146. Prin. of Health Education	
150. School Physical Education Proc	ram 2
153 Meth & Materials in Health Te	aching 3
156 Meth & Materials in Teaching	Domos 2
160 Math & Materials in Teaching	Dance Z
102. Meth. & Materials in Teaching	•
Fork, Tap and Clog Dancing	
163. Meth. & Materials in Teaching	Sports 3
164. Methods in Teaching Swimmin	g 3
165. School Health Education Progr	am 3
P.E. Elective	3
Coaching	Õ

Total credits required52

Credits homore Majors +2 homore Majors +2 thletic Program. 3

Electives to be selected from:

Substitutions subject to approval of head of department.

TEACHING MAJOR IN HEALTH EDUCATION IN THE COLLEGE OF EDUCATION

Required foundation		Required professional courses:	Credits
and related courses:	Credits	Soc. Work 218, 219, Psych, Inf. for	
Zool. 1. Animal Biology	5	Soc. Workers	4
Zool. 2. General Zoology	5	or	-
Zool. 17. Eugenics	2	Psych. 2. Psychology of Adjustment.	5
Chem. 1-2 or 21-22	10	Home Econ. 104. Nutrition for Hith E	du 2
Anat. 100. Lectures	3	N.Ed. 104. Pub. Hlth. Admin & Epide	miol. 2
Physiol. 50 and 53 or 54		N.Ed 169. Public Health	3
Bact. 103. Public Hygiene	5	Psych, 131, Child Psychology	5
Paych, 1. General.		tP.E. 4. Health Education	2
Social 1 Survey	5	PF 6 Health Education	2
Speech 40 Essentials of Speaking	····· 5	*P F 107 Personal and General Hyp	iene 3
opecen 40, Essentials of opeaking		+DF 110 First Aid	2
Total anadita naguinad	51 or 55	DE 115 Division of Mucaular Eve	
Total cicults lequileu		ADE 116 Eight Aid and Athlatic Test	
		"P.E. 110. First Aid and Athletic Ira	ming 5
		P.E. 145. Principles of Physical Educ	ation 5
•		P.E. 146. Principles of Health Educa	tion. 2
		P.E. 153. Meth. and Mat. in Hith T	each. 3
		P.E. 165. School Health Program	3
		Total credits required	0 or 41
		+3	8 or 39

† Required of women only. * Re

* Required of men only.

TEACHING MINOR IN HEALTH EDUCATION IN THE COLLEGE OF EDUCATION

Required foundation and related courses:

quired roundation and related courses?		Credits
Zool. 1. Animal Biology. Zool. 17. Eugenics. Physiol. SO. Physiology.	• • • • • • • • • • •	5 2 6
	•	13

Required professional courses:

Credits	Credit.
 †P.E. 10. Health Education	N.Ed. 104. Public Health Administration. 2 N.Ed. 169. Public Health

† Required of women only.

* Required of men only.

Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 174.

Physics

PHYSICS

Henry L. Brakel, Executive Officer, 206 Physics Hall DEGREE: Bachelor of Science-elective course

DEGREE: Bachelor of Science in Physics

FIRST YEAR

Autumn Quarter Credits English 1. Composition5 Math. 4. Plane Trig5 Physics 1. Mechanics and Sound5 M.S. and P.E. or N.S+	Winter Quarter Credits English 2. Composition 5 Math. 5. College Algebra 5 Physics 2. Electricity and Magnetism 5 M.S. and P.E. or N.S+	Spring Quarter Credits Speech 40, Essentials of Speaking
	SECOND YEAR	
Chem. 1 or 21. General 5 Math. 107. Calculus 5 Physics 101. Introduction to Modern Physics 3 Physics 105. Electricity	Chem. 2 or 22. General 5 Math. 108. Calculus 5 Physics 102. Introduction to Modern Physics 3 Physics 106. Electricity	Chem. 23. General

Physics 105. Electricity and Magnetism	and Magnetism	ics and Kinetic Theory 3 Elective 2 M.S. and P.E. or N.S+
	THIRD YEAR	
Math. 114. Differential	Math. 115. Differential	Math. 116. Differential

Math. 114. Differential	Math. 115. Differential	Math. 116. Differential
Equations	Equations	Equations

FOURTH YEAR

Physics 191. Theoretical Mcchanics Chem, 181. Physical and Theoretical Chemistry 5 Physics 180. History of Physics of Physics Zelective 3	Physics 192. Theoretical Mechanics	Physics 196. Experimental Atomic Physics 3 Chem. 183. Physical and Theoretical Chemistry . 5 Elective
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*Poreign Language, French or German. The total number of credits must include Physical Education 15 for men, and Physical Education 4, 6, 8, or 10 for women.

Teaching Major or Minor in the College of Education

Major	Credits	Minor	Credits
Physics 1-2, 3. General Physics or Physics 4, 5, 6. General Physics Physics 101-102 Intro. to Modern Theori	} 15	Physics 1-2, 3. General Physics or Physics 4, 5, 6. General Physics Physics 101-102. Intro. to Modern Theories	} 15
Physics 105-106. Electricity & Magnetisn Physics 160-161. Optics	a 6 6 8	Physics 105-106. Electricity & Magnetism. Physics 160-161. Optics	6
Minimum total	41	Minimum total	33

A teaching major or minor in physics should be supported by 15 credits of college mathematics.

For recommendations for a normal diploma a major or a minor is required with an average grade better than "C."

College of Arts and Sciences

POLITICAL SCIENCE

Charles E. Martin, Executive Officer, Social Sciences Hall

DEGREE: Bachelor of Arts

A major requires 45 credits, which must include 30 upper division credits, 20 credits in one group and 10 in each of the other two. Each candidate for the major must include in his schedule Political Science 1, and an additional five-credit lower division course, to be selected on the recommendation of the student's adviser.

- I. Political Theory and Jurisprudence.
- **II.** International Relations.

Minimum total40

III. Politics and Administration.

Teaching Major or Minor in the College of Education

Major Credits	Minor
Pol. Sci. 1. Survey of Political Science. 5	Pol. Sci. 1. 5
Pol. Sci. 60. The American Government 5	Pol. Sci. 101. (
Pol. Sci. 61. Municipal Government 5	Electives in Po
Pol. Sci. 101. Constitutional Government 2	
Pol. Sci. 112. American Political Theory 3	Minimum
Pol. Sci. 127. International Organization	
and Administration 5	
Electives in U.D. Political Science15	
_	

Minimum total25

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PRE-EDUCATION

Francis F. Powers, Executive Officer, 114 Education Hall

(See College of Education, page 144, 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 three purposes: (1) to obtain admission to the College of Education; (2) to select suitable combinations of teaching subjects and orientation courses for the proposed preparation for teaching; and (3) to fill out a "Qualifying Application" for a teaching certificate.

PRE-LAW

David Thomson, Adviser, 203 Denny Hall

General. For admission to the School of Law, students in the College of Arts and Sciences must present a minimum of 90 academic credits with a scholarship average of 2.50 grade points, together with the required work in military or naval science, and physical education. Of the 90 academic credits, 60 are required, viz., English 1, 2, 3; Economics 1-2; Political Science 1, 52; History 5, 6, 106; Philosophy 1, 5. The School of Law regards some work in Sociology as desirable and recommends that, in choosing electives, the student should include courses in the biological and physical sciences.

Combined Seven-Year Arts-Law Curriculum. It is possible to obtain the degrees of bachelor of arts and bachelor of laws in seven years. To have the benefit of this combined course, students must, in the first three years, earn 138 credits in the College of Arts and Sciences together with the required credits in military or naval science and physical education. In the 138 credits must be included the specific credits needed to satisfy the regular requirements of the College, viz., English composition, health and hygiene, and the Arts and Sciences group requirements. To acquire the 138 credits in three years the student should carry an average of 16 credits each for three quarters during the junior and sophomore years, exclusive of military or naval science and physical education. As one can normally enter the Law School to advantage only at the beginning of the autumn quarter, the entire 138 credits should be completed within the customary three years, with work during an intervening summer quarter if necessary. At the beginning of the fourth year, if a student has earned 138 credits with an average of 2,50 grade points, and the required credits in military or naval science and physical education (see above), he may enter the School of Law and there earn 42 credits which will be counted toward his bachelor of arts degree. He will be granted the bachelor of arts degree at the end of the fourth year, or as soon as he completes the required work above specified and 42 credits in the School of Law. The degree of bachelor of laws will be conferred upon completion of his work in the Law School.

This combined arts-law curriculum, in lieu of a major, requires at least 25 credits in a special field, together with at least 20 credits in a related secondary field and 70 upper division credits in place of the 60 credits required of students offering a major. As the 42 credits of law, counted toward the bachelor of arts degree, are in upper division courses, it follows that at least 28 of the 138 credits referred to above must also be in upper division courses.

In exceptional cases where the student has at least 135 credits, the dean of the Law School may, upon written petition, permit registration in the Law School and allow the student to satisfy the remaining three credits necessary for the combined degrees at some subsequent time.

A Seven-Year Curriculum in Science and Law. This is a combination curriculum whereby a student may obtain the degrees of bachelor of science and bachelor of laws in seven years. At the end of his third year, after he has earned 138 academic credits with a grade point average of at least 2.50 and completed the required six quarters in military or naval science and physical education, and all required work with a major in some department, he may register in the School of Law for the first year's work in law. He will be granted the bachelor of science degree at the end of the fourth year, or as soon as he completes the required work above specified and 42 credits in the School of Law, making a total of 180 credits for graduation. The fifth, sixth and seventh years of the curriculum are devoted to completing the remainder of the required work for graduation from the School of Law.

Transfer Pre-Law Students. Students from other institutions entering this University with advanced standing may take advantage of the combined seven-year curriculum, provided they are registered in the College of Arts and Sciences for at least one full year of work, and earn at least 45 credits in the University before entering the School of Law. 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-LIBRARY

Ruth Worden, Director, 111 Library

(See School of Librarianship bulletin for detailed information.)

Admission. Admission to the general course in librarianship is granted as follows:

To graduate students holding the baccalaureate degree from any college or university of good standing, whose preparation is approved by the faculty, and who have at least 20 college credits of one modern foreign language. 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. Initial admission to classes in the School of Librarianship is permitted only at

the beginning of the college year in October.

Students planning to enter the School of Librarianship should consult the director of the school at least once a year.

Scholarship. Students not making an average of "B" in librarianship courses may, at the discretion of the faculty of the school, be dropped.

Graduation. The degree of bachelor of arts in librarianship is granted upon satisfactory completion of 45 credits in the school.

PRE-MEDICINE

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PRE-DENTISTRY

John L. Worcester, Executive Officer, Anatomy Building

Two- and Four-Year Curricula Preparatory to Medicine

One- or Two-Year Curriculum Preparatory to Dentistry

The University offers two curricula preparatory to the study of medicine. One of these is for two years and will meet the requirements of medical schools which require only two years of college work for admission to their professional study. The second is for four years and leads to a bachelor of science degree. It is accepted by most schools that require more than two years of preparation, but the student is urged to consult with the pre-medic adviser for the subjects for the last two years of the four-year curriculum.

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This curriculum will not reduce the amount of work to be done by the student in medical school, but it is designed to increase its efficiency. These courses are also well-adapted for pre-dental students, as the best dental schools require the same foundation work as the medical schools.

Below is the outline of the four-year curriculum. The first and second years constitute the two-year curriculum. Courses in the other years are optional, as indicated above.

FIRST YEAR

Autumn Quarter Credits Chem, 1 or 21. General 5 Zool. 3. Pre-medical 5 English 1. Composition 5 M.S. and P.E. or N.S+	Winter Quarter Credits Chem. 2 or 22. General 5 Zool. 4. Pre-medical 5 English 2. Composition 5 M.S. and P.E. or N.S+	Spring Quarter Credits Chem. 23. Qualitative Anal. 5 Physiol. 7. Elementary 5 P.E. 10. Health Educ, (Women) 5 Psych. 1. General (Men). 5 M.S. and P.E. or N.S+
	SECOND YEAR	

stcs 1. General 5 73. Intro. to Mod. Lit 5 ctives 5 and P.E. or N.S+	Scientific French or German 5 Physics 2. General 5 Chem. 131. Organic 5 M.S. and P.E. or N.S+	Physics 3. General Chem. 132. Organic B.B. 4. Survey of Econ or Pol. Sci. 1. Survey	5555
		M.S. and P.E. or N.S +	2

THIRD YEAR

Anat. 102. General Human Anat. 106. Histology and Embryology	6 6	Anat. 103. General Human Anat. 107. Neurology ‡Bact. 104. Serology	6 6 5
Clinical Methods	5		

FOURTH YEAR

Bact. 112. Pathology Anat. 104. Topographic	5 5 4 2
	Bact. 112. Pathology Anat. 104. Topographic

*Approved electives may be substituted. The total number of credits must include Physical Education 15 for men.

PRE-SOCIAL WORK

Mrs. Helen Dorman, Pre-Social Work Adviser, 300-F Commerce Hall

For detailed information, see page 203; see also Education for Social Work bulletin.

For admission to the Graduate School of Social Work, students must have completed their bachelor of arts degree (or its equivalent) with an average grade of Bor above.

Students wishing to prepare for professional study in social work should elect a major in Economics, Political Science, Psychology, Sociology, or General Studies in the field of social science. The departmental requirements for these majors are found under their respective subjects in this section of the catalogue.

Regardless of their major, pre-social work students should take the basic courses in all four of the major social sciences specified and in biology and should be certain to include:

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Economics: 1-2, Principles; 105, Labor; 161, Labor Legislation; 171-2, Public Finance and Taxation.

Political Science: 1, Survey; 60, American Government; 154, Public Service; 155, Public Administration; 165, Legislative Process.

Psychology: 1, General; 2, Adjustment; 108, Mental Measurement; 118, Social. Sociology: 1, Survey; 31, Statistics; 112, Family; 128, Field of Social Work; 132, Social Research.

Zoology and Physiology: 8, Survey; 16, Evolution; 17, Eugenics; 7, Elementary Physiology.

The student is expected to have an adequate background in other subjects, such as English and history. Certain courses in anthropology, home economics (especially courses 104, 109, and 180), nursing education (especially courses 104, 169, and 175), journalism, and physical education are most useful to the social work student and these should be taken, if possible, during the undergraduate period.

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

Seniors planning to enter a school of social work should make application early in the *spring* preceding the summer or fall in which they wish to begin their professional training, as many schools limit enrollment.

PSYCHOLOGY

Stevenson Smith, Executive Officer, 338 Philosophy Hall

DEGREE: Bachelor of Science

For a major, 40 credits of psychology approved by the department.

Majors should elect courses in chemistry, mathematics, physics, physiology, philosophy and zoology.

The following courses are required: Psych. 1, 2, 102, 106, 108, 109, 124 and 140. Required courses in other departments: zoology, 10 credits; mathematics, 5 to 15 credits.

College of Arts and Sciences

ROMANIC LANGUAGES AND LITERATURES

(French, Italian and Spanish)

Howard Lee Nostrand, Executive Officer, 202 Denny Hall

DEGREE: Bachelor of Arts

The Department offers majors in French, Spanish, and Italian, but not in "Romanic Languages." Students may be recommended to teach also upon minoring in any of these three, whatever their major. The requirement for the major is (a) proficiency in the language, and (b) a knowledge of its literature and cultural background, as outlined in a syllabus obtainable from the Department. This requirement may normally be met by passing the following courses:

French	Major	Minor
French 4, 5, 6. French 41. (Should be taken as early as possible). French 101, 102, 103. French 104, 105, 106. French 107 or 108 ³ . French 158, 159. Electives in French Literature ³ .	9 credits 3 credits 6 credits 9 credits 2 credits 4 credits 12 credits	Same
	45 ¹	331
Spanish	Major	Minor
Spanish 4, 5, 6 Spanish 101, 102, 103 Spanish 104, 105, 106 Spanish 158, 159	9 credits 9 credits 6 credits 4 credits	Same
Electives in Spanish Literature ³	15 credits	3 credits
	431	311

¹ Beyond course 3, or two high-school years. A third high-school year replaces courses 4, 5, and 6; a fourth high-school year usually replaces courses 101, 102, and 103. ³ In order to be recommended to teach, a student must either earn a grade of B in 107 or 108, or take the other of these courses in addition. ³ Courses numbered above 120 and not including more than three credits of 134, 135, 136.

Italian

The Department, through its scheme of alternate courses, offers enough work to satisfy the major requirements. Students who desire to major or minor in Italian are requested, however, to plan their work early with the instructor in charge.

Teaching Major or Minor in the College of Education

The above requirements will satisfy the major and minor requirements in the College of Education.

SCANDINAVIAN LANGUAGES AND LITERATURE

(Swedish, Norwegian, and Danish)

Edwin J. Vickner, Executive Officer, 210 Denny Hall

DEGREE: Bachelor of Arts

Swedish

Norwegian or Danish

z

Credits 9 4-5, 6. Swedish Reading	Credits 10-11, 12. Elementary Norwegian or Danish 9 13-14, 15. Norwegian or Danish Reading. 6 20, 21, 22. Norwegian or Danish Literature 6 103, 104, 105. Recent Swedish Writers, or special work in Norwegian or Dan. Lit. 6 106, 107, 108. Recent Norwegian or Danish Writers
36	36

SLAVIC STUDIES (Russian Language)—See Far Eastern Department

SOCIOLOGY

Jesse F. Steiner, Executive Officer, Social Science Bldg.

DEGREE: Bachelor of Arts

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

Sociology majors must maintain a general grade point average of 2.0, and a 2.5 average in Sociology courses.

								0	00.003
1.	Survey of Sociology Social Statistics	or	150.	General	Sociology	•••••	• • • • • • • •	• • • • • •	5
55.	Human Ecology, C	7	155. Hun	nan Ecol	ogy			•••••	5
Electi r	ives from courses offere egarding the special field	d in ti ld of i	he depart nterest	tment, ch	iosen after	consult	ation		16
3	dinimum total								36

Teaching Major or Minor in the College of Education

Credits	Minor
C/ 20365	787 21904

BILLIJUT	Creass	Da Whor	Crean
Soc. 1. Survey of Sociolog	989, <i>07</i>	Soc. 1. Survey of Sociolog	gy, or
Soc. 55. Human Ecology, 155. Human Ecology	<i>or</i> 5	Soc. 140. Population Problem	ems, or approved
Soc. 66. Group Behavior, 190. Social Attitudes.	(5) or 3	Soc. 190. Social Attitudes.	oproved 3
Soc. 131. Social Statistics. Electives from courses offe	5 red in the	Electives from courses of department after cons	acd in the sultation re-
department after cons garding the special fie	ultation re- ld of interest. 16 or 18	garding the special fie interest.	ld of
Minimum total		Minimum total	

SPEECH

Frederick W. Orr, Executive Officer, 201 Parrington Hall

DEGREE: Bachelor of Arts

Majors and minors in Speech may be earned in accordance with the schedules and the requirements listed below. Variation in the schedules is permitted only on the approval in writing of the department. From 45 to 53 credits are required for a major, of which 50 per cent must be upper division.

Courses in speech fall into five groups:

- I. Public Address and Argumentation. Courses 38, 40, 41, 101, 103, 138, 139, 140, 141, 188, 211, 212.
- II. Voice Science and Voice Training.
 - Courses 43, 44, 187, 214.
- **III.** Oral Interpretation.

16-1---

- Courses 79, 179, 215.
- IV. Speech Pathology and Correction. Courses A, 19, 50, 51, 190, 191, 193, 194, 195, 196, 216.
- V. General and Special Courses.
 - Courses 161, 162, 163, 186, 201, 220, Education 75X.

Major	Credits	Minor	Credits
Speech 40. Essentials of Speaking Speech 43. The Speaking Voice Speech 186. Backgrounds of Speech Speech 190. Speech Correction Approved Speech Electives Senior Examination	5 4 5 5 26 0	Speech 40. Essentials of Speech 43. The Speaking Speech 186. Backgrounds Speech 190. Speech Corre Approved Speech Elective	Speaking

For a normal diploma with a major in Speech, the above 26 speech electives are designated as Speech 41 or 188, 38, 44, 79, 139, and 187. To these are added 191 and 194. Teaching majors should also elect Drama 51, 52, 151, and 153.

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The minor electives listed above are designated as Speech 38, 79, and five credits

of upper division speech elective. Speech majors are required to elect the following courses related to speech work as part of the requirements unless substitutes are approved in writing in accordance with a definite educational program. Credits

Realish 64 65 66 Literary Declargeunde		1 5
English 04, 03, 00, Enclary Dackgrounds	•••	13
English 117. History of the English Language	••	5
Psychology 1. General Psychology	••	5
Philosophy 2. Introduction to Social Ethics		5
Science including Physiology 11.		1Ŏ
Approved studies in a subject other than speech (10 credits upper division)		25

ZOOLOGY AND PHYSIOLOGY

Trevor Kincaid, Executive Officer, 202 Johnson Hall

DEGREE: Bachelor of Science

(See Biological Sciences, page 93.)

Teaching Major or Minor in Zoology and Physiology in the College of Education

Major	Credits	Minor	Credits
1, 2. Elements of Zoology or 53-54. Physiology Zoology, Physiology Electives	} 10 26	1, 2. Elements of Zoology or S3-54. Physiology Zoology, Physiology Electives	} 10 10
Minimum total	36	Minimum total	20

DESCRIPTION OF COURSES

For description of courses in the various schools and departments of the College of Arts and Sciences, see Description of Courses section, page 209.

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 55-66. In addition to the all-University entrance requirements, the College of Economics and Business requires:

U. S. History and Civics	l unit ^a	k
Elementary Algebra	l unit	
Plane Geometry or Advanced Algebra	l unit	

The College of Economics and Business further recommends that the student include in his high school program:

One foreign language	2 units
Senior English	1 unit
Physics or Chemistry	1 unit
Social Science	1 unit
Bookkeeping	1 unit
Typewriting	1 unit
Shorthand	2 units

Ability in typewriting is not a requirement for graduation, but it is a very useful tool while a student is at the University and a practical necessity in a large proportion of the positions which are available after graduation. Students who have not had this training in high school are urged to get it before they graduate from the University.

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 77.

Requirements for Graduation

Graduates of the College of Economics and Business receive the degree of bachelor of arts in economics and business. The following is a summary of 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, he must meet the general University requirement of six quarters of military or naval science and five quarters of physical education, plus Physical Education 10 or 15.

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. No student will be regularly admitted to the sophomore year in the College of Economics and Business if he has any entrance deficiency or if his grade point average is below 1.80. Failure to obtain a cumulative grade point average of 2.0 by the end of the sophomore year, and to maintain it thereafter, will be regarded as unsatisfactory. Students with records of unsatisfactory performance will be reported to the dean for appropriate action. The same rules apply to a major in economics in the College of Arts and Sciences. A student may transfer from another college to the College of Economics and Business, provided he has no entrance deficiency, and thereafter becomes subject to the above rules.

* 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.

College of Economics and Business

Lower Division Requirements FIRST YEAR

E.B. 1.2. Principles of Economics.	Credits
Geography 7. Economic Geography.	5
An approved laboratory science (10 credits) or mathematics (10 credits),	10
Elective	
MLS. and P.E. of N.S	··· T

SECOND YEAR

†E.B. 54. 55. Business Law1	0
E.B. 60. Statistical Analysis	5
E.B. 62, 63, Principles of Accounting	õ
tHistory 7. Survey of U. S. History.	ŝ.
Flectives	5
M.S. and P.E. or N.S.	F

*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 elec-tive 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, navehology, and philosophy.

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: Crodits

	C7	eau
E.B. 103.	Money and Banking	. 5
E.B. 104.	Principles of Transportation	5
E.B. 105.	Economics of Labor	. Š
E.B. 106.	Economics of Marketing and Advertising	5
E.B. 107.	World Economic Policies	5
E.B. 121.	Corporation Finance	5
E.B. 171.	Public Finance and Taxation I	5
E.B. 175.	Business Fluctuations	5
E.B. 185.	Advanced Economic Theory	ĩ

Each student in the college must also complete an approved sequence of at least 15 credits of upper division courses in economics and business. These may be in a special field or selected to satisfy the requirements for a general economics major or a general business major.

Suggestions for Planning Courses

During the sophomore year selection of a special field of major interest should be made. This choice 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. This will include not only the courses which meet the special requirements but also the supporting courses chosen as electives. Conference between student and instructor may be held at any time at their mutual convenience and should not be delayed until the registration period.

The programs of students who desire to satisfy the requirements for a general economics or general business major will be designed to meet the needs of the student concerned and must have the approval of an appropriate committee.

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 re-

guirements has included the appropriate courses needed as background for his field of specialization.

1. Economics.

Required: E.B. 187, plus 10 additional credits in economics selected in conference with a major adviser to meet the student's special needs and training program in the general field of economics.

2. Labor

Required: E.B. 161, 163, 164. Recommended elective: E.B. 177.

3. Public Finance.

Required: E.B. 172, 196 (plus 10 credits to be recommended).

4. Banking and Finance.

Eighteen credits or more to be chosen with the approval of the adviser from the following: E.B. 122, 123, 125, 126, 127.

5. Foreign Trade and Consular Service. Required: E.B. 127, 131, 132.

Recommended E.B. 127, 101, 152. Recommended electives: E.B. 197. Geography 102, 103, 104, 105, 106, 109. Political Science 121, 122, 124, 127, 129. History 158, 159. Far Eastern 90, 91; and Law 122, 141. Speaking knowledge of some modern foreign language.

6. Marketing.

Required: E.B. 134, 135, 136, 193A, B, C. Wholesaling: E.B. 131, 132.

Retailing: Home Economics 25

Advertising: Journalism 130, 131. Recommended electives: Psych. 21, E.B. 115.

7. Public Utilities.

Required: E.B. 141, 142, 196 (plus 5 credits to be recommended).

- 8. Transportation Required: 20 credits or more chosen from the following: E.B. 143, 144, 145, 146, 147, 148, 149, 194.
- 9. Management.

Required : E.B. 101, 110, 150, 151, 154. Psych. 2 or 21.

10. Accounting.

Required: E.B. 110, 111, 112, 156, 157, 158. Recommended electives: E.B. 152, 153, 154, 155.

11. Real Estate.

Required: E.B. 109, 169, 199B, 199C. Recommended electives:

Architecture 1-2, 3 Law 104, 123 E.B. 129

Sociology 55.

12. Insurance

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Required: E.B. 108, 128, 129.

13. Economic Geography.

Economics and business may be combined with world resources and industries by substituting 28 credits in specified economic geography courses for the "Special Requirement" of 15 credits or more of upper division courses in economics and business.

Required: Geog. 102, 103, 104, 105, 106, 109.

Pre-Law Curriculum

Students desiring a combination of business and legal training may enroll in the College of Economics and Business for the two-year pre-legal training or for the seven-year course in economics and business and law.

(a) Two-Year Pre-legal Curriculum. Students enrolled in the College of Economics and Business may satisfy the requirements for admission into the School of Law and at the same time meet the requirements of the first two years of work in the College of Economics and Business. In order to be admitted into the School of Law, a student must present 90 academic credits with a scholarship average of 2.5 grade points. Of the 90 credits, constituting the two-year pre-legal curriculum, 60 are required; namely, English 1, 2, 3; Economics 1, 2; Political Science 1, 52; History 5, 6, 106; Philosophy 1, 5.

In order to adjust the lower division curriculum of economics and business to meet the requirements of the two-year pre-legal curriculum, History 5, 6, or 106 may be substituted for History 7. Business Law (E.B. 54, 55) may be omitted. Electives in the two years must include Political Science 1 and 52; Philosophy 1 and 5.

3

(b) Combined Seven-Year Economics and Business-Law Curriculum. Students may obtain the degrees of bachelor of arts in economics and business and bachelor of law in seven years.

To have the benefit of this combined course, a student must maintain a grade-point average of 2.5, and must in the first three years, earn 138 economics and business credits, together with the six quarters of required miliary or naval science and five quarters of physical education.

A candidate for the combined course must complete all the required lower and upper division courses of the College of Economics and Business. The specific requirements of the two-year pre-legal program with omissions and substitutions noted in (a) above, are optional for students meeting the requirements of the combined seven-year curriculum. In lieu of a field of specialization or "major" the student offers the 42 credits, which constitutes the first year program in the School of Law. He will be granted the bachelor of arts degree in economics and business upon the completion of the 138 hours in economics and business and the first year curriculum in the Law School. The degree of bachelor of law will be conferred upon the completion of his work in the School of Law.

Commercial Teaching

Required :

(a) Satisfaction of the lower division requirements as outlined on page 138.

(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. 113, 115, 116, and 117.

(e) Twenty-eight credits of education courses, including Edu. 75E or Edu. 75F. See College of Education section.

(f) A teaching major and two teaching minors in commercial education have been provided also in the College of Education. (See page 150.

Quartermaster Administration

The University of Washington has been designated by the War Department as a training center for officers for the Quartermaster Corps. This program is open to regularly enrolled students in the College of Economics and Business who are candidates for a bachelor's or master's degree. Six quarters are normally required to complete the training program.

Undergraduate Requirements: Undergraduate men taking advanced R.O.T.C. training in the Quartermaster unit may satisfy the requirements for the bachelor of

140

arts in economics and business and for the commission in the Quartermaster Corps by completing the following program:

- (a) Satisfaction of the lower division requirements as outlined on page 138, together with 6 quarters of basic military training.
- (b) Completion of 30 credits of the upper division general requirements in economics and business, outlined on page 138.
- (c) Completion of special courses in the College of Economics and Business open only to members of the Quartermaster units—E.B. 137, 148, 168 and other courses to be prescribed.
- (d) Satisfaction of eighteen credits of advanced R.O.T.C. (M.S. 124, 125, 126, 174, 175, 176). See page 284.
- (e) Students in the Quartermaster unit are encouraged to satisfy the requirements of one of the major fields set forth above with the approval of the major adviser. A student who completes one of the regular majors may, upon approved petition, substitute E.B. 137 for E.B. 106; E.B. 148 for E.B. 104; E.B. 168 for E.B. 55. Those students who do not elect a field of major interest must meet all college requirements plus the Quartermaster requirements outlined in (c) and (d) above. In effect, he will major in Quartermaster administration. This plan will facilitate adjustment of programs, especially of transfer students and is intended primarily to be "for the duration."

Requirements for the M.B.A.-Q.M. program: Graduate students and seniors with satisfactory background training in economics and business who have completed six quarters of basic military training may be enrolled in the Quartermaster unit as candidates for the degree of master of business administration. The requirements for the combined M.B.A.-Q.M. course are:

- (a) Satisfaction of the general requirements for the master of business administration degree as outlined on page 181 with the following modifications: In lieu of one of the three fields prescribed for the candidate's examination, the student may offer the special courses in quartermaster administration described in (b) below, provided his grade average in these courses is "B" or above. In case this substitution is made, the candidate's written examination will cover only his other two fields of specialization.
- (b) Completion of special courses in the College of Economics and Business open only to members of the Quartermaster unit—E.B. 137, 147, 168 and other courses to be prescribed.
- (c) Satisfaction of eighteen credits of advanced R.O.T.C. (M.S. 124, 125, 126, 174, 175, 176). See page 284.

Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 174.

Curriculum for Government Service

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

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

Special Features

The curriculum for Government Service differs from an ordinary major in economics and business, political science, or sociology in the following respects:

- (1) Students may elect this major in their first quarter of the freshman year by adhering to the requirements of the Government Service curriculum.
- (2) Students are expected to maintain a grade standard of not less than 3.0 ("B"). A student in the lower division who is unable to maintain this standard should shift his course work to other objectives.

- (3) 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.
- (4) The curriculum for the first two years closely parallels the requirements of the College of Economics and Business and the College of Arts and Sciences. Should a student desire to change his major either to or from Government Service within the first two years, the change may be effected without his having to make up very many requirements.
- (5) Admission to the public service curriculum as a recognized major will occur at the beginning of the junior year upon application by the student and acceptance by an inter-departmental committee. Candidates must meet the requirements of scholarship and the lower division prerequisites set forth herewith. Thereafter, failure to maintain a grade standard of 3.0 will result in dropping the student from this major.
- (6) When the student selects his field of major interest he will be assigned to an adviser, or advisers, who will aid him in planning his program for the fourth and graduate years. The junior year curriculum permits some latitude in the selection of courses.
- (7) The senior and graduate years are under the direction of the department selected by the student, in accordance with his major interest.
- (8) Seminars jointly conducted by two or more departments and in some instances field experience under the supervision of an appropriate instructor may be arranged in accordance with the interests and vocational expectations of students.
- (9) The degree of bachelor of arts in economics and business will be awarded, or a degree in economics, political science, or sociology if the student is registered in the College of Arts and Sciences, at the end of the fourth year. The work done in the fifth year may be applied toward a master's degree and those who have met all of the requirements of that degree by the end of the fifth year will receive it at that time.

First and Second Year Curriculum in Public Service ENGLISH

Creat	3
English 1	
a. English 3	
SOCIOLOGY	
1. Survey of Sociology	
POLITICAL SCIENCE	
1. Survey of Political Science	
HISTORY	
7. American History	
PSYCHOLOGY	
1. General Psychology 5	
ECONOMICS AND BUSINESS	
1-2. Economics and Business	
a. E.B. 60. Statistical Analysis	
d. Psych. 108. Essentials of Mental Measurement	
citoes. Of the ninety credits normally earned during the freshman and	soj

Electives. Of the ninety credits normally earned during the freshman and sophomore years fifteen credits remain at the disposal of the student. By using these credits for a physical science, a language or mathematics, greater flexibility is assured the student in case of a shift in objectives.

Third Year Curriculum in Public Service

ECONOMICS AND BUSINESS

			_		
103. Money and Banking 105. Economics of Labor.	•••	••	•••	. 5	į
171. Public Finance and Taxation			- • •	. š	5
Choice of five credits from:					
a. E.B. 170. Advanced Statistical Analysis	. 5	5			
b. Soc, 132. Methods of Social Research	. 5	į			
c. Psych. 109. Advanced Mental Measurement	• 5	5			
POLITICAL SCIENCE					
					-

* Not offered in 1943-1944.

PSYCHOLOGY

118. Social Psychology 5

SOCIOLOGY

194. Public Opinion 3

Fourth and Fifth Year Curricula in Public Service

The function of the adviser in the fourth and fifth years is to plan with the individual student a program suited to the objectives of the student. The adviser will in effect be the major professor in whose field the student will concentrate, such as taxation, labor, accounting, economics, political theory and jurisprudence, international relations, politics and administration, social work, or law. The entire curriculum for these two years will therefore be drawn up by the adviser in collaboration with the student. The courses selected will then become the requirements for graduation. The following courses, however, are required in the fourth or fifth year:

Fifth year students who have satisfactorily completed Law 119 and Law 120 may, with the approval of the Dean of the Law School in each case, be admitted to the following additional law courses:

	•••••	
Law 121. *Law 125.	Administrative Law	} 5
Law 133.	Public Utilities 4	į.
Law 146.	Taxation 4	ł
Not offered	in 1943-1944.	

The degrees to be awarded for graduate work will rest with the departments, colleges, or schools in which the student has majored during his fourth and graduate years. Opportunities for field experience or apprenticeship training during the student's period of graduate study, likewise will depend upon the requirements of the major field. Opportunities for practical experience in government positions, with or without compensation, sometimes present themselves prior to the student's graduation. Under appropriate circumstances such employment is to be encouraged, and, if undertaken with the advice and consent of the instructor, University credit may be given therefor on the basis of such evidence of achievement as the instructor may determine.

Mr. Stephen D. Brown will be the students' adviser for the Government Service curriculum until the student has definitely selected his field of major interest. Should the student be working with a departmental adviser prior to a selection of a major interest in Government Service such contact should be preferred and maintained if possible.

DESCRIPTION OF COURSES

For description of courses offered by the College of Economics and Business, see page 233.

Credite

Credits

Credits

College of Education

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 freshmen in the College of Arts and Sciences. They must confer with the advisory officers in the College of Education for admission to this college as sophomores, and fill out a "Qualifying Application" for a teaching certificate.

Application for a teaching certificate. 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. After earning a total of 225 credits, including the requirements stated below, students may be granted a three-year secondary certificate. Thirtythree of the 45 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.

2

Professional work in education begins in either the freshman or sophomore year with Education 1. Later courses in education are open to students who have completed satisfactorily two years of college work, and who have an all-University grade-point average of 2.2 or better. The professional courses in Education should be distributed throughout the junior, senior, and fifth years as an effort to crowd these courses into three or four quarters invariably results in difficulty.

Fellowships, Scholarships, Prizes. See page 77.

GENERAL REQUIREMENTS

In addition to the all-University requirements for graduation, the College of Education requires English 1-2; 10 credits after passing Preliminary Freshman English test.

Elective Departmental Curricula

See Collegé of Arts and Sciences, page 86, for groupings of schools and colleges.

Minimum requirements for the first two years:

- 30 credits in one Arts and Sciences group
- 20 credits in a second group
- 10 credits in the remaining group

General Academic Work. Owing to the variety of work that every beginning teacher is likely to be required to do, and to fulfill the requirements for the teaching certificate, each teacher must have thorough preparation in at least two or more additional fields. The following combinations are most frequently demanded: English, history, civics—a foreign language is often included in this combination; English, Spanish or French; English, French, Latin; English, Latin, history; French, German, Spanish; chemistry, mathematics, physics; a combination of botany or zoology is frequently joined with the physical sciences and mathematics; home economics in connection with one or two other subjects; commercial subjects with other subjects; physical and health education, art, or music in combination with other work. Public speaking, dramatics, and journalism are desirable as part of the preparation for teaching English. Library science is needed also by many teachers.

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

The Bureau of Appointments. This Bureau is maintained to assist qualified students and graduates in obtaining educational positions. Calls are received for college instructors, administrators, supervisors, and teachers in elementary and secondary schools. Students who wish to avail themselves of 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. The Bureau is located in 263 Education Hall, on the mezzanine floor.
Admission to Professional Courses and the Fifth Year

The requirement for admission to undergraduate professional courses beyond Education 1 is the completion of 90 academic credits of college work earned in the University of Washington or in an accredited institution of equal rank, including the usual undergraduate requirements in physical education and military or naval science, and a grade-point average of 2.2.

Students admitted from the undergraduate curricula of other colleges of the University must have satisfied the requirements of their respective colleges except in foreign language up to the time of the transfer to the College of Education.

Admission of Teachers' College Graduates to Advanced Standing

Advanced credit for work taken in approved teachers' colleges or normal schools by students previously graduated from an accredited four-year secondary school will be allowed at the rate of 45 credits for each full year's work completed in such schools, the minimum amount accepted as a year's work being 36 weeks of attendance with at least 45 quarter credits, not more than 19 of which shall have been earned in one quarter. Claims for exemption from specific requirements, based on work in such schools, are passed on by the Registrar and the dean of the college.

Fifth-year standing cannot be attained until after the completion of Education 1, 9 and 70. Education 1 cannot be taken for credit after the beginning of the junior year. Students without teaching experience are accepted in the fifth year as candidates for the master's degree only if they have been graduated with merit (average of 3.5). Senior standing is attained when 135 academic credits have been earned.

Graduation

College of Education candidates for the bachelor's degree must satisfy the graduation requirements of the College of Arts and Sciences except in foreign language. If foreign language is omitted, 20 credits selected from general literature and English must be substituted. Such substitutions must he in addition to the regular requirements of the College of Arts and Sciences in English. In the total credits required of students in the College of Education for graduation, the following must be included:

Academic major-36 or more credits (see departmental requirements).

The education courses required for graduation shall include the following:

The degrees awarded are bachelor of arts or, at the student's option, bachelor of science, according to the character of the academic work. Applicants selecting majors from Group I or II will receive the bachelor of arts degree while those selecting majors from Group III may receive the bachelor of science degree.

Students who transfer from other institutions must earn at least nine approved credits in education at the University of Washington, and maintain a grade-point average of at least 2.2.

College of Education

Certification

A. THREE-YEAR CERTIFICATES

The University three-year secondary certificate, based on a degree from the University of Washington, will be valid for three calendar years from date of issue. Applicants for this certificate must fulfill the following requirements:

1. Earn 225 university academic credits in approved courses.

2. Show evidence of such general scholarship and personal and moral qualities as give promise of success and credit in the teaching profession.

3. Pass a speech test.

7

4. Take oath of allegiance.

5. Earn a minimum of 15 credits in courses dealing with contemporary social problems. These courses must be approved by the College of Education.

6. Satisfactorily complete a course in the History of the State of Washington. (Applies toward contemporary social problems.)

7. Present (a) as a teaching major a subject now included in the curriculum of at least two of the larger public high schools of the State, and (b) two teaching minors, one of which may be in the same field as the major when major is art, English, home economics, or music. The list of acceptable teaching majors and minors follows:

Art Education Botany Chemistry	Health Education History Home Economics
Civics	Industrial Arts
Commercial Teaching	Journalism
Drama	Latin
Economics	Mathematics
English	Music
French	Physical Education for
Geography	Men
Geology German	Physical Education for Women

Physics Physiology Political Science Psychology Sociology Spanish Speech Zoology

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

For departmental requirements for teaching majors and minors, see the schools and departments listed alphabetically under the College of Arts and Sciences, pages 87 to 136.

8. Earn a minimum of 28 credits (26 for students who take Education 1 for no credit) in the following courses in education (not more than two credits for Education 75 may be counted toward this requirement):

Credits

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e.

		,,,,,,
1.	Orientation in Education	2
9.	Psychology of Secondary Education	<u>ا</u>
30.	Washington State Manual)
70.	General Methods	
90.	Measurement in Secondary Education	2
60.	Principles of Secondary Education	\$
75.	Special Methods	2
1-72.	Cadet Teaching	3
120.	*Educational Sociology	\$

*A substitute may be selected from the following: Educ. 101, 104, 122, 146, 147, 180, 181, 182, 184, 188, 191.

9. Education 71 and 72, Cadet Teaching, should not be taken until the requirements are fulfilled for Education 1, 9, 70 and 75. Cadeting is taken either during the senior or fifth year with Education 30 and 60. The actual teaching takes place in the Seattle High Schools and is done by semesters rather than by quarters. Assignments are made in Education Hall 113 in September and January at which time the semesters in the high schools begin. A student who elects to cadet fall semester will register for Education 71 for 5 hours in the fall and for Education 72 for 3 hours in the winter quarter. Students electing to cadet spring semester will register for Ed. 72 for 3 hours in the winter quarter and for Education 71 for 5 hours in the spring quarter. Cadets must take Education 30. State Manual, which is required for the teaching certificate, while taking Education 71. The Tuesday meeting of all cadets continues as long as the cadet is teaching. A fee of one dollar per credit hour is charged which makes a total of \$8.00 for the complete course.

10. Graduates of normal schools or teachers colleges who subsequently graduate from the University and become candidates for the University three-year secondary certificate must earn at least nine credits in courses dealing specifically with secondary education and such graduates must complete all the above required education courses not previously taken.

11. Students who transfer from other institutions must earn a degree from the University of Washington, or certify through the State Department of Public Instruction at Olympia.

12. Students who transfer from other institutions are normally required to earn ten credits in the academic major and five credits in each academic minor at the University of Washington.

13. Persons who have received the master's or doctor's degree from this University are eligible for the University three-year secondary certificate, provided they have fulfilled the specified certification requirements.

B. GRADES REQUIRED FOR THE THREE-YEAR SECONDARY CERTIFICATE

(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.

(d) "C" average or better in contemporary social problems courses.

C. RENEWAL OF THREE-YEAR SECONDARY CERTIFICATE

Holders of the University three-year secondary certificate who desire further certification must make application for the same through the State Department of Public Instruction at Olympia. Application should be made at least six months before the expiration date of the original certificate, since a lapsed certificate may be reinstated only upon the completion of additional course work.

D. ADMINISTRATIVE REQUIREMENTS IN ACCREDITED DISTRICTS

Administrators. All persons interested in administrative positions should note carefully the basic State requirements given below. Further details concerning administrators' credentials may be secured from the State Department of Public Instruction at Olympia.

All courses taken at the University of Washington to be applied on administrators' credentials must be acceptable for graduate credit.

- Elementary School Principal's Credential
 - (a) Certification at the elementary level;
 - (b) At least two years of successful teaching experience in the elementary school or the junior high school; 1, 1936.
 - 1, 1900.
 - (c) Twelve quarter credits of professional training for the principal's credential must be taken subsequent to at least one year of teaching experience.

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Junior High School Principal's Credential

- (a) Certification at the junior high school level;
- (b) Completion of not less than four years of professional preparation;
- (c) At least two years of successful teaching experience in the common schools;
- (d) Twelve quarter credits of training in professional courses relating to junior high school organization, supervision and administration in addition to the requirements for standard junior high school certification;

High School Principal's Credential

- (a) At least two years of thoroughly successful teaching experience on the secondary level;
- (b) A minimum of twelve quarter credits of work in professional courses relating to secondary organization, supervision, and administration, in addition to the minimum hours in education required for original certification;
- (c) The professional training for the credential must be taken subsequent to at least one year of teaching experience.

Superintendent's Credential

- (1) After September 1, 1939, no one may qualify for a superintendent's credential on the basis of experience in this state unless he has continued in the same position since September 1, 1934, and devoted at least two periods per day to his administrative duties.
- (2) The superintendent of a school district having an accredited high school and also an elementary school, or schools, shall be the holder of a secondary certificate and qualify under the following provisions:
 - (a) At least two years of successful experience as a superintendent. (This provision is applicable only to candidates who served successfully as superintendents prior to September 1, 1934, the time at which the State Board of Education ruling became effective.)

(b) At least four years of successful administrative experience. 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 a high school principal, department head, or supervisor, at least two hours per day must have been devoted to the administrative duties.

(In order to qualify for a superintendent's credential on the basis of the requirements under (b) it is necessary to be in possession of both the elementary and the high school principals' 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 high school experience, proof of having devoted at least two hours per day to the administrative duties. Only candidates who gained their experience prior to September 1, 1934, may qualify under (b) without being in possession of both the elementary and senior high school principals' credentials.)

- (c) At least two years of successful experience as a 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 the administrative duties. These educational requirements are in addition to the minimum required for initial secondary certification.

It should be carefully noted that training may be substituted in lieu of administrative experience on one level or the other but not in lieu of 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 master's degree or doctor's 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 acceptable for a superintendent's credential, except that, in case of those trained in a secondary teacher-training institution, one-half of the twenty-four credits in elementary education required for superintendents' credentials in lieu of elementary administrative experience may be secured on the undergraduate level at an elementary teacher-training institution maintaining a laboratory school, and 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.

Courses in the Department of Education

Before registering for their first course in education, students must consult a departmental adviser.

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Courses in education required for certification by the University of Washington are divided into three classes, excepting Education 1, which is required of freshmen and sophomores. 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.

The courses in education are divided also as to content and function into eleven divisions as follows:

- Educational psychology Α.
- B. Educational sociology
- Ĉ. Educational administration and supervision

- Educational administra
 D. Elementary education
 E. Secondary education
 F. Classroom techniques
 G. History and philosophy
 H. Higher education History and philosophy of education and comparative education
- I. J. K. Curriculum
- Guidance and extra-curricular activities
- Remedial and special education.

Candidates for a master's degree must specialize in at least two of these divisions, while students who are working toward the doctorate must prepare themselves thoroughly in at least three divisions. They should elect courses from these divisions according to their interests, abilities, and the activities in which they ex-pect to be engaged. For requirements for advanced degrees, see Graduate School section, page 174.

Graduate students should plan a generous sampling of courses numbered above 200.

Before completing their registration, graduate students must consult either the executive officer in education or a designated adviser in selecting proper divisions of education and necessary courses in these divisions.

The following teaching majors and minors are also offered by the College of Education:

Civics

Major	Credits	Minor	Credits
Pol. Sci. 1. Comparative Government E.B. 4. General Economics. Soc. 1. Introductory Sociology Pol. Sci. 101. Constitutional Government Pol. Sci. 152. Political Parties Electives in Political Science Electives in Biconomics or Sociology	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Pol. Sci. 1. Comparative Government B.B. 4. General Economics or Soc. 1. Introductory Sociology Pol. Sci. 101. Constitutional Government. Electives in Political Scienco Minimum total.	$ \begin{array}{c}5 \\2 \\13 \\25 \end{array} $
Minimum total		· · · · · · · · · · · · · · · · · · ·	

Commercial Teaching

Students desiring to prepare for teaching positions in commercial departments in secondary schools may do so by enrolling in the College of Economics and Business and satisfying all requirements of that College, together with the minimum of 28 credits in Education (see page 140), 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 E.B. 1-2, or 4 in partial fulfillment of the requirement of 15 credits in courses dealing with contemporary social problems (see 5, on page 146. In satisfaction of the requirements of the College of Education for a methods course they must elect 75E or 75F. In addition the following Economics and Business courses are required:

Major	Credits	First Minor	Credits
16, 17, 18. Sec. Training 54-55. Business Law 62, 63, 113. Accounting	9 9 	16, 17, 18. Sec. Training 62, 63. Accounting 106. Marketing	
106. Marketing 115. Business Letter Writing 116. Office Appliances	····· 5 ···· 5	Second Minor	24 Credits
117. Adv. Sec. Iraining	5 54	16, 17, 18. Sec. Training 62, 63. Accounting	
			10

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 normal schools or at other institutions. Such courses are offered also at the University of Washington during the summer session. Twenty credits are required for a minor and 36 for a major.

Requirements for Teacher-Librarians

(For curricula in the School of Librarianship, see School of Librarianship Bulletin, available on request.)

State standards for library work in accredited high schools divide the schools into five classes: Class 1 covering schools with enrollment of 100 or less; Class 2, 100 to 200; Class 3, 200 to 500; and Classes 4 and 5, over 500.

Applicants for the teaching certificate desiring to qualify for library work in accredited high schools of the fourth and fifth classes may take a fifth year in the School of Librarianship. Consult with advisory officers of both departments.

Teacher-librarians in accredited high schools of 100 or less (Class 1) must have at least 7¹/₂ credits in librarianship.

Teacher-librarians in accredited high schools of 100 to 200 (Class 2), and of 200 to 500 (Class 3) must have at least 15 credits in librarianship.

Teacher-librarians in accredited high schools in Class 4 (500 to 1000) and Class 5 (over 1000) are recommended to have one year's preparation in an approved library school.

Teaching majors who wish to offer librarianship as a minor must have 18 credits. The following courses are open to teacher-librarians in autumn, winter, and spring quarters: Librarianship 171, 175, 176, 182, 184, 195. See Description of Courses section, page 278, for titles, credits, and descriptions.

Description of Courses

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For description of courses offered by the College of Education, see page 239.

College of Engineering

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.

Fellowships, Scholarships, Prizes. See page 77.

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 55-66. In addition to the all-University entrance requirements, the College of Engineering requires the following:

Elementary algebra one	unit*
Advanced algebra one-half	unit
Plane geometry one	unit
Solid geometry one-half	unit
**Physics	unit
Chemistry one	unit

The additional six units may be chosen from either academic or non-academic subjects. A student who does not present high-school chemistry for entrance will normally be expected to earn 15 credits instead of 12 credits in chemistry during the freshman year.

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.

Scholarship Requirements

In addition to the all-University scholarship requirements the scholarship rules of the College of Engineering provide:

1. 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.

^{*}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.

^{*•}The high school pre-aviation course may not be substituted for the physics requirement. It will, however, be accepted as academic credit in science.

College of Engineering

2. 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. (Effective June, 1942.)

3. That a candidate for a bachelor's degree in engineering must have earned a grade-point average of at least 2.4 in the upper-division subjects of his major department. (Effective for graduating seniors in June, 1943.)

Preparation in Algebra

All students entering any department of engineering will be tested in highschool algebra by class work and by examination given shortly after the beginning of the first quarter. It is essential that students in the engineering courses possess a good working knowledge of algebra at the beginning of their course. The purpose of the test is to secure this by requiring the student to review the subject shortly before he enters the University. 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.

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 heing 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, and to make automatic their proper applications in both speech and writing.

Curricula and Degrees

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

Degree with Honors. A degree with honors in engineering may be conferred upon any student of the College of Engineering who, upon vote of the engineering faculty and of the honors committee, may be declared worthy of unusual distinction.

Thesis. The graduating thesis, when required, will consist of research or design in some branch of engineering, or review of some existing construction. The subject must be approved by the professor in charge of the department under which it is classified.

Normal Diploma. 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 174.

The professional degrees, aeronautical engineer (A.E.), chemical engineer (Ch.E.), civil engineer (C.E.), electrical engineer (E.E.), and mechanical engineer (M.E.), will be conferred on graduates of this college holding the degree of bachelor of science or master of science in their respective departments, who give satisfactory evidence of having been engaged continuously in responsible engineering work for not

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less than four years, are not under 30 years of age, and who present satisfactory theses. In general, responsible engineering work shall be interpreted to mean work equivalent to that required for associate membership in the national founder engineering societies. In case the applicant has rendered special services to the profession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized standing. Teaching expe-rience shall count in lieu of professional experience in the same ratio as now recognized by the engineering societies, provided that a minimum of two years of acceptable engineering work, other than teaching, be included.

CURRICULA OF THE DEPARTMENTS OF ENGINEERING

(For the Freshman Year in all Departments)

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FRESHMAN

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
†Chem. 24. General G.E. 1. Drawing G.B. 11. Engineering Pro Math. 31. Engin. Fr M.S. and P.E. or N.S	4 bs. 3 5	Chem. 25. General G.E. 2. Drawing G.E. 12. Engineering Prob Math. 32. Engin. Fr M.S. and P.B. or N.S	4 3 8. 3 5 +	Chem. 26. General G.E. 3. Drafting Problem (G.E. 21. Surveying Math. 33. Engin. Fr M.S. and P.E. or N.S	4 15 3 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

Leading to the Degree of Bachelor of Science in Aeronautical Engineering

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

utumn Quarter	Credus	Winter Quarter	Credits	Spring Quarter	Credits
hysics 97. Engin. Phy	sics., 5	Physics 98. Engin. Phy	ysics 5	Physics 99. Engin. Ph	ysics 5
Aath. 41. Engin. Calcu	ulus 3	Math. 42. Engin. Calc	ulus 3	Engl. 100. Technical (Comp 3
A.E. 82. Steam Engine	ering 3	E.B. 3. General Econo	mics 3	Math. 43. Engin. Calc	
A.E. 53. Mfg. Method	s 1	M.E. 54. Mfg. Method	18 1	M.E. 55. Mfg. Method	ls 1
E. 15. Hygiene	2	M.S. and P.E. or N.S.	+	M.S. and P.E. or N.S.	+
1.5. and P.E. of N.S.					

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 Struc-	A.E. 104. Laboratory Meth.
M.E. 111 Machine Design 3	ME 112 Machine Design 3	A E 172 Aircraft Struce
tEnglish 102. Comp. for	E.E. 101. Direct Currents. 4	tural Mechanics 3
Engineers 3	E.E. 102. D.C. Laboratory 2	E.E. 121. Alt. Currents 4
		E.E. 122. A.C. Laboratory 2
		M.E. 104. Mfg. Methods 1

SENIOR

A.E. 111. Airplane Design 3 A.E. 105. Wind Tun'l Lab. 2 A.E. 141. Aerial Propuls'n 3 A.E. 173. Aircraft Struc- tural Mechanics 3 A.E. 188. Seminar 1 Electives* 4	A.E. 112. Airplane Design 3 A.E. 102. Adv. Aerodyn 3 A.E. 189. Seminar 1 M.E. 167. Engr. Materials 3 Electives [*] 6	A.E. 190. Seminar 1 M.E. 183. Thermodynamics and Refrigeration 5 E.B. 57. Business Law 3 Electives* 7
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The total number of credits for graduation must include Physical Education 15 for men, or Physical Education 4, 6, 8, or 10 for women. †English 101 (see electives) may be substituted. *Not less than 9 elective credits shall be obtained from the following list of recommended aeronautical electives. Electives in all cases must be approved in advance by the head of the department. For non-technical electives, see page 160.

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College of Engineering

RECOMMENDED ELECTIVES

A E 106. Advanced Wind Tunnel Laboratory.	Credits
A.E. 121. Airships	3
A.E. 142. Advanced Aerial Propulsion	3
A.E. 161. Advanced Aeronautical Problems	3
A.E. 181. Advanced Airplane Structures	··· 3
A.E. 211. 212. 213. Research.	2-5
M.E. 198. Gas Engineering	3
Geography 122. Meteorology	3
Math. 114. Ordinary and Partial Differential Equations	3
M.E. 182. Heating and Ventilation	
M.E. 185. Naval Architecture	3
M.E. 108. Production Management	3
M.E. 109. Factory Cost Analysis	3

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. G.E. 1. Drawing Chem. 24. General N.S. 1.	5 3 4 +3	Math. 32. Engin. Fr G.E. 2. Drawing G.E. 11. Engin. Pro Chem. 25. General N.S. 2	5 bs 4 +3	Math. 33. Engin. 1 G.E. 12. Engin. P G.E. 3. Drafting Chem. 26. General N.S. 3	Fr 5 robs 3 Probs 3 4 +3
			—		
	12+3		15+3		15+3

SOPHOMORE

Math. 41. Engin. Calculus 3 M.E. 81. Mechanism 3 Phys. 97. Engin. Physics. 5 M.E. 53. Mfg. Methods. 1 P.E. 15. Hygiene 2 N.S. 51	Math. 42. Engin. Calculus 3 C.E. 91. Mechanics 3 M.E. 82. Steam Engin'g. 3 Phys. 98. Engin. Physics 5 M.E. 54. Mfg. Methods. 1 N.S. 52+3	Math. 43. Engin. Calculus 3 C.E. 92. Mechanics 3 Phys. 99. Engin. Physics 5 Engl. 100. Tech. Comp 3 M.E. 55. Mfg. Methods. 1 N.S. 53+3
		-
14+3	15+3	15+3

14+3

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N.S. 151

A.E. A.E.

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JUNIOR

N.S. 102	N.S. 103
A.E. 171. Aircraft Struct.	A.E. 172. Aircraft Struct.
M.E. 112. Mach. Design. 3	A.E. 104. Lab. Methods
E.E. 101. Direct Currents 4 E.E. 102. D.C. Lab 2	E.E. 121. Alt. Currents 4
	E.E. 122. A.C. Lab 2

SENIOR

 151 111. Airplane Design 105. Wind Tun. Lab. 173. Aircraft Struct. Mechanics 141. Aerial Propul 188. Seminar 	3 3 2 3 3 1	N.S. 152	N.S. 153
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College of Engineering

Chemical Engineering

Leading to the Degree of Bachelor of Science in Chemical Engineering

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

Aulumn Quarter Chem. 51. Industrial Chemical Calculations Physics 97. Engineering	Credits	Winter Quarter Chem. 52 Industrial Chemical Calculations. Physics 98. Engineering.	Credits	Spring Quarter Chem. 53. Industrial Chemical Calculations Physics 99. Engineering Chem 101 Adv. Ovel	Credits
Chem. 109. Quant. Analy M.S. and P.E. or N.S	sis 5 +	M.E. 82. Steam Engin Phys. Educ. 15. Hygiene. M.S. and P.E. or N.S	3 2 +	M.E. 83. Steam Engin. M.S. and P.E. or N.S.	Lab 3

JUNIOR

Chem. 121. Chemistry of	Chem. 122. Inorganic	Chem. 123. Organic
Engineering Materials 5	Chemical Industries 5	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. Direct Currents	E.E. 122. Alternating	M.E. 55. Mfg. Methods 1
Laboratory 2	Currents Laboratory 2	M.E. 54. Mfg. Methods 1
• • • • •	•	Electives 3

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SENIOR

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

The total number of credits for graduation must include Physical Education 15 for men, or Physical Bducation 4, 6, 8, or 10 for women. Electives must in all cases be approved in advance by the head of the department. For non-technical electives, see page 160.

Civil Engineering

Leading to the Degree of Bachelor of Science in Civil Engineering

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Physics 97. Engin. Physic Math. 41. Engin. Calculu C.E. 95. Mechanics C.E. 57. Transport. Surv. M.S. and P.E. or N.S	28 5 8 3 4 +	Physics 98. Engin. P. M.E. 82. Steam Engi C.E. 58. Transportat E.B. 3. Gen. Econom M.S. and P.E. or N.S.	hysics 5 in 3 . Engin 4 lics 3 S+	Physics 99. Engin. P. C.E. 59. Adv. Survey English 100. Tech. C C.E. 96. Mechanics. Phys. Educ. 15. Hyg M.S. and P.E. or N.	hysics 5 ring 4 comp 3 3 ieno 2 S+

JUNIOR

C.E. 142. Hydraulics 5 C.E. 171. Structural Anal 3 E.E. 103. Direct Currents 3 E.B. 104. Dir. Cur. Lab 1 Geol. 105. Petrology as Applied to Engineering 5	C.E. 143. Hydraulic Engin 5 C.E. 172. Structural Anal 3 C.E. 162. Materials of Construction	B.B. 57. Business Law			
SENIOR					

* 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

C.E. 109.	Engineering Relations.	3
C.E. 124.	Highway Design	3
C.E. 128.	Transportation Administration	3
C.E. 147.	Hydraulic Power	3
C.E. 154.	Sanitary Design	3
C.B. 133.	Sail Mashania	
C.E. 167.	Soil Mechanics	
Č.E. 181.	Advanced Structures.	
C.E. 182.	Advanced Structures	3
C.E. 183.	Advanced Structures	4
C.E. 191,	193, 195. H. M. S. W. or T* Special Senior Courses	3–5
 Hydraulics 	(H), Materials (M), Structural (S), Sanitary (W), and Transporta	tion (T).

For non-technical electives, see page 160.

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Phys. 97

El N.S. 51

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

FRESHMAN

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Chem. 24. General G.E. 1. Drawing Math. 31. Engin. Fr. N.S. 1	4 3 5 +3	Chem. 25. General . G.E. 2. Drawing Math. 32. Engin. Fr. G.E. 11. Eng. Prob. N.S. 2.	···· 4 ··· 3 ··· 5 ··· 3 ···+3	Chem. 26. General G.E. 3. Drafting Prob G.E. 12. Eng. Problem Math. 33. Engin. Fr. N.S. 3.	4 18. 3 18. 3 5 +3
	$\frac{1}{12+3}$		15-13		15-13

SOPHOMORE

97. Engin. Physics.5 41. Calculus	Phys. 98. Eng. Physics 5 C.E. 58. Transportation Eng	Phys. 99. Engin. Physics 5 C.E. 59. Adv. Surveying 4 C.E. 96. Mechanics 3 P.E. 15. Hygiene 2 N.S. 53+3
1+3	-	
<u> </u>	12+3	14+3
14+3		

JUNIOR

N.S. 101	N.S. 102	N.S. 103
	••	17

SENIOR

N.S. 151	N.S. 152	N.S. 153
19		15
10	10	15

College of Engineering

Commercial Engineering

Leading to the Degree of Bachelor of Science in Commercial Engineering

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

Autumn Quart er	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Physics 97. Engin. Physic Math. 41. Engin. Calculu M.E. 81. Mechanism M.E. 82. Steam Engin M.E. 53. Mfg. Methods M.S. and P.E. or N.S	s 5 s 3 3 1 +	Physics 98. Engin. Physics Math. 42. Engin. Calculus C.E. 91. Mechanics B.B. 3. Gen. Economics M.E. 54. Mfg. Methods Phys. Educ. 15. Hygiene. M.S. and P.E. or N.S	5 5 3 3 3 1 2 4	Physics 99. Engin. Physic M.E. 83. Steam Engin. Le English 100. Tech. Comp. C.E. 92. Mechanics M.E. 55. Mfg. Methods M.S. and P.E. or N.S	s 5 ab 3 3 1 +

JUNIOR

E.E. 102. Dir. Cur. Lab 2 E.E. 122. Alt. Cur. Lab 2 Analysis and Control E.B. 54. Business Law 5 B.B. 63. Prin. of Account 5 C.E. 142. Hydraulics	3.E. 101. Direct Currents 4	E.E. 121. Altern. Currents 4	E.B. 110. Accounting
E.B. 54. Business Law 5 E.B. 63. Prin. of Account 5 C.E. 142. Hydraulics	S.E. 102. Dir. Cur. Lab 2	E.E. 122. Alt. Cur. Lab 2	Analysis and Control 5
E.B. 62 Prin of Account 5 Electives 6 Electives	S.B. 54. Business Law 5 E.B. 62 Prin of Account 5	E.B. 03. Prin. of Account 5 Electives	C.E. 142. Hydraulics 5 Riectives

SENIOR.

M.E. 167. Engin. Materials 3	M.E. 111. Machine Design 3	M.E. 112. Machine Design 3
E.B. 154. Cost Accounting. 5	E.B. 101. Scientific Mgm ³ t 5	E.B. 121. Corp. Finance 5
Electives	E.B. 103. Money & Banking 5	Speech 103. Extempore 3
	†English 102. For Engineers. 3	Electives 5

The total number of credits for graduation must include Physical Education 15 for men, or Physical Education 4, 6, 8, or 10 for women. Electives must in all cases be approved in advance by the head of the department. Not less than 17 elective credits shall be technical (engineering). For non-technical electives, see page 160. † English 101 (see electives) may be substituted.

Electrical Engineering

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

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Math. 41. Calculus	3	Math. 42. Calculus	3	Physics 99. Light and	I Heat 5
Physics 97. Mechanics.	5	E.E. 109. Direct Curro	ents 5	E.E. 111. D.C. Mach	
M.E. 81. Mechanism	3	M.E. 83. Steam Labo	ab 2 ratory 3	C.E. 91. Mechanics.	40
M.E. 53. Mfg. Methods	i	M.E. 54. Mfg. Metho	ds 1	M.E. 55. Mfg. Metho	ds 1
M.S. and P.E. or N.S	+	P.E. 15. Hygiene Mil Sci. or Naval Sci.		M.S. and P.E. or N.S	5+

JUNIOR

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

SENIOR

Group Flastinest 15 ð

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eieieiei Eieieiei Eieieiei	 181. Vacuum Tubes 4 182. V.T. Laboratory 2 195. El. Transients 4 196. E.T. Laboratory 2 Group Electives* 3 	E.E. Group Electives* 9 Physics 155 3 E.B. 3. Economics 3	E.E.	Group	Electives*
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Electives must in all cases be approved in advance by the head of the department. Twelve credit hours of group requirements must be satisfied by electives from advanced E.E. courses. † English 101 may be substituted. * See list below.

ELECTRICAL ENGINEERING GROUP OF RECOMMENDED ELECTIVES

Credits	Credits
E.E. 141. Illumination	E.B. 57. Business Law.
E.E. 154. Design of Electrical Annaratus, 4	E.B. 62 Accounting
FF 170 172 174 Individual	English Comp 101 103 (each) 3
Projects (arch) 2 to 5	Speech 103
FE 171 Electric Dellmana	$F_{\text{resch}} = \{1, 0, \dots, 1, 0, \dots, 1, \dots, \dots, 1, \dots, 1, \dots, \dots, \dots, 1, \dots, \dots, 1, \dots, \dots, 1, \dots, \dots, \dots, 1, \dots, \dots,$
E.E. 1/1. Electric Kailways	C = 1
E.E. 1/3. Central Stations 4	G.E. 151. Patents
E.E. 175. Power Transmission	German 5, 60 (each) 3
E.E. 183. Vacuum Tube Circuits	History 149, 150 (each) 5
E.E. 184. Vacuum Tube Circuits Lab 2	Math. 43, Engr. Calculus
E.E. 185. Communication Networks 4	Math. 114, 115, Differential Equations
E.E. 186. Communication Networks Lab., 2	(each)
E.E. 187. Wave Propagation and Antennas 4	M.E. 108. Production Management.
F F 198 Wave Propagation and	ME 100 Factory Cost Analysis
Antenna Tab	ME 107 Thermodynamics
	M.E. 105. Incrinouynamics
E.E. 190. Radio-Tel. Trans. Practice 2	M.E. 200. Vibrations
E.E. 191, 193. Adv. Circuit Theory (each) 3	Physics 54 or 115. Photography 4
E.E. 194, 197. Seminar (each) 5	Physics 101, 102. Atomic (each) 3
E.E. 198. Adv. Electric Transients 2 to 5	Physics 195, 196. Laboratory (each)4
A.E. 83, 101. Aerodynamics (each) 3	Pol. Sci. 111, 113 (each)
Chem. 111. Quant. Analysis	Psychology 2, 21 (each)
Chem. 121, 122, Engin, Materials (each)., 5	Adv. Mil. Sci. (Coast Artillery)
Chem 131 132 Organic (each) 5	Adv Noval Science
CF 145 Hud Mashinery 3	
C.E. 173. Hyu. machinery	
U.E. 1/1, 1/2, Structural Analysis (each), 3	

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

FRESHMAN

Autumn Quarter Credits Chem. 24. General 4 G.E. 1. Drawing 3 Math. 31. Engin. Fr	Winter Quarter Credits Chem. 25. General 4 G.E. 2. Drawing 3 Math. 32. Engin. Fr3 5 G.E. 11. Eng. Probs3 N.S. 3.	Spring Quarter Credits Chem. 26. General 4 G.E. 3. Drafting Probs. 3 3 G.E. 12. Engin. Probs. 3 3 Math. 33. Engin. Fr 5 N.S. 3 N.S. 3
		
12+3	15+3	15+3

SOPHOMORE

15+3

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N.E.C.ME

N.S. 151 E.E. 183. Vacuum Tube

JUNIOR

S. 101	N.S. 102	N.S. 103
15	17	17

SENIOR

N.S. 152 E.E. 185. Communication	3	N.S. 153 Geog. 11. Weather and
Networks	4	Climate
Networks Lab	2	Elective
Engineers	3	
Elective	4	

16

16+3

15

3

5 3 4

16+3

College of Engineering

Mechanical Engineering

Leading to the Degree of Bachelor of Science in Mechanical Engineering

FRESHMAN

(The same for all curricula. See above.)

SOPHOMORE

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Physics 97. Engin. Physic Math. 41. Engin. Calculu M.B. 81. Mechanism M.E. 82. Steam Engin M.E. 53. Mfg. Methods M.S. and P.E. or N.S	8 5 3 3 3 1 +	Physics 98. Engin. Physics Math. 42. Engin. Calculus C.E. 91. Mechanics E.B. 3. Gen. Economics M.E. 54. Mfg. Methods Phys. Educ. 15. Hygiene M.S. and P.E. or N.S	5 3 3 1 1 1 1	Physics 99. Engin. Physics M.E. 83. Steam Engin. La English 100. Tech. Comp C.E. 92. Mechanics M.E. 55. Mfg. Methods M.S. and P.E. or N.S	b 3 3 1 +

JUNIOR

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

E.B. 57. Business Law 3	M.E. 114. Machine Design 2 M.E. 167. Engin Materials 3	M.E. 115 or 199. Steam or
M.E. 183. Thermodynamics	M.E. 187. Heat & Ventil. 3	Engine Design 3
and Refrigeration 5	M.E. 198. Internal Com- bustion Engines	M.E. 184. Power Plants 5 M.E. 195. Thesis
	Electives 4	Electives

The total number of credits for graduation must include Physical Education 15 for men. or Physical

Education 4, 6, 8, or 10 for women. Electives must in all cases be approved in advance by the head of the department. For non-technical electives, see below.

When practicable, it is recommended that thesis be taken in the winter quarter. †English 101 (see electives) may be substituted.

SUGGESTED ELECTIVES

Each student is expected to take at least twelve credits of electives from the following list, unless excused by the head of his department.

Anthropology. 51, 52, 53, 101,	H
Astronomy, 1,	Li
Bacteriology. 101, 102.	M
Economics and Business. 54. 55: 62.	00
63; 121, 122.	Pl
English. Composition: 101, 102, 103;	PI
literature: 64, 65, 73, 97, 98, 99, 104, 106,	Pl
141, 142, 143, 164, 165, 166.	Pa
Far Eastern. 90, 91; 50. French. 4, 5, 6, 137, 138, 139.	155, 1
Geography, 102, 170.	Ps
	50

Geology. 105, 107.

German. 5, 60.

istory. 5, 10, 144, 145, 149, 150. iberal Arts. 1, 11. athematics. 114, 115. Ceanography. 101, hilosophy. 1, 2, 5, 101-102-103. hysics. 54, 101-102, 115. hysiology. 53, 54. olitical Science. 111, 113, 121, 127, 56. Psychology. 1, 21. Sociology. 1, 140, 150. Speech. 40, 43, 103. Zoology. 16, 17.

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

FRESHMAN

Autumn Quarter Credits Chem. 24. General 4 G.E. 1. Drawing 3 Math. 31. Engin. Fr 5 N.S. 1 N.S. 1	Winter Quarter Credits Chem. 25. General 4 G.E. 2. Drawing 3 Math. 32. Engin. Fr. 5 G.E. 11. Engin. Probs 3 N.S. 2. +3 15+3	Spring Quarter Credits Chem. 26. General
Phys. 97. Mechanics 5 Math. 41. Calculus 3 M.E. 81. Mechanism 3 M.E. 82. Steam 3 M.E. 53. Mfg. Methods. 1 N.S. 51	SOPHOMORE Phys. 98. Engin. Physics 5 Math. 24. Eng. Calculus 3 C.E. 91. Mechanics 3 M.E. 54. Mfg. Methods. 1 P.E. 15. Hygiene 2 N.S. 52+3	Phys. 99. Engin. Physics 5 M.E. 83. Steam Eng. Lab. 3 Engl. 100. Tech. Comp 3 M.E. 55. Mfg. Methods. 1 C.E. 92. Mechanics 3 N.S. 53
N.S. 101	JUNIOR N.S. 102	N.S. 103
N.S. 151	SENIOR N.S. 152 3 M.E. 114, Mach. Design 2 M.E. 167, Engin. 3 M.E. 198, Internal Comb. 3 Geog. 11, Weather and 3 Climate 5 16	N.S. 153

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

(See also pages 67, 68.)

Military training has been given at the University of Washington since 1875

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

The Department of Military Science and Tactics, which maintains the R.O.T.C. course, has as its objectives not only the indoctrination of the student in the principles of Military Science leading to a commission as Second Lieutenant in the Officers' Reserve Corps of the United States Army, but also the teaching of certain essentials of organization and leadership which may be helpful to him in civilian, industrial and professional pursuits.

Active Duty as Commissioned Officers

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

College of Engineering

Uniforms

The regulation R.O.T.C. uniform is issued for use at the University of Washington. Each R.O.T.C. student makes a \$10.00 uniform deposit to the University. As a charge against this deposit, tan shoes of standard design, which are not a part of uniform issue, are purchased by the student from the University Bookstore. The shoes become the personal property of the student. The difference between the cost price of the shoes and the \$10.00 deposit is refunded to the student, if all articles of clothing issued are returned in good condition. Cost of articles lost by the student, or of damage to them due to other than fair wear and tear while in his possession, is excused from military science for reasons stated on pages 67 and 68, his deposit, less the cost price of the shoes he purchased, is returned to him upon presentation of a properly authenticated slip to the University cashier.

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

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

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Subsistence Allowance

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

Camps

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

Awards and Honors

Honor Graduates. Annually, at the close of the academic year, the University may designate a limited number of R.O.T.C. Honor Graduates. Students are so designated from among those who have completed the prescribed R.O.T.C. fouryear course and are academic graduates of the current year. Only those are designated who have been selected by the President of the University for their scholastic excellence, and have been recommended by the Professor of Military Science and Tactics as possessing outstanding qualities of leadership, character, and aptitude for military service.

Honor Graduates may apply for appointment as officers in the Regular Army instead of the Officers' Reserve Corps, and customarily some are selected for such appointments each year.

Scabbard and Blade. This is a national military honor society with local chapters, called companies, located at 78 leading colleges and universities. The purpose is primarily to raise the standard of military education. Membership is limited to cadet officers with honor grades in military and naval science.

Washington Rifles. This is a local drill team organization. Membership is limited to Basic Course Cadets who are highly proficient in close order drills and ceremonies. Drill is pursued as a recreational exercise, and to attain higher individual proficiency, for which suitable awards are made.

Cadet Officers' Association. This is an organization designed to foster acquaintance, friendship, and a consciousness of fellowship among Cadet Officers and to establish and maintain liaison with the Reserve Officers' Association, which is the national organization of Reserve Officers.

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 qualification attained.

Medals of Merit. Not to be awarded 1943-1944.

Colonel Mears' Award. The Seattle Post, Society of the American Military Engineers, presents annually a set of Second Lieutenant's insignia to the graduating senior in the Coast Artillery Unit who has received outstanding grades in engineering subjects during his last two academic years, who has stood high in tactical subjects, and has worked loyally and effectively in promoting interest in Army R.O.T.C. affairs.

Leadership Prizes. (a) The Seattle Chapter, Reserve Officers' Association of the United States, presents annually an officer's saber to the outstanding cadet captain in command and leadership in the Infantry Unit.

(b) The University Post No. 11, American Legion, presents annually an officer's saber to the outstanding cadet captain in command and leadership in the Coast Artillery Unit.

Junior Military Prize. Members of the Non-commissioned Officers' Training Camp, University of Washington, 1918, established a fund, the income of which is utilized as a prize to be presented to the student completing his junior year with the highest honors in military science in each unit.

Junior Military Medals. (a) The United States Coast Artillery Association presents annually a medal to the student in the Coast Artillery Unit completing his junior year with honors in Military Science.

(b) The Military Order of the Loyal Legion of the United States, Commandery of the State of Washington, presents annually a medal to the student in the Infantry Unit completing his junior year with honors in Military Science.

Quartermaster Association Certificate. The Quartermaster Association presents annually a Certificate of Membership for one year to the outstanding student in the Quartermaster Corps Unit.

Quartermaster Corps Award. The College of Economics and Business presents annually a cup to an outstanding student in the Quartermaster Corps Unit, based upon academic merit and general value as a prospective officer of the Quartermaster Corps.

Honor Basic Student Prises. Seattle Post No. 1, American Legion, presents annually a medal to the outstanding basic student in each unit.

Scabbard and Blade Ribbons. Appropriate silk badges are awarded to the outstanding students in Military Science and Tactics by the Scabbard and Blade Society as follows:

(a) First year. On a basis of one to each thirty students. Awards are made on the completion of the first year Basic Course. Ratings are on the student's standing in theoretical and practical work, on leadership in Infantry Drill, and on promptness and regularity in attendance.

(b) Second year. On a basis of one to each twenty students. Awards are made on completion of the fifth quarter Basic Course and cover the fourth and fifth quarters only, on the same basis as the first-year awards.

DEPARTMENT OF NAVAL SCIENCE AND TACTICS

All male students in the University who are American citizens, and are not physically disqualified, are required to take military training throughout the first two years of residence. The four-year course in Naval Science and Tactics prescribed by the Navy Department for units of the Naval Reserve Officers' Training Corps, may be substituted by the student for military training. Enrollment in this course is limited by the Navy Department and students will be selected for enrollment by the Professor of Naval Science and Tactics from those applying. The course in Naval Science and Tactics leads to a commission as ensign in the United States Naval Reserve, from which officers may have an opportunity, depending upon existing law, to be transferred to the line of the regular navy in a status similar to graduates of the U. S. Naval Academy after they complete a year of active duty at sea.

Graduates Commissioned in Naval Reserve

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

Summer Cruises

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

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

Fees and Expenses

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

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

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

Obligations Incurred

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

- 1. Elect naval science as one of their courses in the University, for four full years.
- 2. Submit evidence of citizenship.
- 3. Submit to physical examination prior to enrollment, and yearly thereafter.
- 4. Agree to be vaccinated for small-pox and given typhoid prophylaxis during freshman year.
- 5. Devote five hours per week in attendance of the course in naval science and such other times as may be necessary properly to prepare their lessons.

- 6. Wear uniforms as required for drills and class room work, and to submit to naval discipline while under instruction in naval subjects and during the summer practice cruise.
- 7. Take the necessary courses in mathematics as part of their regular university program.
- 8. Make one advanced summer cruise if offered, prior to receiving commission in the Naval Reserve.
- 9. Near the completion of this course, to apply for and accept a commission in the Naval or Marine Corps Reserve, if such be offered, and to consider it a moral obligation to apply for and accept such a commission under the conditions stated.
- 10. Be unmarried at time of entrance, and agree to remain unmarried for the four-year course.
- 11. Agree to complete the Naval R.O.T.C. course in three years if required by the Navy Department.

Description of Courses

For description of courses offered by the College of Engineering, see pages 209 ff.

College of Forestry

COLLEGE OF FORESTRY

Hugo Winkenwerder, Dean, 206 Anderson Hall

For detailed information concerning University fees, expenses, and admission requirements, see pages 55-66. In addition to the all-University entrance requirements, the College of Forestry requires the following:

Entrance Requirements

Elementary and Advanced algebra...... 1½ units* Plane geometry 1 unit

The College of Forestry further recommends that prospective students include a year of physics in their high school course of study.

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 77.

Curricula

Undergraduate Work. For the degree of bachelor of science in forestry the student must complete, in addition to required subjects outlined in the curriculum, enough electives to make a total of 180 credits, exclusive of the basic military or naval science and / or physical education. Electives may be selected from forestry, lumbering, engineering or the botanical, chemical, zoological, geological or economic sciences, the subjects to 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 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 174.

Choice of Electives. In election of studies students should follow the sequence of subjects as outlined in the curriculum. Deviations from the prescribed order will not be allowed by the class advisers unless such deviation is imperative.

Lower Division

FIRST YEAR

Autumn Quarter Credits	Winter Quarter	Credits	Spring Quarter (Credits
Bot. 10. Foresters'	Bot. 11. Foresters' For. 3. Introduction Math. 4. Trigonometry Physics 2 or 5.General. M.S. and P.E. or N.S.	4 2 5 5 +	For. 1a. Dendrology For. 4. Protection. For. 5. First Aid For. 7. Forestry Problems. Physics 3 or 6. General M.S. and P.E. or N.S	· 3 · 2 · 3 · 5 · +

SECOND YEAR

For. 1b. Dendrology 3 For. 8. Forestry Problems 3 For. 15. Gen. Lumbering 4 Chem. 1 or 21. General 5 M.S. and P.E. or N.S+	For. 60. Mensuration 5 G.E. 7. Engin. Drawing 3 Chem. 2 or 22. General. 5 For. 121. Silvics 3 M.S. and P.E. or N.S. 3	Sophomore Field Trip For. 40. Silviculture 2 For. 62. Mensuration 6 C.E. 56. Forest Surveying 8 M.S. and P.E. or N.S+
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The total number of required credits in Physical Education must include P.E. 15.

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

College of Forestry

Upper Division

Beginning with the upper division the student will, with the approval of his faculty adviser, elect to follow one of the specialties in forestry. In registering for upper division courses he must include all electives required as prerequisites for the advanced specialized courses. (See prerequisites under description of courses.)

Forest Management Curriculum

THIRD YEAR

Autumn Que	arter Cr	redits	Winter Quarter	Credits	Spring Quarter	Credits
For. 10. Wo For. 122. Sil For. 104. Ti Elective	od Technology lvicultural Mth. imber Physics	3 5 5 3	For. 11. Wood Structure For. 158. Utilization For. 140. Forest Constructi Elective.	3 5 ion 4 3-5	E.B. 3. Gen. Economics For. 105. Wood Preservation For. 115. Protection Bot. 111. For. Pathology Elective	3 m 3 3

FOUR<u>t</u>h year

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

Logging Engineering Curriculum

Majors in Logging Engineering will elect C.E. 57 preferably autumn quarter senior year, For. 186* winter quarter, and For. 187 spring quarter senior year; the latter in place of For. 164, 165, 166, and 167. 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. 10. Wood Technolog E.B. 62. Accounting Prin M.E. 82. Steam Engin For. 104. Timber Physics	gy 3 1 5 3 s 5	For. 11. Wood Structur For. 158. Forest Utilizat Elective	e 3 tion 5 8	E.B. 3. Gen. Economics Bot. 111. For. Patholog For. 105. Wood Preserv For. 106. Wood Pres. L	s 3 y 5 vation 3 ab 2

FOURTH YEAR

For. 126. For. Economics 4	For. 171. For. Geography 4	For. 184. Manufacturing
Por. 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

Five-Year Course

Students are advised to look forward to a five-year course in preparation for the degree of bachelor of science in forestry. Progress in forestry is rapid, and competition for the higher places is becoming keen. Practically all of the better forestry colleges are looking forward to a five-year requirement. Five years will allow ample provision for a minor in one of the sciences, in engineering, or in economics, and a broader selection of the more purely cultural subjects. A limited amount of general election is advised, but the student should elect at least 15 credits in a field basic to his specialty so as to fulfill the requirements of a minor in one of the non-forestry groups. Six groups for undergraduate election are advised as follows:

- 1. Engineering: continuation of mathematics;
- E.B. 57; M.E. 82 and 83; G.E. 1 and 2; C.E. 58.
- 2. Botany: 140, 141, 142, 143, 144, 145, 151.

*Not offered 1943-1944.

- 3. Entomology: Zool. 1, 2, 111.
- 4. Economics: E.B. 1-2, 57, 100.
- 5. Chemistry: 23, 111, 131, 132, 133.
- 6. Zoology: 1, 2.

College of Forestry

Description of Courses

For description of courses offered by the College of Forestry, see page 254.

GRADUATE SCHOOL OF SOCIAL WORK

See Graduate School section, page 203. For description of courses, see page 326.

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SCHOOL OF LAW

See Law School Bulletin, available on request. For Pre-law, see College of Arts and Sciences, page 130, and College of Economics and Business, page 139. For courses, see page 275.

SCHOOL OF LIBRARIANSHIP

See School of Librarianship Bulletin, available upon request. For Pre-library, see College of Arts and Sciences, page 131.

COLLEGE OF MINES

Milnor Roberts, Dean, 328 Mines Laboratory

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 55-66. In addition to the all-University entrance requirements, the College of Mines requires the following:

Elementary algebra on	e unit ^a
Advanced algebra one-hal	f unit
Plane geometry on	e unit
Solid geometry one-hal	f unit
Physics on	e unit
Chemistry on	e unit

9

A student who does not present high school chemistry for entrance will normally be expected 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. It is essential that students in the engineering courses shall possess a good working knowledge of algebra *at the beginning of their course*, and it is the purpose of the test to secure this by requiring a review of the subject shortly before entering the University. 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

All students in the College of Mines, other than first- and second-quarter freshmen and new students, will be placed on the low scholarship list and referred to the dean of the college for appropriate action whenever their grade-point average for any quarter is below 2.0

No student whose grade-point average in the subjects regularly required in the freshman year of the College of Mines is below 1.80 will be regularly admitted to the sophomore year. When such student has brought his grades to the required average he may apply to the dean for admission.

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.

[•] 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.

Advanced Degrees. For requirements for advanced degrees, see Graduate School section, page 174.

Fellowships, Scholarships, Prizes. See page 77.

CURRICULA OF THE COLLEGE OF MINES

Mining, Metallurgical, and Ceramic Engineering

For the Freshman and Sophomore Years in all Curricula

FRESHMAN

Autumn Quarter	Credits	Winter Quarter 😨	Credits	Spring Quarter	Credits
Chem. 24. General G.E. 1. Drawing G.E. 11. Engin. Problems Math. 31. Freshman Engi M.S. and P.E. or N.S	4 3 n. 5 +	Chem. 25. General G.E. 2. Drawing. G.E. 12. Engin. Problems. Math. 32. Freshman Engin P.E. 15. Personal Health. M.S. and P.E. or N.S	4 3 5 2 +	Chem. 23. General G.E. 3. Drafting Problems G.E. 21. Surveying Math. 33. Freshman Engi M.S. and P.E. or N.S	5 3 5 +

a

SOPHOMORE

Mining 51. Elements 3	Mining 52. Methods	3	Met. 53. Elements
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
M.S. and P.E. or N.S+	M.S. and P.E. or N.S	ł	M.S. and P.E. or N.S+

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

FRESHMAN AND SOPHOMORE

(The same for all curricula. See above.)

JUNIOR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Min. 101. Milling Met. 101. Fire Assaying Met. 104. Non-ferrous Geol. 123. Optical Minera C.E. 91. Mechanics	3 3 1 3	Met. 103. Fuel Technolo Geol. 124. Petrography C.E. 92. Mechanics E.E. 101-102. Dir. Curre	gy 4 3 3 nts 6	Min. 106. Mine Excursion Met. 102. Met. Lab Met. 154. Wet Assaying. E.E. 121-122. Alt. Currer Elective.	n 1 2 3 nts 6 3

Mining practice in summer vacation.

SENIOR

Min. 161. Mineral Dressing	4	Min. 103. Mine Rescue Tr	1	Min. 107. Mine Excursion 1	L
Min. 191. Thesis	2	Min. 162. Economics	4	Min. 163. Mining Engin 4	Ł
Met. 155. Iron and Steel 3	3	Min. 192. Thesis	2	Min. 182. Min. Indus. Mgmt. 3	3
Met. 162. Physical Met	3	Geol. 127. Economic Geol	5	Min. 193. Thesis 1	i.
Elective [*]	3	E.B. 3. Gen. Economics	3	Elective 3	3
				CE 50 Adv Surveying 7	2

* Electives (9 credits) must include one of the following: English 101, 102; Speech 103, or Speech 40. Electives must in all cases be approved in advance by the head of the department.

College of Mines

Metallurgical Engineering

Leading to the Degree of Bachelor of Science in Metallurgical Engineering

FRESHMAN AND SOPHOMORE

(The same for all curricula. See above.)

JUNIOR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Met. 101. Fire Assaying Met. 104. Non-ferrous Min. 101. Milling C.E. 91. Mechanics Elective*	3 3 3 3	Met. 103. Fuel Technology Met. 154. Wet Assaying E.E. 101-102. Dir. Current C.E. 92. Mechanics	74 3 ts6 3	Met. 102. Met. Lab Min. 106. Mine Exc E.E. 121-122. Alt. (E.B. 3. Gen. Econo Elective	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

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	i
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.	Ē
Elective	4	Min. 192. Thesis.	2	Elective.	4
		Chem. 140. Elem. Physical	3		-

*Electives (14 credits) must include one of the following: English 102, English 101, Speech 103, or Speech 40. Electives must in all cases be approved in advance by the head of the department.

Ceramic Engineering

Leading to the Degree of Bachelor of Science in Ceramic Engineering

FRESHMAN AND SOPHOMORE

(The same for all curricula, See above.)

JUNIOR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Cer. 100. Clays, Plas and Suspensions. Cer. 104. Calculation Bodies and Glazes	sticity, 3 as for 3	Cer. 101.Firing and Firing Problems Cer. 105. Drying and Drying Problems.	3 1 3	Cer. 102. Cer. Dec Cer. 110. Cer. Phy Measurements . Min. 106. Mine E:	coration. 3 78. Chem. 2 xcursion. 1
Min. 101. Milling C.E. 91. Mechanics. Geol. 123. Optical Mineralogy	3 3 3	Met. 103. Fuel Tech C.E. 92. Mechanics. Chem. 140. Elem. Pl	nology 4 3 hysical 3	Met. 102. Met. La E.B. 3. Gen. Econ Chem. 141. Elem.	b 2 omics 3 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
Elective 4	Electives* 6	Electives* 7

*Electives (17 credits) must include one of the following: English 102, English 101, Speech 103, or Speech 40.

Suggested electives for students especially interested in Mining Engineering: Min. 171; M.E. 81, 82, 83; C.E. 142.
 Coal Mining: Min. 122, 171, 176; M.E. 81, 82, 83.
 Metallurgy: Chem. 141.
 Ceramics: Cer. 161, 162, 163; Min. 161, 162; Geol. 124, 125, 128; Physics 109.

General electives: English. 102, Speech 103, modern foreign language, E.B. 57.

Electives must in all cases be approved in advance by the head of the department. Description of these courses, with all those offered in any school or college of the University, will be found in the section of the catalogue known as Description of Courses.

Description of Courses

For description of courses offered by the College of Mines, see page 286.

College of Pharmacy

COLLEGE OF PHARMACY

Forest J. Goodrich, Dean, 102 Bagley Hall

Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 55-66. 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.

The College of Pharmacy further recommends that high school students preparing for Pharmacy should include in their schedules at least one unit of laboratory science.

Admission to Advanced Standing

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The American Association of Colleges of Pharmacy requires all member colleges to enforce the following regulation: "No student entering a College of Pharmacy with advanced credit shall be permitted to complete the course in pharmacy in less than three collegiate years."

Advanced Degrees. For requirements for advanced degrees, see Graduate School section, page 174.

Fellowships, Scholarships, Prizes. See page 77.

Accelerated Curriculum

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

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

Regular Curriculum

Three four-year curricula are outlined below, each leading to the degree of Bachelor of Science in pharmacy.

The first two years of these are the same and are outlined as follows:

FIRST YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Pharm. 1. General Pharm. 4. Profession. Chem. 8. General Bot. 13. Pharmacy M.S. and P.E. or N.	3 2 5 S +	Pharm. 2. General English 9. Pharm. (Chem. 9. General Bot. 14. Pharmacy M.S. and P.E. or N	3 Comp 3 5 4 I.S +	Pharm. 3. General. English 10. Comp. Chem. 10. Qualitati Physiol. 7. Human M.S. and P.E. or	
Ph.Chem. 5. Quantita	tive	SECOND YI Ph.Chem. 6. Quantit	AR ative	Ph.Chem. 7. Urina	lysis 2

Gravimetric 5	Volumetric 5	Ph.Chem. 8. Pharmacopoeial
Pharm. 9. Prescriptions 3	Pharm. 10. Prescriptions 3	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
M.S. and P.E. or N.S +	M.S. and P.E. or N.S +	Chem. 39. Organic 5
		M.S. and P.E. or N.S +

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

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

THIRD YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Ph'col. 101. Pharma	cology	Ph'col. 102. Pharma	acology	Ph'col. 103. Pharm	acology
and Toxicology	3	and Toxicology .	3	and Toxicology .	
Pharm. 113. Adv. Pr	rescrip. 5	Pharm, 114. Adv. F	rescrip, 5	Pharm. 115. Adv. I	rescrip. 5
Bact. 101. General	5	Ph'cog. 104. Micro	scopy 3	Ph'cog. 105. Micro	SCODV. 3
		E.B. 3. General	3	E.B. 54. Business I	aw5
		Approved elective		Approved elective .	

^{*}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.

College of Pharmacy

FOURTH YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Ph'cog. 112. Biologicals	3	Pharm. 183. New Rev	medies 3	Pharm. 184. Laws and	1
Ph.Chem. 195. Pharmac	eu-	Ph.Chem. 196. Pharm	naceu-	Journals	3
tical Chemistry	5	tical Chemistry	5	Ph.Chem. 197. Toxico	ology. 5
Approved elective	8	Approved elective	8	Approved elective	8

Total academic credits required for graduation-180.

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

THIRD YEAR

Autumn Quarter	Credits	Winter Quarter	Credits	Spring Quarter	Credits
Ph'col. 101. Pharmacolo and Toxicology Bact. 101. General Pharm. 113. Adv. Press Approved elective	ogy 3 5 2	Ph'col. 102. Pharmaco and Toxicology Ph'cog. 104. Microsco Pharm. 114. Adv. Pre Approved elective	ology 3 opy 3 scrip. 5 4	Ph'col. 103. Pharmac and Toxicology Ph'cog. 105. Micross Pharm. 115. Adv. Pr Approved elective	:ology 3 :opy 3 escrip. 5 4

FOURTH YEAR

Ph'cog. 112. Biologicals 3 Ph.Chem. 195. Pharmaceu- tical Chemistry 5 Physics 1 or 4. General 5 Approved elective 3	Pharm. 183. New Remedies 3 Ph.Chem. 196. Pharmaceu- tical Chemistry 5 Physics 2 or 5. General 5 Approved elective 3	Pharm. 184. New Remedies 3 Ph.Chem. 197. Toxicology. 5 Approved elective 8
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Total academic credits required for graduation-180.

3. PRE-MEDICAL CURRICULUM. (This curriculum, with proper selection of elective courses, will give qualified entrance to colleges of medicine. The student graduating from this course and obtaining a degree in medicine has the benefit of training in two separate but mutually beneficial professions.)

THIRD YEAR

Autumn Quarter Ph'col. 101. Pharmac and Toxicology Mod. Foreign Langu Zoology 1 or 3 Approved elective	Credits ology 3 age 5 5 2	Winter Quarter Ph'col. 102, Pharma and Toxicology . Mod. Foreign Lang Zoology 2 or 4 Approved elective .	Credits acology uage 3 5 5 2	Spring Quarter Ph'col. 103. Pharm and Toxicology . Mod. Foreign Lan English 2. Composi or English 37. Argum. Approved elective .	Credits acology
		FOURTH Y	EAR		

 Physics 1 or 4. General... 5
 Physics 2 or 5. General... 5
 Physics 3 or 6. General... 5

 Bact, 101. General....... 5
 Approved elective10
 Approved elective10

Total academic credits required for graduation-180.

Description of Courses

For description of courses offered by the College of Pharmacy, see page 300.

Graduate School

THE GRADUATE SCHOOL

Including the Graduate School of Social Work

ADMINISTRATIVE OFFICERS

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

Graduate Council: Dean Guthrie, chairman; Professors Dille, F. Eastman, Eby, Harrison, Hitchcock, Kerr, Mackin, Mander, Marckworth, Nostrand, Powers, Ray, Robinson, Vail, Van Horn; Mrs. Wentworth, secretary.

Graduate School Publications Committee: Dean Guthrie, chairman; Professors Carpenter, K. Cole, Goodspeed, Griffith, Mund, Gunther, Rigg, C. W. Smith, Ordal; E. I. Rolff, director of publications (ex officio); Mrs. Wentworth, secretary.

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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 in order that it may be a strong center for advanced study.

Organization. The Graduate School was formally organized in May, 1911. The graduate faculty consists of members offering courses primarily designed for graduate students.

Library Facilities

The University general library contains 525,051 volumes (March, 1943), and receives virtually all of the publications of learned societies. The law library contains 94,935 volumes. The Seattle Public Library, containing about 568,756 volumes, is open to students without charge.

Special Facilities

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

The Alice McDermott Memorial Fund. The late Mrs. Josephine P. McDermott made provision in her will for the establishment of the Alice McDermott Memorial Fund at the University of Washington. The amount of this bequest is \$100,000, available for one or both of the following purposes:

1. Research work in or in connection with the University of Washington tending to promote the prevention of tuberculosis.

2. The purchase of radium for research work in connection with disease or for actual treatment thereof.

Engineering Experiment Station. The purpose of the station is to aid in the industrial development of the state and nation by scientific research and by furnishing information for the solution of engineering problems.

The scope of the work is two-fold.

1. To investigate and to publish information concerning engineering problems of a more or less general nature that would be helpful in municipal, rural and industrial affairs. 2. To undertake extended research and to publish reports on engineering and scientific problems.

Every effort will be made to co-operate effectively with professional engineers and the industrial organizations in the state. Investigations of primary interest to the individual or corporation proposing them, as well as those of general interest, will be undertaken through the establishment of fellowships.

For administrative purposes, the work of the station is organized into eight divisions: (1) forest products, (2) mining, metallurgy and ceramics, (3) aeronautical engineering, (4) chemical engineering and industrial chemistry, (5) civil engineering, (6) electrical engineering, (7) mechanical engineering, (8) physics standards and tests.

The University of Washington Oceanographic Laboratories. The University of Washington Oceanographic Laboratories are well situated 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.

Research and seminars conducted by members of the staff are open to properly qualified graduate students.

Admission

Three classes of students are recognized in the Graduate School:

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

Admission. A graduate of the University or any other institution of good standing will be admitted to the Graduate School. Before being recognized as a candidate for a degree, however, a student must be approved by a committee appointed by the dean of the Graduate School, which shall also constitute the advisory committee to oversee the student's subsequent work. Unless the committee is already sufficiently acquainted with the candidate's capacity and attainments, there shall be a conference of the committee and the candidate, the purpose of which is two-fold:

(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.

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, on a blank provided for that purpose. This blank is submitted to the advisory committee for acceptance or modification. When it has received approval and the student has been notified, he will be regarded as a candidate for a degree.

Scholarship. A student shall be dropped from the Graduate School when, in the opinion of the dean and the departments concerned in his training, 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.

DEGREES

The Doctor's Degree

Doctor of Philosophy. Graduate students will be received as candidates for the degree of doctor of philosophy in such departments as are adequately equipped to furnish the requisite training. This degree is conferred only on those who have attained proficiency in a chosen field and who have demonstrated their mastery by preparing a thesis which is a positive contribution to knowledge.

The requirements for the degree of doctor of philosophy are as follows:

1. At least three years of graduate work, of which not less than one undivided academic year must be spent in residence at the University of Washington. If a candidate is otherwise engaged in any regular employment, a correspondingly longer period of study will be required. Before being recognized as a candidate for the degree, a student must be approved by a committee as provided above.

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 on the program for an advanced degree, the grade of "S" being used to indicate satisfactory work in a hyphenated course so far as the course has progressed, such work not to be counted toward a major or minor until the final examination.

These courses of study cover at least two years of work. The work of the first year is virtually identical with that for the master's degree; the work of the second year is of still more advanced character. 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 the major and minor departments, supplemented by a representative from the Graduate Council, shall submit the student to a careful oral and written examination (see *The Qualifying Examination* below).

3. The preparation of a thesis, as stated above, embodying the results of independent research. The thesis may properly be initiated in the second year, and should occupy the greater part of the third year. 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.

4. Examinations as follows:

The Qualifying Examination. An oral, or written, or oral and written examination covering the general fields and the specific courses in the major and minor fields. In so far as the examination is oral, it shall be before a committee appointed by the dean of not less than three representatives of the major department, not less than one representative of each minor department, and a representative of the Graduate Council. The qualifying examination will normally be taken no less than two quarters before the final examination.

The Final Examination. An oral, or oral and written examination, before the same committee as above. If the qualifying examination was in all respects satisfactory, the final examination shall be on the field of the thesis and such courses as were taken subsequent to the qualifying examination. 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. 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. Only in rare cases shall the requirement of a reading knowledge of scientific French and German be waived, and then only when, in the judgment of the Council, the substitution for these languages will be to the advantage of the student's training.

6. 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.

7. 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 signatures 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.

Doctor of Education. This degree as offered by the University of Washington is a professional degree intended primarily for administrators and teachers who wish to attain a specialized but broad training in education. It provides for study in all fields of education, with specialization in four (one major and three minors). It further provides for training in the major academic disciplines necessary both to administration and teaching, with modern emphasis on correlation and integration.

The requirements for the doctor of education are as follows:

1. Admission. The candidate must show adequate background training and promise of success in the profession of education. Admission to candidacy and the administration of the requirements for the degree shall be by the Department of Education and the Graduate School, and programs for the degree shall be approved by the Graduate Council.

2. Residence. At least three years (nine quarters) of full-time graduate work beyond the bachelor's degree shall be required, and at least three quarters must be spent in continuous residence at the University.

- 3. Courses. The candidate shall offer:
 - (a) one major field in education (15-20 cr.)
 - (b) three minor fields in education (5-10 cr. in each)
 - (c) reasonable representation in each of the eleven fields in education (at least one course in fields other than covered in a and b)

...

- (d) desirable related work in departments other than education (45 cr.)

 - 10 elective hours—arts and letters
 10 elective hours—science and mathematics
 10 elective hours—social science and history
 15 elective hours—foreign language

4. Thesis. A satisfactory thesis representing the equivalent of two full quarters' work (30 cr.) shall be presented. Candidates must be registered for "thesis" for the period during which the thesis is being prepared under the direction of a major professor unless specially exempted by the Dean of the College of Education. When registration is for "thesis only," an incidental fee of \$12.50 is charged and the work, if desired, may be done in absentia.

The requirements for the qualifying examinations and the final examination, for the preparation of the thesis and of the abstract of the thesis, for the final forms for the degree and for the fees are the same as for the degree of doctor of philosophy.

The Master's Degree

Master of Arts. This degree implies advanced liberal training in some humanistic field, gained through intensive study of one of the liberal arts supplemented by study in one or two supporting subjects. Detailed study culminates in a thesis which, if not an actual contribution to knowledge, is concerned with the organization and interpretation of the materials of learning.

Master of Science. This degree implies training similar to the above, 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. If a candidate has done graduate work elsewhere his program may be slightly less exacting, but this work must pass review in the examination, and shall not reduce the residence requirement at this University.

2. Completion of a course of study 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 course hours of which 24 are usually in the major. The thesis normally counts for 9 hours in addition to the course work and lies in the major field. Three times as many grade points as credits must be earned on the program for an advanced degree, the grade of "S" being used to indicate satisfactory work in a course so far as the course has progressed, such work 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 recom-mendation of the major department and with the consent of the Graduate Council.

A reading knowledge of an acceptable foreign language is required for the degrees of master of arts and master of science. A reading knowledge of an acceptable foreign language other than the major if the major is a foreign language, shall be required for the degree of master of arts. These examinations are given approximately three weeks before the end of the autumn, winter and spring quarters, and about two weeks before the end of each summer term. Students are responsible for acquainting themselves at the Graduate School office with the exact dates.

No work in the major subject may be counted toward the master's degree until the candidate has complied with the departmental requirements as to previous work in that subject.

Elementary or lower division courses and teachers' courses may not count toward either the major or minor requirements.

3. The preparation of a thesis, as defined above.

4. An oral, or written, or oral and written examination in both the major and minor subjects, given by the student's committee, including so far as feasible, 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 shall be in charge of the instructor in whose field the subject falls, and it must be approved by a committee of the major department, of which the instructor in charge shall be a member. 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 in typewritten form or printed form (or library hand, in case the thesis is of such a character that it cannot be typewritten) shall be deposited with the librarian for permanent preservation in the University archives. At the same time a digest of the thesis, not to exceed 1,000 words, must be filed in the office of the Graduate School. The thesis must meet the approval of the librarian as to form, printed instructions for the preparation of thesis manuscript being 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 signatures 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. (See departmental write-ups.)

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.)

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.

COURSES OF STUDY

ANATOMY

Courses in anatomy may be offered on the program for an advanced degree if the applicant has preparation satisfactory to the department.

Graduate School

ANTHROPOLOGY

The department of anthropology gives the degree of master of arts with a major in anthropology, as well as a graduate minor with other graduate majors.

ART

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

BACTERIOLOGY

The department possesses an excellent library, including leading journals, and the laboratories are well supplied with apparatus. Local industries furnish practical problems for investigation and local hospitals supply clinical material. Practical routine experience may be obtained in state, city and other laboratories in Seattle.

BOTANY

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

CHEMISTRY AND CHEMICAL ENGINEERING

The department of chemistry is fully equipped with apparatus and chemicals necessary for investigation along conventional lines pursued in the best large universities. A departmental library, ample and convenient for general study and research, special apparatus and machinery for industrial and engineering chemistry, scholarships, and fellowships for students of exceptional aptitude for research, and faculty guidance by productive research workers in special lines, contribute not only to the successful pursuance of problems constituting master's and doctor's theses but lead to the solving of special industrial problems and processes.

CLASSICAL LANGUAGES AND LITERATURE

On beginning his work for the master's degree with Greek or Latin as either a major or a minor, the student should submit for the approval of the department an official record of his previous work in these languages, together with a list of the courses he proposes to take.

1. The requirements for the master's degree with a major in Greek or Latin are as follows:

- (a) A reading knowledge of French or German.
- (b) Satisfaction of the requirements for an undergraduate major in Greek or Latin at the University of Washington or some comparable institution.
- (c) Twenty-four additional credits in Greek or Latin in courses not numbered below 106, a thesis which must be approved by the candidate's committee at least three weeks before the date of his examination, and an acceptable minor.
2. The requirements for a minor in Greek or Latin for the master's degree are:

Greek: at least 36 credits in courses above 1-2, together with at least ten credits in Latin.

Latin: at least 36 credits in courses above 6, together with at least ten credits in Greek.

In both cases, at least eighteen of the thirty-six credits must be in courses not numbered below 103.

ECONOMICS AND BUSINESS

The department of economics and business awards two master's degrees, the master of arts and the master of business administration.

As a background for graduate study in economics and business, a student is expected to have at least 35 approved credits in economics and business or an acceptable equivalent.

For the degree of master of arts in economics, the 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 the College 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 the College of Economics and Business, 15 of the credits (exclusive of the thesis) shall be in the courses listed for graduates only.
- (d) A reading knowledge of an acceptable foreign language.

For the degree of master of business administration, the student must meet the following requirements:

- (a) Background subjects must include training in accounting, statistics, and business law. Other background work may be approved by the Graduate Committee.
- (b) All of the graduate work must be taken in the College of Economics and Business, except that the student's committee may permit some course work outside of the College.
- (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.

A thesis is required of every candidate for a master's degree. The work is expected to be extended over at least two quarters, and a maximum of 9 credits is given for the work.

The thesis shall be written under the supervision of the advisory committee. One committee member is placed in immediate charge of the work, but examination and approval of the thesis by the other two will be necessary for final acceptance.

Candidates for the master's degree with economics and business as a minor shall present a background equivalent to that possessed by those who have completed 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.

The Doctor of Philosophy (Ph.D.) Degree in Economics and Business

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A candidate for the doctor's degree in economics and business must be as well grounded in history, economics, political science, and such other technical, scientific or philosophic subjects as may be necessary for an intelligent pursuit of the studies in which he plans to specialize. He should include, in either undergraduate or graduate work, E.B. 170, Advanced Statistical Analysis; E.B. 110, Accounting Analysis and Control; and E.B. 181, Economic Development of the United States, or their substantial equivalents.

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 the College of 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 are not alone of sufficient number to constitute a separate field.

Minor for Doctor of Philosophy Degree

A candidate for the doctor of philosophy degree who presents two minors, one of which is in economics and business, must have a background equivalent to 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.

A candidate for the doctor of philosophy degree who presents one minor which is in economics and business shall have a background equivalent to 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 the graduate courses need not necessarily be confined strictly to the specific field which the student has selected, but they should have a bearing upon that field and must be approved by the committee. The background subjects and graduate courses together must be adequate to give a satisfactory knowledge of the field.

EDUCATION

The department of education accepts candidates for the master's degree, the degree of doctor of education, and the degree of doctor of philosophy. The department is well equipped to guide research in the main fields of educational investigation. Especial opportunities are offered to direct research in educational psychology, child study, adolescence, educational sociology, school surveys, administration of education, experimental education, comparative education, guidance, and local history of education.

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.

For the degree of master of arts with a major in education, the requirements are the same as the general requirements for the degree, except that the thesis counts for six credits; the major includes Ed. 291, Ed. 287 or Ed. 290, and ten credits in each of two educational fields.

For admission to candidacy for the technical degree of master of education, a student must have completed at least twenty-four quarter credits in education, and have had a minimum of twenty-four months of successful teaching or administrative experience. For the degree itself the requirements are as follows:

The completion of a minimum of fifty-four quarter credits including a 1. thesis. Three quarters of residence. If a student has done graduate work elsewhere, his program may be slightly less exacting, but this work must pass review in the final examination and shall not reduce the residence requirement at this University.

2. The completion of at least one course in six of the following fields in education:

Educational psychology Α.

- **B**. Educational sociology
- С. Educational administration and supervision
- D. Elementary education
- E. Secondary education
- Classroom techniques

- G. History and philosophy of education and comparative education
- H. College problems
- Curriculum Τ.
- J. Guidance and extra-curricular
- activities
- K. Remedial and special education

3. Specialization in two or more fields in education, (selected from the six fields required in No. 2), so that total credit in education including thesis and required courses, shall be not less than thirty-six quarter credits.

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

5. Education 291, and Education 287 or 290.

6. The specifications for the thesis and the final examinations and the grade requirements are the same as for the other master's degrees.

A well selected library of books and periodicals in English, French, and Ger-man has been assembled. Research involving other languages, like Scandinavian, Spanish, and Italian may be pursued in connection with current problems in education by qualified students.

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

ENGINEERING

The degree of master of science in aeronautical, chemical, civil, electrical, and mechanical engineering, respectively, will be conferred upon graduates of this college or of other engineering, respectively, will be conferred upon graduates of this college or of other engineering colleges of recognized standing, who complete in residence one year (45 credits) of prescribed graduate work (including a satisfactory thesis) with a grade of "A" or "B." The candidate must comply with the regulations of the Graduate School and must pass a formal examination open to all members of the faculty. The selection of work for this degree must in each case be approved by the head of the department in which the student majors and by the faculty. by the Graduate Council.

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). Also, at the discretion of an examining committee, any candidate from another university may be required to take a preliminary qualifying examination.

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 professional degrees, aeronautical engineer (A.E.), chemical engineer (Ch.E.), civil engineer (C.E.), electrical engineer (E.E.), and mechanical engineer (M.E.), will be conferred on graduates of this college holding the degree of bachelor of science or master of science in their respective departments, who give satisfactory evidence of having been engaged continuously in responsible engineering work for not less than four years, are at least thirty years of age, and present satisfactory theses.

In general, acceptable engineering work shall be interpreted to mean work equivalent to that required for associate membership in the national founder en-gineering societies. In case the applicant has rendered special services to the pro-fession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized stand-ing. Teaching experience shall count in lieu of professional experience in the same ratio as now recognized by the engineering societies, provided that a minimum of two years of acceptable engineering work, other than teaching, be included.

Aeronautical Engineering

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The Guggenheim Aeronautical Laboratory and the Boeing Aerodynamical Lab-oratory furnish means for carrying on research in the various phases of aeronau-tical engineering. These laboratories are equipped with wind tunnels for testing air foils and propellers and with the necessary equipment for testing engines and determining the strength of aeronautical structures.

Field trips to the local airplane factory, one of the largest in the country, visits to local flying fields and lectures by experienced designers and practising aeronautical engineers serve to familiarize the student with the latest developments in this branch of engineering.

Chemical Engineering

See Chemistry and Chemical Engineering

Civil Engineering

Hydraulic Engineering

The hydraulic 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. A water surface of one acre in extent and 100 feet elevation above the laboratory floor maintains a constant pressure for low and medium head requirements. For high head there is ample supply with pressure corresponding to 400 feet. In addition to the customary apparatus the equipment includes a variety of pumps, motors, impulse wheels, and reaction turbines, ag-gregating approximately 350 H.P. capacity.

Structural Engineering

The structural materials laboratory contains five Universal testing machines with capacity from 30,000 to 300,000 pounds, and two impact machines with ham-mers ranging in weight from 550 to 1,500 pounds. New equipment is being added so that the laboratory will be equipped to perform all usual tests. The structural research laboratory is equipped with apparatus for investigat-

ing the stresses and deflections in indeterminate structures.

The cement laboratory has all facilities for tests of cement and concrete with special attention to equipment suitable for research work.

Highway Engineering

The road laboratory is equipped for testing materials used in road construction. Standard machines adopted by the American Society for Testing Materials and by the U. S. Office of Public Roads are available.

Sanitary Engineering

The sanitary engineering laboratory is equipped for carrying on the physical, chemical, bacteriological and microscopical tests required in the investigation and purification or treatment of water supplies and sewage. The laboratory work is supplemented by inspection trips made to the various water purification and sewage treatment plants in the vicinity.

Regional and Resource Planning

Various departments of University instruction are cooperating in giving the courses in Regional and Resource Planning as shown in the following curriculum for the master of science in regional planning and the master of arts in regional planning. Prospective students should note the undergraduate prerequisites for this curriculum and should satisfy these during their undergraduate years. Applications should be made directly to the chairman of the curriculum in Regional and Resource Planning.

Undergraduate Prerequisites. The curriculum has been planned to satisfy the requirements of graduates in civil engineering and the social sciences. Graduates of other departments will be held for such additional prerequisites as may be needed to qualify them to take the scheduled curriculum. Civil Engineering graduates will be held for Math. 13, Political Science 1, Sociology 150. Social science majors should have had Econ. 1, 2; Geog. 7, 102, 160; Math. 13; Political Science 1; Psych. 1; Speech 40 and Sociology 1.

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 preferably should be satisfied before the graduate year.

NOTE: A limited number of credits selected from the following approved list of courses may be substituted for required courses with the approval of the professor in charge of the curriculum: Sociology 131, 165, 190; Social Work 254; Political Science 61; Law 104; Forestry 65, 126, 158; Economics and Business 143, 144, 145, 172; Civil Engineering 150, 152, and Physical Education 113.

Electrical Engineering

The department of electrical engineering offers excellent opportunities for the pursuit of graduate study. The work is of two-fold nature:

(a) Study of advanced technical courses in electrical engineering subjects, and (b) research or experimental investigation of some approved engineering problem. The electrical laboratories contain equipment for carrying on research in all of the usual phases of electrical engineering and special apparatus for study of problems in electric, magnetic and dielectric circuits, high tension power transmissions, electric transients, radio, etc.

Mechanical Engineering

Steam engineering, gas engines, and machine design offer attractive opportunities for advanced work in this department.

The steam engineering laboratory has been enlarged and is well equipped with experimental machinery. Investigation of fuels, oils, and refrigeration may be undertaken. The installation of a semi-Diesel engine and Sprague dynamometer facilitate research work with reference to internal combustion engines. Power plants of all types are located in the vicinity of the University and are available for study and tests. Special equipment has been provided also for research in vibrations.

The engineering library contains texts, papers and journals covering mechanical engineering subjects.

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ENGLISH

The equipment of the department of English for graduate work consists of the main library of the University, with virtually complete runs of all the philological journals and publications of learned societies, the Parrington Branch Library with desks assigned to graduate students, the Garrett-Johanson Library, and the Walker-Ames Library and conference room. Through the courtesy of the librarian, students engaged in special problems of research are enabled within certain limits to borrow books from other libraries in the United States and Canada. The Seattle Public Library is of course always available.

Minimum Requirements for the Master's Degree With a Major or a Minor in English

At the beginning of work for a master's degree with a major or a minor in English, the student should have his proposed course approved by an appointed representative of the department of English. At this time he should be able to submit a record of his previous studies in English and should have familiarized himself with the requirements for the master's degree as explained in the catalogue of the University of Washington.

Preparation. 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. 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 for a degree or for the normal diploma requires at least ten credits earned in English courses at the University of Washington.

Examinations. (a) Examination known as the English senior examination. This examination is in two parts: (1) testing the general knowledge of the field of the major and (2) testing the student's knowledge of two special fields and his ability to write stylistically effective and well organized papers on these special fields.

(b) Final examination, oral or written, on the courses offered for the master's degree and their related periods.

Specific Requirements for the Degree of Master of Arts. Candidates for the master's degree with a major in English language and literature are required to present a master's 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.

Correlation between Majors and Minors. 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.

Minimum Requirements for the Doctor's Degree

The degree of doctor of philosophy is conferred as a recognition of the candidate's ability to organize the bibliography of his study, to investigate his problem thoroughly, to present his work in written form, and to contribute to the knowledge of his subject with sound scholarship and independence of point of view. The degree is not conferred for courses satisfactorily passed, even though these courses may be many and may represent much valuable study.

Departmental Requirements

Language. (1) Reading knowledge of Latin to be satisfied by previous courses in Latin or by examination during first year of graduate study; (2) Old English to be taken in class; (3) Middle English to be taken in class.

Courses.

a. Major courses in English, 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 Lit. 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.

- b. One minor, 30 credits, or two minors, 15 credits each.
- c. Such other courses as are necessary to support the thesis.

Qualifying Examination for the Doctor's Degree

This examination is to be passed one year before the candidate takes his degree, and is divided into definite parts.

a. Written examination on the period of the thesis and two related or adjacent periods.

b. Oral examinations shall be of three parts: lecture or discussion, the minor, and general questioning.

- 1. 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.
- 2. Then follows the minor examination in the form desired by the minor department.
- 3. General questioning on the written examinations, the lectures, or any other period of literature will close the examination.

c. 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.

Doctor's Thesis

This thesis is to be a contribution to knowledge in the major subject. Two weeks before the degree is conferred two copies are to be deposited with the librarian of the University in the form prescribed for theses and another copy is to be delivered to the executive officer of the department of English.

FAR EASTERN

The instruction offered by the Far Eastern Department applies to Asia, the region of the Pacific, and the United States as a Pacific power. The Far Eastern Department takes care of students who wish to specialize in Asiatic languages as such and those who have acquired or wish to acquire Asiatic languages as a tool for research in their special fields. Candidates for higher degrees who wish to specialize in this field may take them with the Far Eastern Department or in any other department. In the second case, research in the Far Eastern field would be carried out under the joint auspices of both departments. Students contemplating research in this field should, if possible, acquire a reading knowledge of Chinese, Japanese, Russian, or any other language necessary for their purposes. Students wishing to apply the discipline of their choice to the Far Eastern field should consult the executive officer of the department before arranging their courses. The University library has a collection of more than 20,000 volumes of Chinese books and anticipates building up a comparable Japanese collection, which should furnish adequate research opportunities for those able to read these languages.

FISHERIES

The University of Washington is exceptionally well situated for advanced study in fisheries. The campus is on the shores of Lakes Washington and Union, which are connected with each other and with Puget Sound by canals. Extensive commercial fisheries for fishes, oysters, clams, and crabs are conducted in Puget Sound, while fleets of vessels with headquarters at Seattle and other cities, carry on extensive fisheries in the ocean adjacent to the Washington coast, and on the fishing banks of Alaska. Numerous canneries, smokehouses, cold storage plants, and fertilizer plants are to be found in Seattle and other places on the Sound. A number of fish hatcheries are owned and operated in the state of Washington by the federal and state governments. The School of Fisheries has a hatchery, fish ponds and equipment for experiments on the effect of temperature and other factors on fish. These many advantages present unrivaled opportunities for study of fisheries, aquatic life and fish culture.

All graduate students in the School of Fisheries are required to register for and to attend the graduate seminar courses numbered Fisheries 205, 206, and 207 each quarter they are in residence at the University. Credit for such attendance will be granted to a total of six credits. Additional quarters in residence must show attendance in the course as a registered auditor.

FORESTRY AND LUMBERING

The College of Forestry is unusually well equipped for graduate work. Situated in the center of the largest lumber producing region of the world, and in the heart of the national forests of the Northwest, the advantages of the location should prove particularly attractive to graduate students for advanced studies and research in silviculture, forest management, lumbering, and all the branches of forest utilization. For work in all of these branches, the department is well equipped.

The Charles Lathrop Pack Forest. This is a tract of approximately 2,000 acres located at LaGrande, Washington, adjoining the Rainier National Park High-

way. The tract is used as an experiment station and is a public demonstration forest, the idea being to place forestry on display in show window fashion so that the public may learn of the various methods of scientific forestry. It is admirably adapted for this purpose, having a frontage of about two miles on the highway and presenting a wide range of conditions. The money for the purchase of the forest and for putting it in shape was provided from the Charles Lathrop Pack Forestry Trust and by Doctor Pack himself.

The Lee Field Laboratory. This is a tract of 80 acres containing a second growth stand of approximately 40-year-old timber located at Maltby. The tract was donated to the College of Forestry by Ingie Marie Lee Hodgins, Edna Mae Lee Engle and George O. Lee, in memory of their parents, the late Mr. and Mrs. O. H. Lee. As the tract can be reached by auto in less than one-half hour from the University campus it will be especially valuable in connection with the regular laboratory instruction in the courses in silviculture and mensuration, and will also lend itself to some experimental work.

Graduate Work. Three advanced degrees are offered to students who have received the bachelor's degree at this University or other institutions of equal rank, and have a satisfactory knowledge of the fundamental sciences. The candidate for the degree of master of forestry (M.F.) must earn 225 credits at this University, of which at least 78 are in approved technical forestry subjects, and a minimum of 45 taken beyond the bachelor's degree. The candidate for the degree of master of science in forestry (M.S.F.) must present a minor in one or two subjects in science. In addition to these requirements, the candidate for either degree must present a thesis embodying results of independent research and pass an oral examination open to all members of the faculty. Only grades of "A" and "B" can be counted in graduate work.

Graduate students will be received as candidates in the College of Forestry for the degree of doctor of philosophy. Subject to the requirements of the Graduate School, advanced courses will be provided and announced as the need arises.

GEOGRAPHY

Degrees conforming to the general requirements of the graduate school are granted by this department.

GEOLOGY

The major portion of the area tributary to the University is a virgin field for study in geology. There is a great opportunity for the graduate student along the lines of petrography, paleontology, and economic geology. Investigations thus far made have tended only to disclose the extraordinary extent of the unknown fields. In paleontology the tertiary formations alone have yielded more than 125 new species of invertebrates, and only a few localities have been studied in detail. Field work can be carried on in close conjuction with residence study by taking advantage of week-ends, vacation periods and the summer months.

GERMANIC LANGUAGES AND LITERATURE

The graduate courses in Germanics offer the student the choice of several approaches to the subject. He may stress philology, literary history, history of culture (*Kulturkunde*), history of thought (*Geistesgeschichte*), social trends, economic backgrounds, or relations with other literatures.

Admission to Graduate Study in Germanics. In addition to compliance with the general requirements of the University regarding admission to graduate study, the student must present a written application to the Department of Germanic Languages and Literature setting forth in detail the nature of his previous study in the field. The department must further be satisfied, by examination or otherwise, that the applicant has a general acquaintance with the classical periods of German literature, with especial reference to the major works of Lessing, Goethe, and Schiller, and

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some knowledge of the major literary movements, or writers, of the nineteenth century. The applicant must also demonstrate to the department that he is able to read German with facility, to write it with grammatical correctness, and to understand the spoken language. No candidate will be accepted by the department as a major unless he has fulfilled the requirement of an undergraduate major, or as a minor unless he has fulfilled at least the requirements of an undergraduate minor.

Once accepted by the Department of Germanic Languages and Literature as a graduate major or minor, the candidate will immediately meet with the executive council of the department in order to work out a program leading to an advanced degree.

Requirements for the Degree of Master of Arts

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With a Major in Germanics. For the M.A. degree, the graduate student must, in addition to the fulfillment of the above requirements, take a minimum of twentyfour credits in Germanics (see below for courses open to graduate students). If the student minors in some other department, he will distribute the twenty-four credits over both literary and philological courses. If his entire program lies within the field of Germanics, he must elect twenty-four credits in literary, and twelve credits in philological courses, or vice versa. The minor must consist of not less than twelve credits, whether these be in Germanic philology, Germanic literature, or some other field. In addition, the candidate must submit, at least one month prior to his final examination, an acceptable thesis in final form worthy of nine credits. The thesis is to give evidence of the mastery of scholarly procedure. The final comprehensive examination on the thesis and on the major and minor fields will not be confined to courses taken at the University or elsewhere, but will cover an outline knowledge of the history of the German language and literature as a whole, as well as the student's specific fields in philology and literature.

With a Minor in Germanics. A minor in the field of Germanic literature, or Germanic philology, or a combination of the two for the M.A. degree shall consist of a minimum of twelve credits beyond the undergraduate program. In no instance, however, may a minor in Germanics for the master's degree be less than the major for the bachelor's degree. The comprehensive examination in the minor will likewise not be confined to courses taken. The student will be expected to demonstrate an understanding of the entire field in which his planned minor program lies.

Requirements for the Degree of Doctor of Philosophy

With a Major in Germanics. For the Ph.D. degree, the applicant must have pursued his studies for at least three graduate years. In addition to the requirements listed above for the M.A. degree, the candidate should have elected, as a minimum, thirty-five additional credits in his major, and fifteen in his minor field (see below for courses open to graduate students.) Upon completion of these requirements, and the reading knowledge of foreign languages required by the Graduate School, the candidate is to submit himself to the departmental committee which will administer his written and oral comprehensive qualifying examination. This examination will not be confined to courses taken at the University or elsewhere, but will endeavor to show the student's grasp of the entire field of human knowledge of which his subject constitutes a part. The main burden of the examination will, of course, concern itself with the entire range of Germanic philology and literature. The student may, at his option, major in Germanic literature and minor in Germanic philology, or vice versa, or he may major in a combination of these two fields and minor in a different field. Upon the successful completion of the above, the applicant may proceed to his doctoral thesis. The thesis must demonstrate mastery of scholarly procedure and be a contribution to the sum total of human knowledge.

With a minor in Germanics. A minor in the field of Germanic literature, or Germanic philology, or a combination of the two, for the Ph.D. degree shall consist of a minimum of twelve credits beyond the M.A. program. In no instance, however, may a minor in Germanics for the doctor's degree be less than the course requirements for a major for the master's degree. The written and oral comprehensive examination on the minor will likewise not be confined to courses taken but will be expected to demonstrate the student's grasp of the entire field of human knowledge of which his minor field is a part.

Courses Open to Graduate Students

In addition to the courses in Germanics numbered 200 and above, German 129 and any German courses numbered from 139 to 199 may be elected for graduate credit subject to the following conditions: two-thirds of the courses submitted in a graduate program in Germanics must be numbered 200 and above. No student, already the holder of a bachelor's degree with a major or a minor in Germanics, will be permitted to take German 129 or any German course numbered from 139 to 199, on any other than the graduate level. This involves the writing of term papers, extra reading, and such other enrichment of the course content as the instructor may require.

HISTORY

Departmental Requirements for the Degree of Master of Arts

I. Preliminary Requirements. Undergraduate major work in history in the University of Washington, or such undergraduate preparation as the department shall deem satisfactory. A reading knowledge of one modern foreign language. A conference or oral examination may be required during the first quarter to satisfy the department of the candidate's fitness to do graduate work.

II. Substantive Requirements. Forty-five hours in history (including History 201), no minor being required. A thesis which shall count from four to nine hours. 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. The hours required after the thesis and the graduate seminar have been fulfilled, may be selected from regular upper-division courses, graduate courses, and graduate conference courses. Graduate conference courses are to be arranged with instructors. These selections would be dictated by the three fields chosen for the final examination. Not more than one conference course shall be arranged in any one of the fields presented, except by permission of the department. Two to five credits may be earned a quarter. In case more than one conference course is taken during a quarter, the total number of hours shall not exceed five.

III. Final Examination. This shall include one of the four fields from each of the three divisions of history listed below.

A. Division I

- 1. Greek history
- 2. Roman history
- 3. Medieval history to 1000 A.D.
- 4. Medieval history 1000 to 1450
- B. Division II

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- 1. European history, 1450-1815
- 2. European history, 1815 to the present
- 3. English history, 1450 to the present
- 4. British Empire since 1783

- C. Division III
 - American history to 1783 1.

 - American history (0 1/65)
 American history, 1783 to 1861
 American history, 1861 to the present
 Pacific and the Northwest

The final examination shall include a defense of the thesis, historiography, and the three fields selected. The final examination shall be given two weeks prior to the end of the quarter in which the candidate expects to receive his degree. The thesis must be submitted in a form suitable to the department and the

library before the candidate may take the final examination.

Requirements for the Minor in History when the Major is in Another Department

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I. An undergraduate minor in history at the University of Washington, or such undergraduate preparation as the department shall deem satisfactory.

II. The amount of work required shall total a minimum of fifteen quarter hours of graduate credit. The selection must include History 201 (five hours). The remaining ten hours shall be grouped in one of the following fields: ancient. medieval, English, modern European, or American history.

III. The candidate must pass an examination upon the work presented. Questioning shall cover the general subject of the courses rather than the specific con tent as given in class.

Departmental Requirements for the Degree of Doctor of Philosophy

I. Requirements for the Degree when the Major is in History

1. Preliminary Requirements. No work shall be counted toward attainment of the degree until the prospective candidate shall have fulfilled the department's requirements for an undergraduate major in history, viz., from 36 to 60 credits within the department, including normally a survey course in medieval and modern European history, or its equivalent. At least half of these credits shall have been taken in the most advanced undergraduate courses.

Evidence of a reading knowledge of the basic language required for the probable thesis field shall be submitted to the department not less than three months before the candidate is permitted to take the preliminary examination. The facile use of both Latin and Greek is required of all who take the degree in ancient history.

A committee of three, appointed by the chairman of the department, shall have charge of each candidate for the Ph.D. degree in history and shall make recommendations to the department concerning his program of work.

2. Substantive Requirements. As soon as possible after announcing his inten-tion to become a candidate for the Ph.D. degree the student shall submit to the department a proposed program of study. He shall at this time state his plans for the writing of a doctoral dissertation, and shall present six fields selected from the four groups enumerated below. At least one field shall be chosen from each of Groups A, B, and C. From one of these groups, selected for particular con-centration, a second field shall be presented. The remaining two fields may be chosen from any of the four groups. If, however, the candidate selects all six fields from Groups A, B, and C, his program must receive the approval of the Graduate Council. Normally one or two fields shall be selected from Group D.

The candidate shall present himself for a qualifying examination, both oral and written, covering historiography and five of the fields selected.

A final examination shall cover the thesis and the field in which the thesis lies. Other fields covered in the general qualifying examination may be included in the final examination at the discretion of the examining committee.

At least two quarters must elapse between the general qualifying examination and the final examination.

The fields are as follows:

Group A

- Ancient History—Greece and Rome
 The Middle Ages to 1300
 History of England from the Anglo-Saxon Invasions to 1485 4. The Renaissance and Reformation:
- 1300-1600

Group B

- 1. Modern Europe
- 2. History of England since 1485
- 3. The British Empire since 1783

Group C

- 1. American History to 1789
- 2. American History since 1789
- 3. History of the West
- Group D
 - 1. Anthropology
 - 2. Economics
 - 3. Education
 - 4. English

 - 5. Geography 6. Oriental Studies
 - 7. Philosophy
 - 8. Political Science
 - 9. Sociology

Requirements for a Minor when the Degree is Obtained II. in Another Department

1. The work done under the direction of the department of history shall comprise at least 24 quarter credits, and shall be distributed through not less than one year of residence. History 201 is required. At least one course shall be a graduate seminar. The remaining courses may be of upper division grade.

2. At the time of his qualifying examination the candidate shall offer himself for questioning upon the following subject matter:

- a. Historiography (History 201 or its equivalent).
- b. The substance of other particular courses elected. Questioning shall cover the general subject of the courses rather than the specific content as given in class.
- c. The substance of the survey course which covers the general field in which the bulk of the minor lies. Such general fields are ancient history, medieval history, modern European history, English history, American history.

HOME ECONOMICS

A master's degree may be earned in the following fields: Master of Science:

Food and nutrition which may be combined with household economics or home economics education, and a minor in an allied field.

Master of Arts:

Textiles and clothing which may be combined with household economics or home economics education, and a minor in an allied field.

Professional Graduate Dearee:

Master of Science in Home Economics or Master of Arts in Home Economics, the major and minor subjects being in home economics with undergraduate work in basic fields.

Post Graduate Training

Public Health Nutrition: The requirements are two quarters of academic study and five months of supervised field work. The field work will be obtained in out-patient departments of hospitals and with social service agencies.

The courses recommended in the University will depend upon undergraduate preparation and the experience of the student.

Required of all:

S.W. 175, 231, 232; Soc. 128; H.E. 214, 215; N.E. 102 with addition of courses in public health as facilities are provided.

Preferred electives:

S.W. 176 or 254, 178 or 243, 218, 260; H.E. 109; Soc. 112, 141, 142, 156, 159, 165, 166, 190, 194, 266; Pol. Sci. 113, 155; Psych. 117, 118, 126; E.B. 105; N.E. 175. It is recommended that students looking toward this post graduate year include in their undergraduate work as many of the above preferred electives as possible. Students will be enrolled in the Graduate School of the University. Credits in

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graduate courses may be counted toward a Master's Degree.

Institution Administration: 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.

Internship for Administrative Dietitians: A limited number of internships for administrative dietitians is provided at the University of Washington for grad-uates 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

Advanced courses in journalism, history, economics, political science, sociology, and English are offered students wishing to take graduate study in preparation for newspaper work or teaching journalism. A wide demand exists in high schools, colleges and universities for instructors adequately trained to teach journalism. The University library contains a large collection of bound newspapers and magazines and furnishes unusual opportunity for an historical study of American journ-alism. Special provision is made for directing the work of graduate students interested in historical, political, psychological, or language studies in 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.

LAW

See special Law School bulletin, available upon request to Director of Publications.

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.

LIBRARIANSHIP

Courses numbered over 200 are open to graduates of accredited schools of librarianship only, on permission of the director of the school. The work will be a coordination of theory and practice, the theory to be taken at the University and the practice to be taken in half-time positions at the Seattle Public Library. All courses are required and must be taken in prescribed order. The following studies, outside of the School of Librarianship are required: Child Psychology, and Education. It is recommended that they be taken as preparatory courses, but they may be carried along with the advanced work. Courses in the following are also strongly recommended as preparatory courses: Greek literature, Latin literature, early literature of various countries, playground and recreation.

MATHEMATICS

The department of mathematics offers courses of study leading to the degrees of Master of Arts, Master of Science and Doctor of Philosophy. Besides the standard treatises and numerous collected works, the University library contains complete sets of the important mathematical periodicals and publications of learned societies. The department is well equipped with mathematical models. The Mathematical Research and Journal Club meets three times a month to hear presentations of original studies or reports on pertinent literature. Graduate students are expected to participate in the programs. The graduate advisory committee of the department, which passes on the applications of all candidates for higher degrees, is available for consultation in planning courses of study.

Requirements for Advanced Degrees with a Major in Mathematics

Any candidate for an advanced degree with a major in mathematics must present at least the equivalent of an undergraduate major in mathematics.

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.

Master of Science. The candidate must present a minimum of 33 approved hours in mathematics, including the thesis. The course work must include at least six hours in each of the fields of algebra, analysis, and geometry.

Master of Arts. The regulations are the same as for the Master of Science degree except that the thesis need not be a contribution to knowledge. 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.

Requirements for Advanced Degrees with a Minor in Mathematics

Doctor of Philosophy. The candidate must present a minimum total of 33 approved hours, which may include acceptable courses beyond calculus taken as an undergraduate, but which shall include at least six hours in each of the fields of algebra, analysis, and geometry. For a partial minor, fifteen approved hours constitute a minimum.

Master of Science and Master of Arts. The minimum requirements are: twelve credits satisfactory to the department, at least nine of which shall be taken in residence. The candidate's undergraduate preparation in mathematics shall comprise 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, and all courses numbered above 200 require a full year's work in differential and integral calculus as a prerequisite and the consent of the instructor in charge.

MINING, METALLURGICAL AND CERAMIC ENGINEERING

The department of mining, metallurgy, and ceramics offers graduate courses leading to the master's degree or to a professional degree. In addition, certain courses in this department may be used as the minor for a degree in other departments. The location of the University is favorable for the pursuit of advanced study in these fields owing to the varied natural resources and the important commercial operations taking place in the Northwest. The equipment available for the use of graduate students is extensive.

The Department of the Interior maintains at the College of Mines its Northwest Experiment Station, which serves the Pacific Northwest and the coast regions of Alaska. The headquarters of the Station from which all operations in this territory are directed, are in Mines Laboratory. At present the principal investigations being conducted by the station are in the treatment and uses of coal and of other non-metallic substances. These investigations are conducted by the Station in cooperation with the College of Mines principally through the research fellowships provided by the College. The results of cooperative investigations are published by the Bureau or by the University.

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Mining, Metallurgical and Ceramic Research

The purpose of this department is to encourage development in the mining, metallurgical, and ceramic industries of Washington, the Pacific Northwest and Alaska by research in the special problems presented and to solve the problems through the efforts of fellowship holders and others studying in the department.

Graduates from suitable technical courses at institutions of recognized standing, or men who present evidence of technical training that has fitted them to undertake investigations, are eligible to enroll in mining and metallurgical research. The degree of master of science may be granted students holding suitable bachelor of science degrees who complete investigative work in compliance with the University requirements for the master's degree. Although as much latitude as possible will be allowed in the choice of subjects for research, the general topics will be those of special importance to this region.

Investigations of Problems. Under certain conditions, the University will permit mining, metallurgical, and ceramic companies that have special problems for solution, to detail a representative to work on such problems, or to meet the expense of engaging a man to do so. Experiments that can be carried on as readily in commercial laboratories and that do not require direction from experts are not undertaken. The research is done under the direction of the department, and complete records of all the data obtained are filed with the department, which reserves the right to publish this information for the benefit of the mining, metallurgical and ceramics.

Courses in mining, metallurgy, and ceramics numbered 100-199 may apply on a minor for an advanced degree, provided the major is in another department of related character.

Masters' Degrees. 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 selection of work for this degree must in each case be approved by the head of the department and by the dean of the Graduate School.

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.

Professional Degrees. The College of Mines offers the following professional degrees: Engineer of Mines (E.M.); Metallurgical Engineer (Met.E.); Ceramic Engineer (Cer.E.). The requirements are as follows:

- 1. Five years of professional experience in the proper field after graduation with a good record from a 4-year course in this college; or five years of professional experience after award of a master's degree by this college, if the candidate does not hold a bachelor's degree from it.
- 2. Four years in positions of professional responsibility, of a character equivalent to those 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.
- 3. A professional thesis on a subject on which the applicant has been directly engaged. The thesis committee shall be the judge of the suitability of the material presented, which may be a published article or other writing having high professional value.
- 4. Submission of two complete copies of the thesis.

Application for a professional degree may be made at any time. It shall be accompanied by an exact statement of the applicant's record since graduation. The department of mining, metallurgical, and ceramic engineering will pass upon the application and may then arrange dates on which material is to be submitted for criticism. The candidate must submit his thesis in final form at least one month before the date on which theses for advanced degrees are deposited in the library. Final recommendation for or against the degree will be based upon the finished thesis. Action will be taken by the faculty of the College of Mines upon recommendation of the mines department.

Mining and Metallurgical Research

Class work is directed by members of the instructional staff of the University. 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. Subjects of research relate to the mining, metallurgical and ceramics industries of the state and adjacent regions.

MUSIC

Candidates for the degree of Master of Arts in Music are accepted only upon the recommendation of the graduating committee of the music department. Applicants should be prepared to submit to the committee, at a preliminary conference, a transcript of undergraduate credits. Deficiencies in prerequisites may be made up by special examination, or by registering for the necessary courses without graduate credit.

Major in Composition

(a) The equivalent of all music courses now required for the degree of bachelor of arts in music with a major in composition.

(b) Twenty-five credits in graduate composition. This shall include one composition for a chamber music combination, one for orchestra or symphonic band, one for chorus, and the thesis.

(c) Twenty credits in approved electives.

Major in Musicology

(a) A bachelor's degree with the equivalent of 36 credits in upper division music courses, including twelve credits in music history and literature.

- (b) Ten credits in advanced composition.
- (c) Fifteen credits in approved electives.
- (d) Twenty credits in approved seminars and research, including the thesis.
- (e) A reading knowledge of either French or German.

Major in Music Education

(a) A bachelor's degree with the equivalent of 36 credits in upper division music courses, including twelve credits in music history and literature.

(b) Two years of approved teaching experience, of which one must pre-cede the graduate courses in music education.

(c) Eighteen credits in seminars and research in music education, including the thesis.

(d) Fifteen credits in approved music courses.

(e) 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

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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 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 Master of

Science in Nursing but not for the degree of Master of Nursing.

OCEANOGRAPHIC LABORATORIES

Special arrangements may be made for conducting research at the laboratories in Seattle.

PHARMACY, PHARMACEUTICAL CHEMISTRY, PHARMACOLOGY, TOXICOLOGY, MATERIA MEDICA AND FOOD CHEMISTRY

The College of Pharmacy is well supplied with apparatus and library facilities to carry on systematic research work.

Graduate Courses

1. WITH DEGREE OF MASTER OF SCIENCE IN PHARMACY. (Five-year course.)

Graduates of the four-year science course may continue work for the master's degree as follows:

Not more than 25 credits accepted in courses outside of the College of Pharmacy

Not less than 20 credits shall be elected in the College of Pharmacy. At least twelve credits of the major work must be earned by a research problem and the preparation of a thesis. Examination and thesis must conform to the regulations of the Graduate School.

2. WITH DEGREE OF DOCTOR OF PHILOSOPHY.

The degree of doctor of philosophy (Ph.D.) with major and thesis in the pharmaceutical field may be taken by meeting all requirements of the Graduate School.

PHILOSOPHY

Requirements for advanced degrees with a major or a minor in philosophy conform to the general requirements of the Graduate School.

PHYSICAL EDUCATION AND HYGIENE

The department of physical education is unusually well equipped for graduate work both because of the facilities for the study of specific problems in the professional field and the opportunity for advanced and research work in allied fields.

Degrees

The degree of master of science in physical education is granted by the University.

The requirements for this degree conform to the requirements of the Graduate School on pages 178-179.

For a minor in physical education for the master's degree, the student must present in preparation a minimum of twenty-six credits in physical education and a course in physiology, and at least twelve credits in advanced courses for the graduate minor.

PHYSICS

The department of physics accepts candidates for the master's degree and the degree of doctor of philosophy. Adequate library facilities are provided in the form of quite complete files of the leading scientific periodicals and the outstanding reference books. The modern four-story Physics Hall contains excellent laboratory and research facilities. A well equipped instrument shop with a mechanician is available for the construction of special apparatus.

cian is available for the construction of special apparatus. The degree of doctor of philosophy is granted in recognition of breadth of scientific attainment and ability to carry on independent scientific research, rather than upon the completion of definite courses of study. The candidate should consult with the chairman of the department or other faculty member designated by him regarding the course of study to be pursued. The general requirements for advanced degrees are stated elsewhere in this bulletin, under the heading Degrees. The French and German examinations should be passed in the first year of graduate study so that these languages may be used in research.

POLITICAL SCIENCE

Graduate Study. Candidates for higher degrees in political science must register in the graduate seminar during every quarter of their residence, and in two research seminars, one of which must be in the field of the special investigation.

Subject Groups. The work of the department is divided into the following groups: I. Political Theory and Jurisprudence; II. International Relations; III. Politics and Administration. A major student must select any one group as his chief interest before proceeding with upper division courses.

PSYCHOLOGY

Students who have shown an aptitude in psychology, and who consider taking extensive work in this subject, are invited to confer with members of the staff in order to plan their work to advantage.

Departmental Requirements for the Master's Degree

1. Prerequisite Undergraduate Credit

A minimum of twenty quarter credits in psychology is required as prerequisite to candidacy for an advanced degree.

In these the student must have received a grade average of 3.5.

No credits received more than eight years prior to admission to candidacy for an advanced degree will be accepted in full.

2. Capacity and Preparation of the Student

A student whose scores in aptitude and intelligence tests show him to be inferior to eighty per cent of entering freshmen will not be encouraged to take graduate work in psychology. A student whose score in tests for psychological information is inferior to that of fifty per cent of undergraduate psychology majors will not be admitted to candidacy for a degree upon the basis of twenty prerequisite credits.

3. Graduate School Requirements

As thorough training as possible in chemistry, physics, physiology, zoology and mathematics is desirable as preparation for study and research in psychology. Engineering mathematics (31, 32, 33) is recommended. If a candidate for the master's degree has not had at least the following courses

If a candidate for the master's degree has not had at least the following courses or their equivalent in undergraduate training, he should complete them as early as possible during his graduate work. These courses are:

Supporting Survey Courses

General chemistry General physics General physiology General zoology General mathematics (U. of W. Math. 3) Courses in Psychology General psychology Neural basis of behavior Experimental psychology Essentials of mental measurement Modern psychological theory Animal behavior Thinking and voluntary action History of psychology Psychology of learning Abnormal psychology Child psychology

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A thesis in the department of psychology must be based upon laboratory research. A candidate must demonstrate his ability as an experimentalist before beginning his thesis research. The question that he proposes to answer experimentally must be crucial and his research plans must be well formulated. A student who does not know specifically the significance of his problem and the experimental means for its solution is not yet prepared to begin his thesis research.

Departmental Requirements for Candidacy for the Degree of Doctor of Philosophy with a Major in Psychology

Ordinarily before being considered for candidacy the applicant must have spent at least one year in the laboratory so that the departmental staff may reliably estimate his qualifications.

An applicant will be given comprehensive examinations in the subject matter of psychology and of the basic sciences. The fitness of the applicant will also be judged upon his scholastic record and upon the merit of his published research. Only students who have shown exceptional ability in laboratory experimentation and constructive insight in psychological theory will be admitted to candidacy for this degree.

The candidate must have completed all the specific courses or their equivalent offered by this department. With few if any exceptions he must have secured in each of these a grade of "A." He must have the master's degree in psychology or its equivalent in credit and in research. He must have adequate training in the physical and biological sciences and in mathematics. His minor will be in one of the supporting sciences.

ROMANIC LANGUAGES AND LITERATURE

A student who wishes to become a candidate for a degree with a major or minor in this department should consult with the executive officer before submitting the required outline of proposed work to the dean. The student is responsible for submitting this outline before registering for his second quarter of graduate study. Graduate programs in Romanic Languages normally include at least two-thirds of the credits in graduate courses.

See the general requirements for the M.A. degree under *Degrees*, p. 178. A syllabus may be obtained from the department, outlining the knowledge of the litera-

ture required for the major and minor programs in French, Italian, or Spanish. (For the M.A. minor, the same proficiency in a language and knowledge of its literature will be required as for the B.A. major.) The master's 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.

See the general requirements for the Ph.D. degree under *Degrees*, p. 176. For the Ph.D. 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 respective Ph.D., M.A., and B.A. syllabi; and (3) a knowledge of Latin. Acquaintance with some principal masterpieces of other literatures 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 added to a Ph.D. program in another department, the requirements are at least the same as for the B.A. major in that language.

GRADUATE SCHOOL OF SOCIAL WORK

For information concerning the Graduate School of Social Work, see pages 203 to 206.

SOCIOLOGY

Sociology treats of the development, organization and function of human groups. Its general purpose is to explain the relations of institutions; to stimulate a critical and constructive attitude toward programs of reform and furnish a sound basis of information for intelligent citizenship. It prepares for advanced study, field investigation, teaching and journalism, public health and institutional management, and supplements specialized training along these lines.

Graduate students are accepted as candidates for the master's or doctor's degrees only after they have completed undergraduate requirements. All candidates for advanced degrees with a major or a minor in sociology are to consult with the head of the department. Graduate students whose undergraduate work in sociology seems inadequate may be required by the department to pass a qualifying examination before admission to graduate courses.

Master of Arts

Majors are required to take 36 credits of undergraduate and 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. No graduate major can receive more than a total of six credits for work taken in the Departmental Seminar.

Minors are required to take a minimum of 36 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.

A thesis topic with a written prospectus, sponsored by a member of the faculty, must be submitted to the department for approval. A committee is appointed to guide the student in the preparation of the thesis. 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.

A reading knowledge of French or German is required. Proficiency 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, Collec-tive 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).

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.

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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 Depart-mental 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.

A thesis topic with a written prospectus, sponsored by a member of the faculty, must be submitted for approval to the department. A committee is appointed to guide the student in the preparation of the thesis. The completed thesis is to be submitted 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. A reading knowledge of French and German is required. Proficiency must be

A reading knowledge of French and German is required. I fonciency must be certified at least nine months before the degree is granted. Admission to both preliminary and final examination is made upon written request and formal approval of the department. The written preliminary examina-tion 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.

A final examination, oral, is given on the thesis and the field in which it lies. This examination can be taken only after the presentation of an acceptable thesis and the fulfillment of all other requirements.

ZOOLOGY AND PHYSIOLOGY

The department offers facilities for graduate work in most of the well estab-lished lines of investigation in the field of zoology. Proximity to the sea gives unusual opportunity for research based upon marine material. Since the climatic conditions are such that ice rarely forms, field work can be conducted during all seasons of the year. In co-operation with the department of fisheries many problems arising from the application of biological principles to the fishing industries call for solution at the hands of those possessing the requisite training in zoology and allied sciences.

Owing to the topography of the western portion of the state there exists within narrow geographic limits an extraordinary diversity of conditions controlling the distribution and adaptation of animal life. A journey of a few hours' duration by railway or automobile enables one to traverse the entire range of conditions from sea level to the lofty slopes of the Cascade or Olympic mountains. This leads to a remarkable diversity of faunistic elements and offers a rather unique opportunity for the study of the relations between terrestrial organisms and their environment, particularly insects, birds and mammals.

THE GRADUATE SCHOOL OF SOCIAL WORK

Ernest F. Witte, Director, 300F Commerce Hall

For faculty and courses, see page 326; for cooperating staff, see page 14.

The Graduate School of Social Work, organized in 1934 to meet the growing demand for professionally trained social workers, 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. The training implies completion of a college course with a major in the social sciences, advanced study of fundamental principles and methods common to all forms of social work and of the different procedures employed in connection with special problems, and field work under supervision. This is supplemented by special lectures and field trips.

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. Students are admitted to the Graduate School of Social Work upon meeting the general requirements of the University of Washington and the specific requirements of the Graduate School of Social Work. Application forms for the latter 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 *December 1 and May 1*, on regular forms, with official transcripts of all previous college work completed.

Persons who have had courses in other schools which are members of the American Association of Schools of Social Work may be admitted at the beginning of any quarter if their work has been satisfactory, provided application for admission has been made at least one month in advance of the opening date of the quarter. Persons without previous professional training are admitted in the autumn, winter and summer quarters.

Requirements for admission are: (1) graduation from an academic college or university; (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.

For admission to the sequence in Medical Social Work, students must have completed the basic first-year curriculum.

Persons under 21 or over 35 are not encouraged to begin preparation for the profession unless, in the case of those over 35, the person has been engaged in a related field of work. References are consulted and a personal interview is usually desirable and required whenever possible.

Curriculum. The curriculum is planned to lead to the degree of master of arts or the 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 the following: Social Case Work I and II, Advanced Case Work, Introduction to Child Welfare, Child Welfare Case Work, Field Work I, II and III, Growth and Development of the Individual I and II, Community Planning or Rural Community Organization, Public Welfare I, II and III, Social Work Research and Statistics, and Social Aspects of the Law.

During the second year of graduate study increasing attention is given to field work experience, and additional courses are required in the social insurances, social legislation, the history of social work, social research, specialized case work, professional ethics, and in the other areas of the student's special field of interest.

While qualified students are urged to complete the work for a master's degree, those who have satisfactory preprofessional preparation but are 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. Students entering upon professional study directly after receiving the baccalaureate degree may find it desirable to complete the basic curriculum and then secure a position, returning at a later date to conclude work for the master's degree.

Medical Social Work Curriculum. Because of the demand for medical social workers in the defense program, as well as in our public and private hospitals and clinics, in state departments of health, and in federal, state, and county welfare agencies, a curriculum in medical social work was inaugurated in the winter quarter, 1942. 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 from three to four additional quarters to complete beyond the time required for the basic curriculum.

Child Welfare. Students specializing in child welfare are required to take Nursery School observation in the University Nursery School, in addition to the other requirements in this field.

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

Candidacy. A graduate student who has satisfactorily completed three quarters of professional work in residence, and who has an acceptable thesis subject and plan of research may, upon approval of the faculty of the Graduate School of Social Work, file an application for admission to candidacy.¹

Requirements. The work for the degree includes:

(1) Preparation for the comprehensive examinations (given quarterly). This requires completion of courses basic to all fields of social work, and specialized courses elected by the student.

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, therefore, is intended to test his understanding of:

(a) Principles and methods of social case work as applied to different fields of social work.

(b) The problems and trends in social work under governmental auspices.

(c) Methods of community organization and administration in both public and private social agencies.

(d) The significance of certain economic problems and social relationships.

(e) Application of research methods to social data.

(2) Field work including from 600 to 800 clock hours, depending upon the field of specialization, taken in conjunction with the appropriate class work.

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

(3) A satisfactory thesis approved by an especially appointed committee of the faculty and prepared under the direction of the instructor in whose field the subject falls.²

(4) A minimum of three full quarters of work in residence. Unless, however, a person has had professional preparation elsewhere with experience in social work, completion of the requirements in three quarters is not possible. The course requirements ordinarily cover a minimum of ninety quarter credits, nine of which are in thesis research. Electives are permitted in the second year. Emphasis is placed upon an integration of the applicant's knowledge of social work, the social sciences, and law.

(5) The requirements of a reading knowledge of a foreign language, the grade point average, and the final examination for the degree are the same as the general requirements in the Graduate School.

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.
- (3) There are fewer electives during the second year.

Fellowships, Scholarships and Loan Funds. In addition to fellowships, scholarships and loan funds open to graduate students at large (see page 77), the following fellowships and loan funds are available to students in the Graduate School of Social Work:

The Arlien Johnson Scholarship. A scholarship of \$150 is awarded annually to a beginning student in the Graduate School of Social Work on the basis of scholarship and need. The holder of this scholarship may also arrange to render service to the University for which he may receive the equivalent of tuition charges. Applications should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Family Society of Seattle Fellowships. Three fellowships with the Family Society of Seattle are available to advanced students in the Graduate School of Social Work. The holders of these fellowships devote an equal part of their time to the agency and to their professional studies. These fellowships provide monthly stipends of approximately \$60 per student. Those who render service to the University may receive the equivalent of tuition charges. Applications should be made to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Washington Children's Home Society Fellowship. One fellowship with the Washington Children's Home Society is available to an advanced student in the Graduate School of Social Work. The holder of this fellowship devotes an equal part of his time to the agency and to his professional studies. This fellowship provides a monthly stipend of approximately \$60. The holder of this fellowship may also arrange to render service to the University, for which he may receive the equivalent of tuition charges. Application should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

² A thesis must be completed within two years (8 quarters) from the date the subject is approved.

Ryther Child Center Fellowship. Two work-study fellowships for men and women are available at Ryther Child Center, Seattle. These fellowships are of one or two years' duration and pay \$35 a month and full maintenance. Service is given the Center by the student through work on the House Staff, with the privilege of staff participation. The holder of this fellowship may also arrange to render services to the University, for which he may receive the equivalent of tuition charges. Applications should be made directly to the chairman of the Scholarship Committee of the Graduate School of Social Work.

The Mildred E. Buck Loan Fund. This fund is available for small loans to students. Applications should be made to the Graduate School of Social Work. Loans are determined by scholarship, financial need, and prospective placement in a position. Terms are individual.

The American Association of Social Workers, Puget Sound Group, Washington Chapter, Education Loan Fund is available to members. Applications should be made to the Education Loan Fund Committee, Mrs. Helen Dorman, chairman, Graduate School of Social Work, University of Washington.

COOPERATING AGENCIES

American Red Cross Catholic Charities Children's Bureau, U. S. Dept. of Labor Children's Orthopedic Hospital Family Society of Seattle King County Hospital King County Hospital King County Juvenile Court King County Welfare Department Ryther Child Center Seattle Community Fund Seattle Public Schools Seattle Social Service Exchange Seattle Council of Social Agencies State Department of Health State Department of Social Security State Personnel Board Washington Children's Home Society Young Men's Christian Association Young Women's Christian Association e

ANNOUNCEMENT OF COURSES

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EXPLANATION

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

The University reserves the right to withdraw temporarily any course which has not an adequate enrollment at the end of the sixth day of any quarter. For changes in registration, due to withdrawal of a course, no fee will be charged.

The four-quarter plan has been adopted to enable the University to render larger service. It is more flexible than the semester plan and adds 12 weeks' instruction to the regular year. It is impossible, however, to provide that every course be given every quarter.

Courses bearing numbers from 1 to 99, inclusive, are normally offered to freshmen and sophomores; those from 100 to 199, to juniors and seniors, and those from 200 upward, to graduate students.

Two or three course numbers connected by hyphens indicate a series of courses in which credit is given only upon completion of the final course in the series, unless the special permission of the instructor is obtained. Such permission is never granted in beginning foreign languages for less than two quarters' work.

Descriptions of courses in each department include: (1) the number of the course as used in University records; (2) title of the course; (3) quarters in which the course is offered, i.e., A, autumn; W, winter; S, spring; (4) number of credits given, in parentheses; (5) name of instructor; (6) brief description of its subject matter and method.

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

AERONAUTICAL ENGINEERING

Profe	essors Eastwood, Kirsten; Associate Professors F. S. Eastman, Instructor Dwinnell	V. J. Martin
83.	General Aeronautics. W. (3) Descriptive outline of the field of aeronautical engineering. Pr., sophomore st	Dwinnell.
84.	Aerodynamics. A. (3) Fundamentals of airflow phenomena. Pr., Phys. 97.	Dwinnell.
100.	Aircraft Engines. A. (3) Emphasis on their operating characteristics. Pr., Phys. 99.	Eastman.
101.	Aerodynamics. W. (3) Study of airflow phenomena and of the aerodynamical characteristics of a tions. Pr., A.E. 84.	Dwinnell. irfoil combina-
102.	Advanced Aerodynamics. W. (3) Pr., 101.	Martin.
103.	Airplane Performance. S. (3) Pr., 101.	Martin.
104.	Laboratory Methods and Instruments. S. (3) Familiarization with the wind tunnel laboratories and aircraft instruments. F	Dwinnell. Pr., 101.
105.	Wind Tunnel Laboratory. A. (2) Pr., 104.	Dwinnell.
106.	Advanced Wind Tunnel Laboratory. W,S. (3) Pr., 105, special permission.	Dwinnell.
*107.	Advanced Wind Tunnel Laboratory.	
111.	Airplane Design. A. (3) Aerodynamics of airplane design. Pr., 103, 172.	Martin.
112.	Airplane Design. W. (3) Structural design of airplanes. Determination of design loads. Pr., 111.	Martin.
121.	Airships. S. (3) Lighter-than-air craft, aerostatics, airship design. Pr., 102, 172.	Kirsten.
141.	Aerial Propulsion. A. (3) Methods of screw-propeller design; design of a standard screw-propeller ar calculations. Pr., 101, 171.	Kirsten. ad performance
142.	Advanced Aerial Propulsion. W. (3) Different types of propellers; coordination of propeller with vessel; standar methods. Pr., 141.	Kirsten. d propeller-test
*151.	Special Aeronautical Designs.	
161.	Advanced Aeronautical Problems. A. (3) Pr., 102, 172.	Martin.
171.	Aircraft Structural Mechanics. W. (3) Stress analysis of basic aircraft parts. Pr., C.E. 92.	Eastman.
172.	Aircraft Structural Mechanics. S. (3) Continuation of 171. Pr., 171.	Eastman.
173.	Aircraft Structural Mechanics. A. (3) Pr., 172.	Eastman.
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Courses in Anatomy, Anthropology

181. Advanced Airplane Structures. W. (3) Martin. Pr., 173.
188, 189-190. Seminar. A,W,S. (1 each quarter) Kirsten. Pr., 102, 172. No credit for 188 and 189 until 190 is completed.
191, 192, 193. Research. A,W,S. (2 to 5 each quarter) Kirsten.
211, 212, 213. Research. A,W, S. (2 to 5 each quarter) Kirsten.

ANATOMY

Professor Worcester; Associate Hansen.

Gross Anatomy

100. Anatomy Lectures. A,W, S. (3) Worcester.
101, 102, 103. General Human Anatomy. A,W, S. (3 or 6 each quarter) Worcester and Staff. For pre-medical, nursing, physical education students; open to others. Pr., Zool. 3 and 4 or equivalent.
104. Topographic Anatomy. A,W, S. (4) Cross and sagittal sections for correlation. Pr., 101, 102, 103.
108. Special Dissections. A,W, S. (†) For physicians or students who have completed the above courses in gross anatomy.

Microscopic Anatomy

- 105. Histology. A,W,S. (3 or 6) Worcester and Staff. Three credits for Harborview students (normal and abnormal microscopic anatomy). Pr., Zool. 3 or 4 or equivalent.
- 106. Embryology. W. (6) Study of human developmental anatomy. Pr., Zool. 3 and 4, or equivalent.
- 107. Neurology. S. (6) Worcester and Staff. Dissection of the human brain, cord, special organs of sense; comparative developmental history of the central nervous system; microscopic study of the nuclei and fibre tracts. Pr., Zool. 3 and 4, or equivalent. Especially for pre-medic students, but open to others.

Worcester.

200. Research. A,W, S. (†) Graduate work and research in anatomy for those qualified.

ANTHROPOLOGY

Professor Gunther; Assistant Professors Jacobs, Ray; Associate Garfield

- \$51. Principles of Anthropology. A,W, S. (5) Staff. Evolution and heredity as applied to man. Racial classification and its significance; survey of the anthropological approach to language.
- 752. Principles of Anthropology. A,W, S. (5) Staff. Man's social customs, political institutions, religion, art, and literature.
- ‡53. Principles of Anthropology. A,W, S. (5) Staff. Prehistoric cultures, prehistory of modern peoples, material cultures of primitive peoplea.

† To be arranged.

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

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Courses in Anthropology

- 60. American Indians. W. (5) Gunther. Ethnographic survey of American Indian life, with some consideration of their present condition. Not open to students who have had 110. Upper division credit for upper division students.
- 65. Peoples of the World: Latin-America. S. (5) Rav. A systematic ethnographic survey of the native cultures of the major areas of the region. No prerequisite,
- 91. Theories of Race. A,W, S. (2) Ray, Jacobs. Survey of human heredity, causes for race differences; study of race mixtures; history of race theories. Not open to students who have had 51 or 152.
- 101. Basis to Civilization. W. (3) Iacobs. Primitive normal mentality and abnormality; individual personalities and variability; tribal and regional culture patterns. Pr., 51, 52, or 53, or junior standing.
- 105. Invention and Discovery in the Primitive World. S. (3) Rav. Fundamental material inventions in the building of cultures. Pr., 51, 52, or 53, or junior standing.
- 107. Methods and Problems of Archaeology. S. (5) Garfield. Technique of archaeology with analysis of the problems various areas present, together with field experience in this locality.
- 111. Indian Cultures of the Pacific Northwest. A. (3) Rav. Ethnographic study of Indians west of the Rockies from Columbia River through southern Alaska, with special emphasis on the tribes of Washington.
- 112. Peoples of the Pacific. S. (3) Gunther. Ethnographic study of primitive peoples of the Pacific; brief analysis of effects of Eurovean contacts.
- 114. Peoples of Central and Northern Asia. W. (3) Bacon. Racial and linguistic groups, life and customs of the natives of Turkestan, Asiatic Steppes, and Siberia; relations to the historic nations of Europe and southern Asia.
- Cultural Problems of Western America. A. (3) 120. Ray. A consideration of the historical relationships and cultural problems of native western America, including the Northwest Coast, Plateau, California, Great Basin, and Southwest, Pr., 60 or 111.
- 141. Primitive Literature. A. (3) Forms and functions of oral tradition.
- 142. Primitive Religion. W. (3) Descriptive survey of primitive religions.

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- 143. Primitive Art. S. (3) Gunther. Aesthetic theories, artistic achievements of preliterate peoples, with museum material for illustration.
- 150. General Linguistics. W. (3) Jacobs. Anthropological approach to language; psychological, comparative and historical problems; phonetic and morphologic analysis.
- American Indian Languages. S. (3) Jacobs. 151. Phonetics and morphology of American Indian languages; methods of field research. Pr., 150.
- Introduction to Anthropology. A,W. (5) Gunther. 152. Survey of the field as a basis for other social sciences. Pr., junior standing. Not open to students who have had 51, 52, or 53.
- 160. History of Anthropological Theory. W. (2) Ray. Survey of the field of anthropology conducted through discussion of the various schools of thought and their theories.

Gunther.

Ray.

Courses in Anthropology, Architecture

- Gunther. Ray. 170. Primitive Crafts. S. (5) Pottery, weaving, basketry, wood-carving, and other techniques involved in primitive material culture. Pr., instructor's permission.
- 185. Primitive Social and Political Institutions. A. (5) Ray. Pr., 51, 52, or 53, or instructor's permission.
- *190, 191, 192. Research. W.S. (†) Gunther, Jacobs. Independent studies in field or campus with seminars and conferences. Pr., instructor's permission.
- 193, 194, 195. Reading Course. A.W.S. (†)

Courses for Graduates Only

- 204, 205. Seminar in Methods and Theories. A.W. (3.3) Gunther. Pr., instructor's permission.
- Gunther. 206. Seminar in Indian Administration. S. (3) Deals with problems of administration of Indian affairs and their history; discussion of present social and economic resources of the Indian.
- 242. Seminar in Theories of Primitive Religion. S. (3) Rav. Critical examination of various theoretical approaches to the understanding of primitive religions and philosophies. Pr., 142 or instructor's permission.
- 252. Seminar in American Indian Languages. A. (3) Tacobs. Advanced training in recording and analyzing languages. Pr., 150, 151.

ARCHITECTURE

Professors Thomas, Herrman, Gowen; Associate Professor Pries; Assistant Professor Olschewsky; Instructor Hansen; Associate MacLaurin.

- 1-2. Architectural Appreciation. A,W. (2-2) Herrman. Illustrated lectures giving an historic survey of architecture. General appreciation of architecture.
- 3. Architectural Appreciation. S. (2) Herrman. Important periods of the history of domestic architecture.
- 4-5-6. Elements of Architectural Design. A,W,S. (4-4-4) Herrman, Olschewsky. Problems in elementary architectural design. To be taken with 7-8-9.
- 7-8-9. Graphical Representation. A,W, S. (1-1-1) Olschewsky. Elementary principles of orthographic projections, shades and shadows, and perspective. To be taken with 4-5-6.
- 40, 41, 42. Water Color. A.W.S. (3.3.3) Hill Still life studies and outdoor sketching in water color. Pr., major in architecture, Art 32, 33, 34.
- 51-52. History of Architecture. A,W. (2-2) Thomas. Technical study of the architecture of Byzantium, and the Romanesque and Gothic periods. Pr., 3.
- 54, 55, 56. Architectural Design, Grade I. A,W,S. (5,5,5) Pries.1 Problems in design under individual criticism; order problems and simple problems of buildings. Pr., 6.

* Not offered in 1943-1944.

†To be arranged.

¹General criticism and supervision of all courses in Design, Grades I, II, III and Advanced Design, are given by Professor Harlan Thomas, director emeritus of the school.

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Courses in Architecture

101-102-103. History of Architecture. A.W.S. (2-2-2) Herrman. The Renaissance; comparative study of the period in European architecture. Pr., 53. 104, 105, 106. Architectural Design, Grade II. A.W.S. (5,5,5) Herrman, Olschewsky.¹ Advanced problems in design done under individual criticism. Pr., Arch. Design, Grade L. 120-121-122. Building Construction. A.W.S. (2-2-2) Olschewsky. Lectures on building construction. Drafting room practice in working drawings. Pr., junior standing in architectural design. 135. Introduction to City Planning W. (3) Lectures on history and theory, including circulation system, recreation and open areas, public buildings, control of private development, new towns and garden cities. Pr., majors in Regional Planning or junior in Architecture. 151. History of Architecture. A. (2) Herrman. Modern architecture in America and Europe from the middle of the eighteenth century to the present time. Pr., 103. 152-153. Theory of Architecture. W,S. (2-2) Herrman. Theory of architectural design, relation of composition and scale, planning. Pr., Arch. Design, Grade II. 154, 155, 156. Architectural Design, Grade III. A,W,S. (5-5-5) Pries.1 Advanced design under individual criticism. Pr., Arch. Design, Grade II. 160, 161, 162. Architectural Problems. A,W,S. (3 to 7 each quarter) Thomas. Pr., 158. 167-168. Materials and Their Uses. A,W. (2-2) Herrman. Properties and design possibilities of materials of construction. Thomas. 169. Specifications and Office Practice. S. (2) Specifications and all contract forms used by the profession; office organization and methods; ethics. Pr., 122 and senior standing. 180, 181, 182, 183. Principles of City Planning. A,W,S. (1 to 2 ea.) Lectures and seminars on history, theory, objects, and scope of city planning; planning technique, development of a comprehensive plan, zoning, sub-division control, site planning, administration, and legislation. To supplement work in City Planning Design courses. Pr., major in City Planning. 190, 191, 192, 193, 194. City Planning Design. A,W,S. (5,5,5,5,7) Problems in practical application of theory of city planning to design of towns, cities, and elements in community pattern, including housing groups, shopping centers, and recreational areas. Last quarter includes preparation of thesis material. Pr., major in City Planning.

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¹General criticism and supervision of all courses in Design, Grades I, II, III and Advanced Design, are given by Professor Harlan Thomas, director emeritus of the school.

Courses in Art

ART

Professors Isaacs, Patterson; Associate Professors Benson, Foote, Hill, Pratt; Assistant Professors Johnson, Penington; Associates Curtis, Hensley, Worman.

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

- 1, 2. Elementary Painting and Design. A.W. (5,5) ______. Introductory studio course for the general student rather than the major in art. Drawing, painting, and general design. Varied exercises with lectures.
- 5, 6, 7. Drawing. A,W, S. (3,3,3) Patterson, Hill, Hensley. Drawing with charcoal from casts and still life: perspective, introduction to painting, supplementary reading, lectures. Prerequisite for any subsequent course in drawing and painting.
- 9, 10, 11. Design. A,W,S. (3,3,3) Johnson, Penington, Hensley. Design developed through original problems, lectures, discussions, and supplementary reading. Prerequisite for any subsequent course in art.
- 12. Art History. W. (5) Survey of the main developments in painting and sculpture from prehistoric times through the Renaissance; illustrated with slides and colored reproductions.
- 15, 16. Laboratory Drawing. A,W. (3,3) Curtis. The technique of representation with pencil, carbon pencil, pen, and wash, for use in science or other work requiring accuracy and detail. Expression of the third dimension; drawing from the microscope.
- 20. Modern Sculpture. S. (2) Pratt. Illustrated lectures and demonstrations on the history and appreciation of sculpture.
- 32, 33. Drawing for Architects. A, W. (2,2) Drawing from cast ornaments. Creative compositions.
- 34. Sculpture for Architects. S. (2) Modeling from casts.
- 53, 54, 55. Design. A,W, S. (3,3,3) Johnson, Penington, —____. Design of simple objects stressing the limiting factors of use and manufacture. Discussions, lectures, and supplementary reading on industrial and commercial design. Pr., 5, 6, 7, 9, 10, 11.
- 56, 57, 58. Drawing and Painting. A,W, S. (3,3,3) Patterson, Hill, ______, Oil and water color painting from still life and casts, introduction to life and outdoor sketching, lectures and reading. Pr., 5, 6, 7.
- 62. Essentials of Interior Design. A. (2) Foote. Lectures on the functional and esthetic treatment of the interior. Illustrated with decorative objects and materials, textiles and lantern slides.
- 65, 66, 67. Drawing and Painting. A,W, S. (3,3,3) Patterson, Hill, ______. Continuation of 56, 57, 58, for majors in painting; outdoor sketching in oil and water color
- 72, 73, 74. Sculpture. A,W,S. (3,3,3) Pratt. Modeling from casts and from life. Composition; casting, carving, and metal techniques. Special problems in scientific, industrial, and architectural sculpture for qualified students.
- 80, 81, 82. Furniture Design. A,W, S. (3,3,3) Foote. Design, as it applies to furniture. Study of materials and construction. Working drawings, color-plates, and models executed. Pr., 5, 6, 7, 9, 10, 11. Art 83 to be taken with 82.

Pratt.

Hill

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Courses in Art

- 83. History of Furniture and Interior Styles. S. (2) Foote. Lectures illustrated with stereopticon slides on the history and development of furniture and its architectural backgrounds from the Renaissance to the present time. Research and special papers assigned.
- 100. Elementary Crafts. W. (2) Johnson. Problems adapted to secondary schools, service groups, and summer camps. Hand pup-pets, simple block-printing, and plastics. Open to non-majors with sophomore standing. Required for those majoring in public school art.
- 101. Elementary Interior Design. W. (2) Foote. Fundamental problems in interior design including floor and wall plans at scale, and color. For the general student and those wishing to teach art in the public schools. No prerequisite.
- 102. Applied Design. S. (2) Johnson. Book-making and book-binding. Open to any student having junior standing in art; required for those majoring in public school art.
- Ceramic Art. 103, A,W, S.; 104, W, S. (3,3) 103, 104. Worman. Fundamental clay processes and their application to form and surface treatment. Study of ceramic art in related industries. Composition of clays and glazes.
- 105. Lettering. A.S. (3) Benson. Design in letters and the composition of letters. Exercises in single stroke letters with pen and brush, and problems requiring filled letters. Pr., for art majors, 5, 6, 7, 9, 10, 11; for non-majors, permission.
- 106. Commercial Design. W. (3) Posters and other forms of art for advertising. Pr., 105.
- 107, 108, 109. Portrait Painting. A,W,S. (3) Pr., 56, 57, 58.
- 110, 111, 112. Interior Design. A,W, S. (5,5,5) Foote. Technical study of fundamentals of interior design. Includes scaled drawings of floor and wall plans, perspective, study of color, texture, and research in Early American styles. For the special student, general students by permission. Pr., 5, 6, 7, 9, 10, 11. Art 62 to be taken with 110.
- 115. Production Illustration. W. (15) Staff. Intensive course designed to meet the need for freehand draftsmen who are trained in modern manufacturing methods. For qualified students who will give full time for one quarter to the special field. Orthographic projection, perspective, light and shade, the reading of blue prints, freehand sketching, Pr., Consent.
- 116. Design for Industry. W. (3)

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- 122, 123, 124. Sculpture. A,W, S. (3,3,3) Continuation of prerequisite courses, 72, 73, and 74.
- 126. History of Modern Painting. A. (2) Isaacs. Painting since the Renaissance. Lectures illustrated with lantern slides and colored reproductions. Research and reports. Pr., sophomore standing.
- 129. Appreciation of Design. W. (2) Benson. Illustrated lectures on historic design in the minor arts. Reading and reports.
- 130. Advanced Ceramic Art. S. (3) Worman. Advanced problems in form. Clays for ceramic sculpture. Glazes and their application to tile and mosaic. Firing. Study of historic examples and modern tendencies. Pr., 104.

Pratt.

Benson.

Patterson.

132, 133, 134. Advanced Sculpture. A,W, S. (3,3,3) Pratt. Continuation of prerequisite courses, 122, 123, and 124. 136, 137, 138. Sculpture Composition. A,W, S. (3,3,3) Pratt. Imaginative design; problems met in professional practice. Pr., 72, 73, 74. 150, 151. Illustration. A,W. (5,5) Principles of composition applied to book illustration and to the making of prints. Pr., senior standing in art. 157, 158, 159. Design in Metal. W,S. (3,3,3) Penington. Design and construction of objects in copper, pewter, brass, silver, and gold. Emphasis on interrelationships of parts, unity of form and decoration, limitations of materials. Various processes including etching, enameling, stone setting. Supplementary study of old and contemporary examples. Pr., junior standing in art. 160, 161, 162. Life. A,W,S. (3,3,3) Isaacs, Patterson. Drawing and painting from the model. Class criticism of original compositions; anatomy. Pr., 56, 57, 58. 163, 164. Composition. W, S. (5,5) Isaacs. Development of individuality in painting through creative composition. Reading and reports from works on modern criticism. Pr., Life, 3 credits. 166. Design. S. (3) Benson. Experimental work in design with emphasis upon commercial application and techniques. Methods of graphic reproduction. Pr., 55. 169, 170, 171. Costume Design. A,W, S. (2,2,2) Benson. Costume design and illustration. Supplementary reading and reports. Pr., 5, 6, 9, 10, 11. 172, 173, 174. Advanced Interior Design. A,W, S. (5,5,5) Foote. Advanced problems in perspective, related to contemporary needs. Research in French styles. For the special student. Pr., 110, 111, 112; Arch. 1, 2, 3, 4, 5, 6, 7, 8, 9, or equivalent. 175, 176, 177. Advanced Painting. A,W, S. (3,3,3) Isaacs. Pr., 56, 57, 58. 179, 180, 181. Advanced Costume Design. A,W, S. (2,2,2) Benson. Pr., 169, 170, 171. 182, 183, 184. Oriental Art. A,W, S. (2,2,2) Savery. Historical and critical study of the development of the arts in India, China and Japan. Autumn, India; winter, China; spring, Japan. Suggested courses for commercial art: Art 5, 6, 7; 9, 10, 11; 105, 106, 116, 126; 129; 150, 151; 160, 161, 162, 166; 169, 170, 171; Jour. 130, 131. Courses for Graduates Only 207, 208, 209. Portrait Painting. 250, 251. Advanced Design. A.W. (3 or 5 each quarter)

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Isaaca.

Problems of graduate character. Pr., 150, 151.

- 260, 261, 262. Advanced Life Painting. A,W, S. (3 or 5 each quarter) Isaacs. An intensive course in painting from life.
- 263, 264. Composition. W, S. (3 or 5 each quarter)

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Courses in Art
ASTRONOMY

Associate Professor Jacobsen.

- 1. Astronomy. A,W,S. (5) **Tacobsen**. Fundamental concepts of astronomy, star finding, solar system, sidereal universe. Pr., two high school units of mathematics.
- 105. Practical Astronomy. A,W,S. (5) Jacobsen. Star identification, determination of latitude, longitude, time, precise use of nautical almanac, sextant work.

BACTERIOLOGY AND PATHOLOGY

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

- 100. Fundamentals of Bacteriology. A.S. (10) Ordal, Weiser. Fundamental factors involved in microbiology. Required of bacteriology majors. Pr., ten credits of botany or zoology and Chem. 132. Bacteriology and food technology majors only.
- 101. General Bacteriology. A,W,S. (5) Pr., Chem. 2 or 22.
- 102. Sanitary and Clinical Methods. W. (5) Weiser. Bacterial analysis of water, milk, and shellfish. Clinical laboratory procedures used for the diagnosis of disease. Pr., 100 or 101.
- 103. Public Hygiene. A, S. (5) Lectures only. Pr., junior standing.

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- 104. Serology. S. (5) Hoffstadt. Types of immunity; immunization of animals and man; study of immune products. Pr., 100 or 101, Chem. 132.
- 105. Infectious Diseases. A. (5) Hoffstadt. Study of pathogenic bacteria, and methods of diagnosis of infectious diseases. Students registering for the course are required to receive such diagnostic and prophylactic treatments for the purpose of avoiding accidental infection as shall be designated by the department of bacteriology from time to time. The department of bacteriology reserves the right, throughout the quarter in which the course is given, to exclude any student who, through gross carelessness or 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.
- 107. Principles of Control of Micro-organisms. W. (5) Pr., 100 or 101 and permission of instructor.
- 110. Fundamentals of Pathology. A. (5) Weiser. The study of the principles concerned in the gross and microscopic tissue changes occurring in disease. Pr., 100 or 101, Anat. 105.

Hoffstadt.

Weiser, Hoffstadt, Douglas.

Ordal.

- 111. Special Pathology. W. (5) Weiser. Gross and microscopic study of the tissues of various organs following special types of injury due to infectious and physical agents, obstructions, chemicals, and other known and unknown causes. Pr., 110.
- Special Pathology. S. (5) Weiser. 112 Study of the gross and microscopic pathology of diseases of endocrine, dietary, and neoplastic origin. Pr., 110.
- 120, 121, 122. Applied Bacteriology. A,W,S. (5,5,5) Duchow, Weiser. Work in media room, public health, private hospital, or industrial laboratories. Fifteen hours per week. Registration, and letter from director required. For bacteriology majors only. Pr., instructor's permission.
- 127. Review of Journals. W. (1) Pr., 100 or 101 and 105.
- 130, 131, 132. Industrial Bacteriology. A,W,S. (5,5,5) Ordal, Douglas. Microbiology of food preparation, industrial fermentations. Pr., 100 or 101 and per-mission of instructor.

Courses for Graduates Only

Ten undergraduate credits are prerequisites to all graduate courses.

- 201. Physiology of Bacteria. A. (5) Ordal, Douglas. Environmental factors influencing bacteria; bacterial metabolism and activities. Open to qualified students with permission of instructor.
- Filterable Viruses. W. (5) 202. Hoffstadt. Study of representative types of ultramicroscopic agents causing disease in man, lower animals, and plants. Open to qualified students with permission of instructor.
- Weiser. 203. Experimental Pathology. S. (5) Pathology of man and animals with emphasis on the current aspects of experimentation as related to the fundamental pathology of general and specific disease processes.
- 204, 205, 206. Advanced Bacteriology. A,W, S. (†)
- 207. Marine Bacteriology (Summer) (6) Ecology and biochemistry of marine bacteria.
- 209. Seminar. S. (No credit)
- 210, 211, 212. Research. A,W, S. (†) Open to qualified students after consultation.

BOTANY

Associate Professor Hitchcock; Professors Frye, Hotson, Rigg; Assistant Professor Hanley; Instructors Stunts, 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.

- Elementary Botany. A.W. (5) 1. Roman. Structure and functions of roots, stems, leaves, seeds. No botany prerequisite.
- 2. Elementary Botany. W. (5) Hitchcock. Structure and relationships of the major plant groups. Pr., 1 or one year high school botany.

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Hoffstadt.

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Staff.

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Courses in Botanv

- 3. Elementary Botany. S. (5) Hitchcock. The recognition of our local flora; training in plant identification. No botany prerequisite.
- 4. Plants and Civilization. W. (3) Stuntz. Origin, discovery of important plants used for food and clothing; their cultivation and improvement; their effect on civilization. No prerequisites.
- Survey of Botany. A.S. (5) Rigg. Outstanding generalizations concerning plants, especially those relating to human welfare. Students who expect to continue with botany should begin with 1 or 3. Three lectures, one quiz, one 2-hour lab. period or field trip.
- 8. Heredity. A. (3) Lectures and demonstrations on the principles of biological inheritance.
- 10, 11. Forestry Botany. A,W. (4,4) Hitchcock, Stuntz. Autumn-Structure and physiology of seed plants; Winter-Structure, reproduction and economic importance of lower plants. No prerequisites.
- 13, 14. Pharmacy Botany. A,W. (5,4) Rigg. Gross structure of vegetative and reproductive parts of seed plants, brief study of spore plants.
- 16. Economic Botany. A.S. (5) Structure of plants and their use by man for food, clothing, shelter.

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- 23. Plant Ecology. A. (5) Hanley. Consideration of the effects of environment on plant succession and survival; the factors which determine vegetation types throughout the world. Pr., 1 or equivalent.
- 24. Plant Propagation. W. (5) Hanley. Soils necessary for plants, their care, methods of potting, forcing, and general greenhouse practice. Pr., 1 or equivalent.
- 25. Plant Propagation. S. (5) Hanley. Germination of seeds; grafting, cuttings, budding, and other forms of propagation; general greenhouse practice. Pr., 1, or equivalent.
- 101. Ornamental Plants. S. (3) Hitchcock. Recognition of plants used in beautifying yards and parks. Pr., 5 credits in botany.
- 106, 107, 105. Morphology and Evolution. A,W, S. (5,5,5) Frye, Hitchcock. Detailed morpholgy and evolution of the plant kingdom. Required of all majors. Pr., one year high school botany or ten credits of botany, or Zool. 1 and 2.
- 108. Genetics. W. (5) Roman. Principles of heredity; their physical basis and application to plant breeding. Pr., 10 credits in biological science. Not open to students who have had Bot. 8.
- 111. Forest Pathology. W, S. (5) Recognition and treatment of common wood-destroying fungi. Pr., 11 or 105.
- 115. Yeasts and Molds. S. (5) Stuntz. Their classification, recognition, cultivation, and relation to the industries and to man. Pr., 15 credits in botany, bacteriology, or zoology.
- 119. Microtechnique. W. (5) Roman. Preparation of permanent slides for the compound microscope and the study of cells. Pr., 10 credits in botany.
- 122. Cyto-Genetics. S. (3, lectures only, or 5) Roman. Chromosome structure and mechanics; bearing on genetics, taxonomy and evolution. Pr., 15 credits in botany or zoology, including 108 or equivalent.

Roman.

Stuntz.

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Courses in Botany

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129. Plant Anatomy. S. (5) The cellular tissues of plants. Origin and development of the stele	Hitchcock.
131. Mosses. S. (5)	Frye.
*132. Algae. S. (5)	Frye.
134, 135. Taxonomy. A,W. (5,5) The flowering plants. Pr., 10 credits of botany, including 3 or equi	Hitchcock. ivalent.
140, 141, 142. General Fungi. A,W, S. (5,5,5) Morphology and classification of fungi as a basis for plant patholo botany.	Hotson, Stuntz. gy. Pr., 15 credits of
143, 144, 145. Plant Physiology. A,W,S. (5,5,5) Pr., 15 credits of botany and Chem. 22. Desirable prerequisites, Ch	Rigg. hem. 132, Phys. 2.
151. Range Plants. A, S. (3) The recognition and economic importance of forage plants of west Pr., 10 credits in botany.	Hitchcock. ern North America.
180, 181, 182. Plant Pathology. A,W, S. (5,5,5) Diseases of plants and the fungi which produce them. Pr., 142.	Hotson, Stuntz.
199. Proseminar. A,W, S. (1 to 15 each quarter) Semi-independent work by students. Open only on consultation with partment.	Staff. th the head of the do-
Teachers' Course in Botany. (See Educ. 75B.)	
Courses for Graduates Only	
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit.	Staff.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3)	Staff. Rigg.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst	Staff. Rigg. Phifer. tructor.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142.	Staff. Rigg. Phifer. tructor. Hotson, Stuntz.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter)	Staff. Rigg. Phifer. tructor. Hotson, Stuntz. Staff.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter) 250. Algae. S. (2 to 5) Pr., 30 credits of botany.	Staff. Rigg. Phifer. tructor. Hotson, Stuntz. Staff. Frye.
Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter) 250. Algae. S. (2 to 5) Pr., 30 credits of botany. 251. Bryophytes. S. (†)	Staff. Rigg. Phifer. Hotson, Stuntz. Staff. Frye. Frye.
 Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter) 250. Algae. S. (2 to 5) Pr., 30 credits of botany. 251. Bryophytes. S. (†) 279. Colloidal Biology. A,W, S. (5) Pr., 143, Chem. 132. Desirable pr., Chem. 141. 	Staff. Rigg. Phifer. tructor. Hotson, Stuntz. Staff. Frye. Frye. Rigg.
 Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter) 250. Algae. S. (2 to 5) Pr., 30 credits of botany. 251. Bryophytes. S. (†) 279. Colloidal Biology. A,W, S. (5) Pr., 143, Chem. 132. Desirable pr., Chem. 141. 280. Micrometabolism. A,W, S. (5) Pr., 107, 145. 	Staff. Rigg. Phifer. Hotson, Stuntz. Staff. Frye. Frye. Rigg. Rigg.
 Courses for Graduates Only 200. Seminar. A,W, S. (1/2) Only graduate students may obtain credit. 205, 206. Physiology of Marine Plants. A,W. (3,3) 210, 211. Phytoplankton. W, S. (3,3) Given at Friday Harbor laboratories by special arrangement with inst 220. Advanced Fungi. A,W, S. (2 to 5 each quarter) Pr., 142. 233. Research. A,W, S. (2 to 5 each quarter) 250. Algae. S. (2 to 5) Pr., 30 credits of botany. 251. Bryophytes. S. (†) 279. Colloidal Biology. A,W, S. (5) Pr., 143, Chem. 132. Desirable pr., Chem. 141. 280. Micrometabolism. A,W, S. (5) Pr., 107, 145. 281. Physiology of Fungi. A,W, S. (5) Pr., 142, 145, 280. 	Staff. Rigg. Phifer. Phifer. Hotson, Stuntz. Staff. Frye. Frye. Rigg. Rigg.

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* Not offered in 1943-1944. † To be arranged.

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Courses in Chemistry

CHEMISTRY AND CHEMICAL ENGINEERING

Professors Benson, Beuschlein, Dehn, Norris, Smith, Tartar, Thompson; Associate Professors Powell, Robinson; Assistant Professors Cady, Moulton, Sivertz; Instructors Haendler, Lingafelter; Associate Radford

Chemistry

- 1-2. General Inorganic Chemistry. A,W,S. (5-5) Powell, Cady, Sivertz. Open only to students not having had accredited high school chemistry. Three lectures, one recitation, and two 2-hour lab. periods.
- 8-9-10. General Chemistry and Qualitative Analysis. A,W, S. (5-5-5) Kelly. Pharmacy students only. The work in the spring quarter is qualitative analysis. Three lectures and two lab. periods.
- 21-22. General Inorganic Chemistry. A,W, S. (5-5)
 - Smith, Tartar, Sivertz, Cady, Haendler. Open only to students having accredited high-school chemistry. Three lectures, one recitation, and two 2-hour lab. periods.
- 23. Elementary Qualitative Analysis. A,W, S. (5) Smith, Sivertz, Haendler. Three lectures, one recitation, and two 2-hour lab. periods. Pr., 2 or 22, or equivalent.
- 24-25. General Chemistry. A,W. (4-4) Cady. For engineering students having accredited high school chemistry. Two lectures, one recitation, and one lab. period.
- General Chemistry. A, S. (4) Cady. Continuation of 24-25. Two lectures, one recitation, and one lab. period. Pr., 2 or 23, or 25, or equivalent.
- 37-38-39. Organic Pharmaceutical Chemistry. A,W, S. (5-5-5) Johnson. Chemistry of the compounds of carbon with special study of organic chemicals used in pharmacy and medicine. Pharmacy students only. Three lectures and two laboratory periods. Pr., 10 or equivalent.
- *55. Forest Products.
- *56. Forest Soils.
- 101. Advanced Qualitative Analysis. A, S. (5) Thompson, Robinson. Two lectures and three lab. periods. Pr., 23 or equivalent.
- 104. Food Chemistry. S. (4) Norris. Methods of analysis of various foods are studied for detection of adulteration. Pr., 111 and 132, or equivalent.
- 109. Quantitative Analysis. A,W. (5) Thompson, Robinson. Gravimetric analysis. Two lectures and three lab. periods. Pr., 23 or equivalent.
- 110. Quantitative Analysis. W, S. (5) Thompson, Robinson. Volumetric analysis. Two lectures and three laboratory periods. Pr., 109.
- 111. Quantitative Analysis. A, W, S. (5) Thompson. Gravimetric and volumetric methods for students not majoring in chemistry. Two lectures and three lab. periods. Pr., 23.
- 131, 132. Organic Chemistry. A,W, S. (5,5,5) Dehn, Powell. Three lectures and two laboratory periods. Repeated winter, spring. Pr., 22 or equivalent.
- 133. Organic Chemistry. S. (5) Three lectures and two laboratory periods. Pr., 132.

* Not offered in 1943-1944.

Powell.

- Powell. 134. Qualitative Organic Analysis. S. (2) The identification of pure organic compounds. Two 3-hour laboratory periods. Pr., Chem. 132.
- 135-136. Organic Chemistry. A, W. (4-4) Powell. For home economics students. Three lectures and one lab. period. Pr., 2 or 22.
- 137. Organic Chemistry. A, S. (5) For students in nursing. Four lectures and one lab. period. Pr., 2 or 22.
- 140-141. Elementary Physical Chemistry. W, S. (3-3) Sivertz. Fundamental principles and theories of chemistry for pre-medical and science students and chemistry majors in the elective curriculum. Two lectures and one laboratory period. Pr., 111 or equivalent, and 10 credits of physics.
- 144. Biological Chemistry. S. (5) Norris. For home economics students. Three lectures and two lab. periods. Pr., 136 or equivalent.
- 150. Undergraduate Thesis. A,W,S. (2 to 5) Staff. Investigation of special topics suggested by the staff. Pr., senior standing in chemistry.
- 155. Oceanographical Chemistry. S. (3) Thompson. Methods of analysis and the general physical and chemical properties of sea water and sea products. Three lectures. Pr., 111, 132, or equivalent.
- 156. Oceanographical Chemistry. S. (3) Thompson, Robinson. Laboratory methods. Taken simultaneously with 155. Three lab. periods.
- 161-162. Biological Chemistry. A,W. (5-5) Norris. For students in medicine, biology, bacteriology, and nutrition. Three lectures and two lab. periods. Pr., 111 and 131, or equivalent.
- 163. Biological Chemistry. S. (3) Norris. Methods of biochemical analysis and of metabolism. One lecture and two lab. periods. Pr., 162.
- 166. Biochemical Preparations. A,W,S. (2 to 3) Norris. Preparations of special substances involving biochemical methods. Pr., 162.
- 181, 182, 183. Physical and Theoretical Chemistry. A,W, S. (5,5,5) Tartar, Sivertz. Fundamental principles and theories of chemistry accompanied by physico-chemical measurements. Three lectures and two lab. periods. Pr., 15 credits college physics, Chem.
- 190, 191. History of Chemistry. W, S. (2,2) Cadv. Lectures and assigned readings. Pr., 132, 181 (or may be taken concurrently with 140).

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

111, and differential and integral calculus.

Chemical Engineering

- Industrial Chemical Calculations. A,W. 51. (2) Moulton. Application of chemical units and laws in industrial calculations as applied to combustion processes. Two lectures. Pr., 23 or 26, Math. 33, or equivalents.
- 52. Industrial Chemical Calculations. W, S. (2) Moulton. Material and heat balances over combustion furnaces and gas producers. Two lectures. Pr., 51.
- 53. Industrial Chemical Calculations. A, S. (2) Moulton. Calculations for lime and cement kilns, sulfur compounds, crystallization processes. Two lectures. Pr., 52.

Powell.

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- 74. Elementary Electrochemistry. A. (2) Fundamental principles and theory of electrochemistry. Two lectures. Not open to chemists and chemical engineers. Pr., 26, Phys. 98.
- 121. Chemistry of Engineering Materials. A. (5) Benson, Moulton. Chemistry and technical analysis of important engineering materials. Three lectures and two laboratory periods. Pr., 111.
- 122. Inorganic Chemical Industries. W. (5) Benson, Moulton. Development and control of inorganic unit processes. Three lectures and two lab. periods. Pr., 111.
- 123. Organic Chemical Industries. S. (5) Benson, Moulton. Development and control of organic unit processes. Three lectures and two lab. periods. Pr., 111.
- 152. Advanced Chemical Calculations. S. (3) Moulton. Mathematical study of chemical operations with solutions of typical engineering problems. Three lectures. Pr., Math. 41 or equivalent.

- 172. Unit Operations. W. (5) Beuschlein, ——... Unit operations of distillation, adsorption, and extraction. Three lectures, two lab. periods. Pr., 171.
- 173. Unit Operations. S. (3) Beuschlein. Unit operations of evaporation, mechanical separation, crushing and grinding, and crystallization. Three lectures. Pr., 172.
- 174. Chemical Engineering Calculations. S. (3) Applications of thermodynamics in chemical engineering unit operations and processes. Pr., 182.
- 175. Industrial Electrochemistry. W. (3) Moulton. Industrial applications of electrochemistry, solutions and electric furnace applications. Three lectures. Pr., 181 for chemista and chemical engineers; 74 for others.
- 176, 177, 178. Chemical Engineering Thesis. A,W,S. (1 to 5 each quarter) Benson, Beuschlein, Moulton.

An assigned problem is investigated as a research project, and a thesis written.

179. Research in Electrochemistry. W, S. (2 to 5) Staff. Research in electrochemistry under various staff members, or reports on selected topics. Pr., permission of instructor.

Courses for Graduates Only

- 200. Departmental Seminar. A,W. (No credit.) Staff. Required of all graduate students during residence. Assigned readings and reports on the chemical literature.
- *201, 202, 203. Advanced Theoretical and Physical Chemistry. (Offered every other year alternating with 204, 215, 216.)

* Not offered in 1943-1944.

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- 204. Chemistry of Colloids. A. (3) Tartar. Fundamental properties of substances in the colloidal state. Surface phenomena such as surface tension and absorption. Pr., 182 or equivalent. Three lectures. Offered every other year, alternating with 201, 202, 203.
- 205. Advanced Inorganic Preparations. A. (2) Haendler. Literature, method, and technique of preparation of pure inorganic compounds. One conference and two laboratory periods.
- 206. Organo-metallic Compounds. W. (2) Haendler. The descriptive and practical chemistry of organo-metallic compounds. One conference and two laboratory periods.
- 207. Coordination Compounds. S. (2) Haendler. The preparation and application of typical coordination compounds. One lecture and two laboratory periods. Course 223 suggested as accompanying course.

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- 208, 209, 210. Advanced Quantitative Analysis. A,W, S. (2,2,2) Thompson. Theoretical principles of analytical chemistry. Two lectures. Pr., 111 and 182, or equivalent.
- 211, 212. Advanced Organic Preparations. W,S. (2,2) Powell. Preparation of special substances involving representative laboratory methods. Either quarter may be taken independently.
- 213. Thermodynamics. A. (4) Lingafelter. Fundamentals of thermodynamics applied to chemical problems. Offered every other year, alternating with 214. Pr., 182.
- *214. The Phase Rule. A. (3)
- 215, 216. Advanced Theoretical and Physical Chemistry. W,S. (3,3) Tartar. Pr., Chem. 182 or equivalent. Three lectures. Offered every other year, alternating with 201, 202, 203.
- 218, 219, 220. Selected Topics in Industrial Chemistry. A,W, S. (2,2,2) Benson. Application of fundamental chemical and economic principles to typical industries. Two lectures. Pr., graduate standing in chemistry or chemical engineering.
- 221, 222, 223. Advanced Inorganic Chemistry. A,W, S. (3,3,3) Smith. Autumn and winter quarters a systematic study is made of the chemistry of all the elements, radioactivity, and atomic structure. Spring quarter is devoted to the chemistry of the coordination compounds.
- 224. Chemistry of Nutrition. A. (3) Norris. Enzyme and chemical reactions involved in digestion and metabolism. Two lectures and one lab. period. Pr., 162.
- 225. Problems in Analytical Chemistry. A,W, S. (2 to 6) Thompson. Mainly laboratory work with occasional conferences. Pr., 182.
- 226. Micro-Quantitative Analysis. A. (3) Robinson. Principles and technique of micro-quantitative analysis. One lecture and two lab. periods. Pr., 111, 132, or equivalent.
- 227. General Chemical Microscopy. W. (3) Robinson. Theory of the polarizing microscope and its application to chemistry. One lecture and two lab. periods. Pr., 141 or 182.
- 228. Micro-Qualitative Analysis. S. (3) Robinson. Identification of ions by means of optical properties of their crystals. Pr., 101, 227, or equivalent.
- 231, 232, 233. Advanced Organic Chemistry. A,W, S. (3,3,3) Special fields of organic chemistry. Three lectures. Pr., 132 or equivalent.

* Not offered in 1943-1944.

*236. Advanced Physical Chemical Laboratory.

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241, 242, 243. Advanced Unit Operations. A,W,S. (3,3,3) Beuschlein. Heat transfer. Fluid flow. Mechanical separations. Offered every other year alternating with 244, 245, 246. Three lectures. Pr., 173.

*244, 245, 246. Advanced Unit Operations. Evaporation and drying. Distillation. Absorption and extraction. Offered every other year alternating with 241, 242, 243. Three lectures. Pr., 173.

- 249. Graduate Seminar. A,W, S. (†) Staff. Assigned readings and reports dealing with special topics. Offered as desired by members of the different divisions of the department.
- 250. Research. †. (†) Staff.
 (1) Special investigations by advanced students under direction of members of the staff;
 (2) research for the master's degree, maximum, nine credits;
 (3) research for the doctor's degree under direction of any member of the senior staff of the department, maximum, 45 credits.

CIVIL ENGINEERING

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

LOWER DIVISION COURSES

- 56. Forest Surveying. S. (8) Chittenden Comprehensive course in plane surveying with special emphasis on forest mapping, the use of steel tape, compass, clinometer, level, transit and plane table. Pack Forest.
- 57. Transportation Surveying. A. (4) Hawthorn, Chittenden, Collier. Curves and earthwork. Complete survey notes and map for highway or railway grading project. Pr., G.E. 21.
- 58. Transportation Engineering. W. (4) Hawthorn, Chittenden, Collier. Highway-railway grades, automobile and locomotive performance; superelevation and widening of curves; sight distances; legal descriptions. Profile, mass diagram, and estimates.
- 59. Advanced Surveying. S. (4; mines students, 3) Hawthorn, Collier, Hennes. Base-line measurement; triangulation; precise leveling; determination of azimuth, latitude, and time; plane table. One section for mines students only. Pr., G.E. 21.
- 91. Mechanics. A,W, S. (3) Smith, Brown, Sergev, Farquharson, Rhodes. Fundamental principles of mechanics for students not in civil engineering. Kinetics, kinematics. Pr., G.E. 12, Math. 33, Phys. 97.
- 92. Mechanics. A,W, S. (3) Farquharson, Smith, Sergev, Chittenden, Rhodes. Mechanics of materials for students not in civil engineering. Analysis and application of fundamentals to elementary structural design. Pr., 91.
- 95. Mechanics. A,W. (3) Miller, Rhodes, Farquharson. For students in civil engineering. Fundamentals of static and dynamic equilibrium. Kinematics. Pr., Math. 33, G.E. 12, preceded by or concurrent with Phys. 97.

^{*} Not offered in 1943-1944.

[†] To be arranged.

96. Mechanics. S. (3) Miller, Rhodes, Farquharson. For students in civil engineering. Mechanics of materials. Fundamentals of structural mechanics. Pr., 95.

UPPER DIVISION FIELDS AND COURSES

- *109. Engineering Relations.
- 116, 117, 118. Structural Engineering for Architects. A,W,S. (4,4,4) Sergev. Theory and principles of structural design; 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.

Transportation Engineering

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- 121. Roads and Pavements. S. (3) Location, construction, and maintenance of roads and pavements. Materials and accessories. Pr., 58.
- 123. Highway and Railway Economics. A. (3) Hawthorn. Economics of highway and railway location, construction, and operation. Pr., 121.
- 124. Highway Design. S. (3) Selection and design of pavements. Pavement subgrades and embankments. Roadway and intersection design. Pr., 121.
- 125. Principles of Transportation Engineering. S. (3) Hawthorn. Principles involved in planning highway, railway, air, and water transportation. Development of the master plan. Pr., senior or graduate standing; not open to Civil Engineering students.
- 128. Transportation Administration. W. (3) Hawthorn. Highway and railway organization and finance. Administrative problems. Sampling and testing of highway materials. Pr., 121.

Highway and Sanitary Engineering

- 141. Dynamics of Fluids. A. (4) Conservation of energy and loss of energy in fluid motion. Application of principles of Torricelli, Bernoulli, and Borda. Pr., 91.
- 142. Hydraulics. A,W, S. (5) Harris, Moritz, Wilcox, Hennes, Tyler. 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.
- 143. Hydraulic Engineering. W, S. (5) Van Horn, Moritz. Complete projects presenting hydraulic engineering; hydrometric methods; economic design of pipes and spillways. Pr., 142.
- 145. Hydraulic Machinery. A,W. (3) Development and theory of water wheels and turbine pumps; design of a reaction turbine; hydrostatic machinery and dredging equipment. Pr., 142.
- 147. Hydraulic Power. S. (3) Investigation of power development; generation of power; penstocks and turbines; types of installation. Pr., 143 and/or 142; senior standing.

^{*} Not offered in 1943-1944.

Courses in Civil Engineering

- 150. Sanitary Engineering and Public Health. S. (3) Van Horn. Relation of biology, bacteriology and chemistry to water supply, sewage, and public health problems. Pr., Chem. 22-25 and junior standing.
- 151. Sanitation and Plumbing. W. (2) For architects.
- 152. Municipal Engineering. S. (3) Tyler. For students in City Planning. Location, design, and construction of city streets; traffic and transportation. Municipal sanitation. Pr., junior standing. Not open to Civil Engineering students.
- Principles of Regional Planning. W. (3) Tyler. 153. Principles governing the planning of land use, development of natural resources and problems of land settlement, as pertaining to county, state, regional, or national planning. Pr., senior or graduate standing.
- 154. Sanitary Designs. S. (3) Tyler. Design of sewers, sewage-disposal plants, and water-purification plants. Pr., 155, 158.
- 155. Water Supply Problems. A. (3) Tyler. Design, cost estimation, construction, operation, and maintenance of water supplies, distribution systems, and purification plants. Pr., 142, 150.
- 157. Reclamation. A. (3) Van Horn. Elements of the reclamation of land by drainage and irrigation engineering. Soil conservation. Pr., 143 and senior standing.
- 158. Sewerage and Sewage Treatment. A, W. (3) Tyler. Design and operation of sewage systems and disposal plants. Refuse collection and disposal. Pr., 142, 150.

Engineering Materials

- 162. Materials of Construction. W, S. (3) Collier. Smith. Investigation of strength and physical characteristics of Portland cement and concrete. Designing concrete mixtures. Pr., 96.
- 163. Materials of Construction. W,S. (3) Smith, Collier. Strength and physical characteristics of timber and steel. Pr., 96.
- 166. Soil Mechanics. A.S. (3) Hennes. Settlement and bearing capacity of foundations; stability of earth slopes. A study of consolidation, stability and stress distribution in the subsoil. Seniors and graduates only.
- 167. Soil Mechanics. W. (3) Hennes. 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.

Structural Analysis and Design

- 171, 172, 173. Structural Analysis. A,W,S. (3,3,3) Miller, Rhodes, Farquharson. Theory of structural mechanics. Mechanics of materials with special consideration of reinforced concrete, steel, and timber. Pr., 96 (or 92); 172 pr. to 173.
- More, Miller. 175, 176, 177. Structural Design. A,W,S. (4,4,3) Application of the theory of structures and mechanics of materials to the design of reinforced concrete, steel, and timber members and connections. Pr., 173.

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Courses in Civil Engineering, Greek

181, 182. Advanced Structures. A,W. (3,3) More. Stresses and deflections in structures and structural members; particular reference to statically indeterminate cases. Seniors and graduates in civil engineering. Pr., 173.

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183. Advanced Structures. S. (4) Statically indeterminate trusses. Seniors and graduates. Pr., 182.

Special Senior and Graduate Courses

- **191, 193, 195. Advanced Professional Design and/or Analysis. A,W, S. (2 to 5 each quarter) Staff.
 **192, 194, 196. Research. A,W, S. (3 to 6 each quarter) Staff. Special investigations by seniors or advanced students under the direction of members of the staff.
 198. Thesis. A,W, S. (3 to 6) Staff. *Courses for Graduates Only*
- **210, 212, 214. Research. A,W, S. (2 to 5 each quarter)
 Staff.

 **220, 222, 224. Seminar. A,W, S. (2 to 5 each quarter)
 Staff.

CLASSICAL LANGUAGES AND LITERATURE

Professors Densmore, Thompson, Stone; Associate Professor Read

L Greek

1-2	2, 3. Elementary Greek. A,W, S. (5-5,5)	Densmore.
4,	5. Socrates. A,W. (3,3) Study of the life and personality of the philosopher, based on Plato, X phanes. Should be accompanied if possible by 8 and 9. Pr., 3.	Read. Senophon, Aristo-
6.	The World of Homer. S. (3) Readings from the story of Achilles. Pr., 5.	Densmore.
7.	New Testament Greek. S. (3) Will be given instead of 6 if the class elects it.	Densmore.
8,	9. Grammar and Composition. A,W. (2,2) Pr., 3.	Read.
51.	Greek Authors. A,W,S. (No credit.) Two hours weekly. Practice at sight-reading from a wide range of au permission.	Densmore. thors. Pr., 5 or
101.	The Persian War Period. A. (3) Readings in Herodotus and Plutarch. Pr., 5.	Read.

102. Pericles and the Peloponnesian War. W. (3)Read.Aristotle, Thucydides, Xenophon, and Plutarch. Pr., 5.

^{**}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 in Greek. Latin

- 103. Periods of Theban and Macedonian Supremacy. S. (3) Read. Plutarch, Demosthenes, and Arrian. Pr., 5.
- *104. Drama.
- *105. Drama.
- *106. Lyric Poetry.
- 122. Grammar and Composition. A. (3) Pr., 9 or equivalent.
- 151, 152. Plato. A,W. (3 to 5 each quarter) Densmore. The Phaedo, Symposium, and extensive readings in the second half of the Republic. Pr., 103.
- 153. Plato. S. (3 to 5) Densmore. Selections from the Parmenides, Theaetetus, Sophist, Timaeus, Pr., 152.
- 191, 192, 193. Literary Criticism and Sophocles. A,W,S. (3-5) Densmore. Textual criticism. Aristotle and other ancient critics. Independent critical study of one play. Pr., Greek 106. A reading knowledge of Latin required.

Courses for Graduates Only

- 201. Greek Philosophers. A. (3 to 5) The Pre-Socratics.
- *202. Greek Philosophers.
- *211, 212. Hellenistic Literature.
- *221, 222, 223. Epigraphy.
- 231. Research in Special Authors. A,W, S. (3 to 5) For 1943-1944, Anthology.

II. Latin

- 1-2, 3. Elementary Latin and Caesar. A.W. S. (5-5,5) Read.
- 4, 5, 6. Cicero and Ovid. A,W,S. (5,5,5) Thomson. Pr., two years high school Latin or Latin 1-2, 3 in university. Qualifies a student for Latin 21. Review of grammar and syntax.

NOTE: To enter Latin 21 to 25, the student should be thoroughly familiar with the declensions and conjugations and with the normal phenomena of Latin syntax to be found in Caesar, Cicero, and Virgil. An adaptation of the content of courses 21 to 25 will be made to fit the needs of the individual student. For the Teaching Recommendation see page 96.

- Cicero: De Senectute. A. (5) 21. Staff. With exercises in grammar and composition. Pr., three and one-half years high school Latin.
- *22. Catullus.

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- 23. Virgil: Georgics and Bucolics. S. (5)
- *24. Sallust: Jugurtha.
- 25. Ovid: Metamorphoses. W. (5)

* Not offered in 1943-1944.

Read.

Densmore.

Densmore.

Staff.

Staff.

Courses in Latin

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100.	Livy. A. (5) One book and selections from other books. Pr., 21, 23, 25, or special permission.	Read.
101.	Horace. W. (5) Selections from the complete works. Pr., as for 100.	Stone.
* 102.	Tacitus: Germania and Agricola.	
* 103.	Plautus and Terence.	
104.	Martial: Epigrams. S. (5) Pr., as for 100.	Stone.
106.	Syntax and Prose Composition. W. (3) Pr., 100 or equivalent.	Stone.
*107.	Cicero's Letters.	
*109.	Pliny's Letters.	
* 140.	Relations of Latin to English and the Romanic Languages.	
152.	Quintilian: Book X and Horace: Arts Poetica. A. (3) The Pr., 100, 101.	omson.
153.	Augustine: Confessions. W. (3)	Read.
154.	Lucretius. S. (3) Pr., as for 152.	Read.
* 156.	Horace: Satires and Epistles.	
* 157.	Cicero: In Verrem.	
160, 1	61, 162. Major Conference. A,W, S. (1,1,1) Discussion with members of the staff of various features of Greek and Roman literature not specifically dealt with in other courses. Required of all majors.	Staff. life and
* 165.	Cicero: De Finibus.	
* 166.	Survey of Latin Satire.	
Teach	ers' Course in Latin. (See Educ. 75P.)	
	Courses for Graduates Only	
204.	Tacitus: Histories. W. (3)	Read.
* 207.	Seneca: Moral Essays.	
* 211.	Latin Novel.	
214.	Suetonius: Augustus. A. (3) Th	omson.
*216 .	Christian Latin.	
* 218.	Cicero: De Natura Deorum.	
220.	Latin Elegy. S. (3)	Read.
285, 1	**286. Vulgar Latin. W. (3) Pr., completion of work in Latin and at least one Romance language, satisfactory to tor.	Stone.
287 , *	**288. Medieval Latin. S. (3) Pr., same as for 285.	Stone.

* Not offered in 1943-1944. ** Will be offered if a sufficient number of students elect the course.

III. Courses in Classical Antiquities, Given in English

Greek

*11. Greek Civilization.

13. Greek Literature. S. (5) The masterpieces in English translation. Knowledge of Greek not required.

*17. Greek and Roman Art.

- 18. Greek and Roman Mythology. W. (3) Read. Study of the principal myths of Greece and Rome.
- 111. Greek Civilization. A,W,S. (5) Research for advanced students. Pr., permission.

Latin

11. Roman Civilization. W. (5) Stone. Brief review of Roman history, together with a study of the private life of the Romans and their contribution to modern civilization. Knowledge of Latin not required.

*13. Roman Literature.

DRAMA

- Professor Hughes; Assistant Professor Conway; Instructors Ferrall, Harrington; Acting Associate Hardman; Theatre Assistants Bell, Colle, Davis
 - 1, 2, 3. Introduction to the Theatre. A,W, S. (2, 2, 2) Hughes. Significant aspects of the modern theatre. Orientation course primarily for students expecting to major or minor in drama. Lectures and required reading.
 - 46, 47, 48. Theatre Speech. A,W,S. (3,3,3) Ferrall in charge. To prepare the speech of students for desirable usage in the theatre.
 - 51, 52, 53. Acting. A,W,S. (3,3,3) Harrington, Ferrall. Theory and practice. Includes pantomine, improvisation, and characterization. Pr., 46, 47. 48.
- Scene Construction. A,W,S. (3) Hardman. 103. Principles and actual construction of stage scenery and properties. One hour lecture, four hours lab.
- 104. Scene Design. A,W, S. (3) Conway. Theory and practice. One hour lecture, four hours lab. Pr., 103.
- 105. Theatrical Costume Design and Construction. A, W, S. (3) Conway, Colle. Theory and practice. One hour lecture, four hours lab.
- 106. Make-up. A,W,S. (3) Principles and practice. One hour lecture, four hours lab.

* Not offered in 1943-1944.

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Read.

Densmore.

Conway.

Courses in Drama

- 107, 108, 109. Puppetry. A,W, S. (2,2,2) Davis. Practical course in educational and professional puppetry. History and principles of the marionette theatre. Design, construction, costuming, stringing, and manipulation of puppets. Portable puppet stage construction. With permission of department, this course may be repeated for credit.
- 111, 112, 113. Playwriting. A,W, S. (3, 3, 3) Advanced course for those who wish to write professionally for the stage. Course may be substituted for required courses in Drama with consent of department. Pr., one quarter of English 74, 75, 76, or permission of instructor.
- Stage Lighting. A,W,S. (3) 114. Hardman. A survey course, non-technical in character. Practical methods of lighting in play production.
- 115. Advanced Stage Lighting. W.S. (3)
- 117, 118, 119. Advanced Theatre Workshop. A,W, S. (2,2,2,) Staff. Pr., one of: 103, 104, 105, or 115 or permission. Four hours laboratory.
- 121, 122, 123. Advanced Acting. A,W, S. (3,3,3) Harrington, Ferrall. Emphasis on group acting. Styles in acting: tragedy, comedy; period, modern. Members of class given first consideration for parts in public productions. Pr., 51, 52, 53.
- 127, 128, 129. History of the Theatre. A,W, S. (2, 2, 2) Conway. Origin and evolution of theatre art in the Orient, Europe, and America. The physical playhouse, methods of production, great actors, stage machinery, scenery, lighting, costumes, and masks.
- 141, 142, 143. Radio Acting and Production. A,W, S. (2, 2, 2) Bell. Technique of radio acting and methods of dramatic production for radio. Actual broadcasting experience. Pr., two quarters of acting.
- 144, 145, 146. Radio Writing. A,W, S. (3, 3, 3) Beil Principles of dramatic composition for radio with experimental production of scripts under actual broadcasting conditions. Pr., two quarters of advanced English composition or one quarter of playwriting.
- 151, 152, 153. Representative Plays. A,W, S. (3, 3, 3) Hughes. Origin and development of the drama in the Orient, Europe, and America. Representative plays of great playwrights of all important periods. Theories of the drama.
- 181, 182, 183. Directing. A,W, S. (2,2,2) Harrington. Theory and practice of play directing. Pr., 51, 52, 53, 121, 122.
- 197. Theatre Organization and Management. S. (2) Hughes. Practical course for theatre directors. Theatre personnel, box-office methods, advertising, production costs, royalties, executive policies. Pr., senior or graduate standing.

Courses for Graduates Only

- 210, 211, 212. Research in Drama. A.W.S. (5.5.5) Hughes. Pr., permission of the instructor.
- 240, 241, 242. Thesis Research. A,W,S. (†) Hughes. Student should not enroll for this course until he has chosen a thesis subject.

For other courses in Drama, see English 154, 170, 171, 172, 217, 218, 219.

† To be arranged.

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Hardman.

ECONOMICS AND BUSINESS

Professors Preston, Burd, Cox, Dakan, Demmery, Engle, Farwell, Gregory, Hall, Mossey, Mund, Skinner, Smith; Professor Emeritus McMahon; Associate Pro-fessors Brown, Butterbaugh, Huber, Lorig, Mackenzie, Miller, Wheeler; Assistant Professors Bartels, Chertkov, Gifford, Kerr, Lockling, Mike-sell; Lecturers Buechel, Draper, Hamack, McConahey, Truax; Instructors Fordon, Sheldon; Associates Droker, Furer, Goehring, Oseran, Sutermeister, Walker.

E.B. 1-2 are required for majors in economics and business and should also be taken by students who plan to devote two courses to economics. Students who take but one course in economics must choose E.B. 4, Survey of Economics and Business. All advanced courses have at least one specified intermediate course or equivalent as a prerequisite. The following courses are open only to professional majors in the College of Economics and Business, except by permission of the dean of the college and the instructor concerned: 123, 126, 127, 132, 143, 144, 145, 146, 147, 148, 149, 152, 153, 154, 155, 156, 157, 158, 170, 193.

Lower Division Courses

1-2. Principles of Economics. A,W,S. (5-5)

Buechel, Cox, Mund, Smith, Wheeler. Planned to give a general understanding of the organization of our economic life and the fundamental principles underlying it. Special attention given to problems of war economy and post-war stabilization.

- 3. General Economics. A.W.S. (3) Cox. Demmery. Butterbaugh. Condensation of E.B. 1-2; abbreviated for students in chemistry, pharmacy, forestry, and engineering. Others should elect E.B. 4 if only 5 credits are desired, E.B. 1-2 if 10 or more credits in economics is planned. Pr., sophomore standing.
- 4. Survey of Economics. A,W,S. (5) Mikesell, Buechel. 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. Students who desire more than one course in economics should begin with E.B. 1-2.
- 5. Wartime Economic Problems. S. (5) Buechel. Mobilization of nation's resources for total war. Price control, rationing, man power, labor relations, war finance, federal debt. Monetary problems and inflation. (Not open to stu-dents in the College of Economics and Business or to Economics majors in the College of Arts and Sciences.

Economic Geography. (See Geography 7.)

- 16-17-18. Secretarial Training. A,W, S. (3-3-3) Hamack. Designed to standardize skills in shorthand and typewriting and other secretarial subjects. Three hours lecture, five hours laboratory.
- 19. Office Machines W. (5) Laboratory instruction and practice in the operation of selected office machines, calculators, duplicating machines, filing equipment and devices. No prerequisite.
- 30. Retailing I. S. (5) Practical salesmanship, store arithmetic, sales routine duties, store system. No prerequisite.
- 54. Business Law. A,W, S. (5) Fundamentals of law which bear most closely upon ordinary business transactions. 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 inter-relationships. Pr., sophomore standing.
- 55. Business Law. A,W, S. (5) Brown, Chertkov. Continuation of 54. Negotiable instruments, bailments, sales of personal property, credit transactions, and business associations. Pr., 54.

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Brown, Chertkov.

- 57. Business Law. A.S. (3) Brown, Chertkov. For engineering students or others unable to devote more than three credits to study of business law. May not be substituted for 54. Does not carry credit for students in economics and business. Pr., sophomore standing and English requirement of respective college.
- 60. Statistical Analysis. A,W,S. (5) Butterbaugh. A non-mathematical survey course in statistics with emphasis on the scientific approach to business problems and an undertanding of the elementary measures and methods of the adjustment and presentation of statistical data. Pr., 1-2.
- 62. Principles of Accounting. A,W, S. (5) Mackenzie, Lorig. Study of fundamental theory. Objectives of financial and operating statements analyzed. Four hours a week in accounting laboratory. Three lectures. Pr., sophomore standing.
- Lorig. 63. Principles of Accounting. A,W,S. (5) More specialized problems in general theory, practice, and analysis. Four hours a week in accounting laboratory. Three lectures. Pr., 62.
- Introduction to Insurance. A. (5) 88. Study of the principles and uses of insurance in general. Pr., 1-2.

Intermediate Courses

- Scientific Management. A,W,S. (5) 101. Mackenzie. The internal organization of the business enterprise and topics related thereto-types of internal organization, standards (budgets, motion, and time study), methods of obtaining cooperation (incentives, labor management cooperation), planning, etc. Pr., 1-2.
- 103. Money and Banking. A,W,S. (5) Dakan, Preston, Mikesell. 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. A.W.S. (5) Farwell, Gifford. General survey of the elements of transportation and communication. Pr., 1-2.
- 105. Economics of Labor. A,W, S. (5) Kerr. 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.
- 106. Economics of Marketing and Advertising. A,W,S. (5) Miller. Development of economic principles; market processes and systems; the middlemen and their functions. Pr., 1-2.
- 107. World Economic Policies. A, S. (5) Skinner. Economic and commercial relations of nations; commercial treaties, tariff systems and administration. Pr., 1-2.
- Risk and Risk Bearing. W. (5) 108. Smith. The risk factor in its economic and social consequences; ways of meeting risk. Pr., 1-2.
- Principles of Real Estate I. A,W. (5) 109. Demmery. Economic principles underlying the utilization of land; determining factors for the location and development of residential, commercial, industrial, and financial districts; public con-'trol. Pr., 1-2.
- Accounting Analysis and Control. A,W,S. (5) Walker, Gregory, Lorig. 110. Form, content, and interpretation of the balance sheet, the profit and loss statement, and certain analytical statements. Principles of valuation and their application to individual accounting categories. Pr., 63.
- Advanced Theory of Accounts I. A,W,S. (5) 111. Draper. Application of accounting theory to business problems; advanced partnership and corpo-ration problems; receiverships; annuities; consignments. Pr., 110.
- Advanced Theory of Accounts II. A,W,S. (5) 112. Draper. Continuation of 111. Mergers and consolidations; consolidated balance sheets and profit and loss statements; accounting for securities. Pr., 111.

Smith.

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*113. Accounting for Teachers of Secondary Schools.

- 115. Business Correspondence. A.W.S. (5) Goehring. Analysis of principles, including psychological factors. Study of actual business letters in terms of these fundamentals. Pr., English 1 and junior standing.
- 116. Office Appliances. A. (5) Hamack. Study and demonstration of important business machines; uses to which put; economics secured; costs; practical application to secondary school instruction. Pr., E.B. 18 and consent of instructor. Not open to students who have had E.B. 19.
- Secretarial Training—Advanced. W. (5) 117. Hamack. Advanced practice in dictation and transcription; office practice and methods; the business relationships of the secretary. (Meetings 5 days weekly, plus laboratory.) Pr., E. B. 18 and consent of instructor.
- 120. Business Organization and Combination. A. (5) Dakan. Covers the field of business ownership organization and industrial concentration. Pr., 1-2.

Advanced Courses

Banking and Finance

- 121. Corporation Finance. A,W, S. (5) Dakan. Financial problems connected with the promotion of corporations, underwriting and sale of securities; financial management; financial problems accompanying corporation expansion. Reorganization of unsuccessful corporations. Pr., 63 and 103.
- 122. Principles of Investment. W. (5) Dakan. Underlying principles of investment credit; origin and purpose of credit instruments; selection of sound investments; investment policy of individuals and institutions; care of investments; relation of the investment market to the money market. Pr., 103 or senior standing.
- 123. Investment Analysis. S. (5) Dakan. Analytical study of typical industrial, public utility, and railroad securities; analysis of financial operations, revenue and expense reports; their use in determining investment values. Pr., 122.
- 125. Advanced Money and Banking. S. (5) Mikesell. Presupposes a knowledge of our existing financial organization and devotes attention to questions of banking and monetary policy. Pr., 103.
- Bank Credit Administration. W. (3) 126. 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 consent.
- 127. Foreign Exchange and International Banking. W. (5) Huber. Foreign currencies and banking systems; foreign banking by American institutions; foreign exchange markets; theory of international exchange; financing of exports and imports; specie movements. Pr., 103.
- *128. Personal Insurance. (Offered in alternate years).
- 129. Property Insurance. S. (5) Smith. Coverage of property risks; types of companies; study of standard fire insurance contract. Pr., 108. Given Spring, 1943, and alternate years.

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^{*} Not offered in 1943-1944.

Courses in Economics and Business

Foreign and Domestic Commerce

- Principles and Practices of Foreign Trade. A. (5) 131. Skinner. Historical development of world commerce; theories, principal materials, trends. Foreign trade during and after the war. Pr., Geog. 7 or 1, E.B. 107.
- 132. Advanced Foreign Trade. S. (5) Skinner. International trade theories as tested by the facts of commerce; government and private trade promotion; organization and management of foreign trade concerns. War-time practice of foreign trade and the future of world trade. Pr., 131.
- Wholesaling. S. (5) 134. Miller. Wholesale functions and agencies performing them; historical development and economic justification; recent trends and future prospects. Pr., 106.
- Retailing. W. (5) 135. Miller. Various types of retail organizations; their evolution, present status, and future prospects; economic functions performed by each type; their relative efficiency. Pr., 106.

136. Advertising. A. (5) Miller. Advertising as a business force; its economic justification as a factor in marketing; analysis of current criticism; advertising organizations, their functions and procedure. Pr., 106.

- 137. Marketing for Quartermaster Corps. A,W,S. (5) Miller. Marketing principles, techniques, and problems applied to the quartermaster function. Warehousing, stock control, industrial purchasing, problems. Open only to men in the Quartermaster Corps.
- *138. Recent Marketing Trends.

Public Utilities and Transportation

- Regulation of Public Utilities. W. (5) 141. Economic, legislative and administrative problems of regulation. Pr., 104.
- *142. Advanced Economics of Public Utilities.
- 143. Railway Transportation. W. (5) Sheldon. Critical evaluation of problems of finance, operation, competition, combination, and regulation. Pr., 104.
- 144. Water Transportation. A. (5) **Farwell** Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104.
- 145. Highway Transportation. S. (5) Sheldon. Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104.
- 146. Air Transportation. A. (5) Economic principles, with particular reference to operating methods and costs; traffic promotion; schedule maintenance; safety; governmental regulation; airport management. Pr., 104.
- *147. Transportation Rates.
- Traffic Management. A,W,S. (5) 148. Farwell. Problems of routing, expediting, auditing, demurrage, reconsignment, port and terminal facilities. Pr., as for 147.
- *149. Marine Insurance and Carriers' Risks.

* Not offered in 1943-1944.

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Hall.

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Management and Accounting

- 150. Advanced Industrial Management. S. (5) Mackenzie. A case study of individual companies to bring out the problems of the chief executive of an industrial enterprise in coordinating the various departments and functions of the enterprise. Pr., 101.
- 151. Production Control. W. (5) Mackenzie. The organization of the production planning and control department, standards for plan-ning and control, control of inventories of raw materials, goods in process and finished goods. Pr., 101.
- 152. Government Accounting. A. (5) Lorig. Accounting and financial reporting for municipal, county, state, and federal governments. Includes examination of types of funds necessary and their accounting, interpretation of government reports, and the accounting aspect of budgetary control. Pr., 110.
- 153. Accounting Systems. S. (5) Lorig. Accounting and personnel problems in developing and installing systems of accounting; the objectives of a system; planning forms and charts of accounts; providing coordination, control and protection through accounts; application of machine accounting. The systems of a number of local industries are examined on field trips. Pr., 112.
- 154. Cost Accounting I. A,W,S. (5) Gregory. Economics of cost accounting; industrial analysis; production control through costs; types of cost systems, burden application; standard costs; selected problems. Pr., 110.
- *155. Cost Accounting II.
- 156. Income Tax Accounting. A,W. (5) McConahey. Selected cases illustrating the definition of taxable income of individuals, corporations, partnerships. Regulations of Treasury Department. Pr., 112.
- 157. Industrial Auditing. A,W. (15) Cor. Industrial and government auditing and cost inspection. The preparation of working papers, presentation of financial and operating reports, verification of financial and cost records, and the detection of errors. Treasury Decision 5000, and problems of reimbursement under various kinds of cost plus, facility and construction contracts are given special attention. Pr., 112.
- 158. C.P.A. Problems. W, S. (5) McConahey. Selected problems taken from the American Institute of Accountants and state C.P.A. examinations. Pr., 157.

Advanced Economics and Business

- 161. Labor Legislation. S. (5) Chertkov. 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. S. (5) Huber. Historical development of human wants in relation to economic processes in general and the economic principles of consumption; analysis of standards of living; attempts to con-trol consumption through individual and group action. Pr., 105.
- 164. Labor Relations. А. (5) Kerr. 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.
- *165. European Labor Problems.
- 168. Government Contract Problems. A,W,S. (5) Brown. Studies of the inter-related problems of government and business arising from the concontract; drafting and operating under the contract; labor operating problems under gov-ernment contracts; and analogous problems. Pr., 54. For students in the Quartermaster Corps.
- 169. Real Estate II. S. (5)

Types of real estate uses and their characteristics; appraisals of farm and urban land and improvements; property rights; real estate finance; management of real property; leases. Pr., 109.

* Not offered in 1943-1944.

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- 170. Advanced Statistical Analysis. W. (5) Butterbaugh. Cases and problems are analyzed in order to develop ability in applying statistical technique to practical problems in economics and business. Pr., 60.
- 171. Public Finance and Taxation L. A.S. (5) Hall. 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.
- 172. Public Finance and Taxation II. W. (5) Hall. Survey and analysis of fiscal thought; methods and problems in expenditure analysis; study of tax systems; theories and problems of classification, equity and incidence in taxation; critical exaluation of the use and control of public credit and the custody and disbursement of public funds. Pr., 171.
- 175. Business Fluctuations. A,W, S. (5) Demmery. 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.
- *177. Social Insurance.
- 179. The Economics of War W. (5)Analysis of the problems arising from our national war program, including organization of production, procurement of materials, financing industrial expansion, monetary issues, price control methods, labor relations, international exchange, fiscal policy of the government. Pr., junior standing, E.B. 1-2, plus 10 credits of other social science.
- 181. Economic Development of the United States. A. (5) Lockling. Special attention to manufactures, commerce, labor, finance, and agriculture. Pr., 30 upper division credits in economics and business.
- 185. Advanced Ecoonmics. A,W,S. (5) Mund. 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.
- 187. History of Economic Thought. S. (5) Mund. The rise of modern capitalism, self-interest and commercial activity, and the development of thought and opinion 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., E.B. 185, or senior standing and consent.

Research Courses for Undergraduates and Graduates

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

Open to qualified undergraduate and graduate students. Pr., consent of instructor.

* Not offered in 1943-1944.

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Courses for Graduates Only

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202B. Graduate Seminar in Finance. W. (5 to 7) Presto For students interested in monetary and banking history and theory, and business finan Pr., consent of instructor.	on. ice.
205C. Graduate Seminar in Public Finance. S. (5 to 7) Ha Pr., graduate standing, consent of instructor.	ıll.
206B. Graduate Seminar in Labor. W. (5 to 7) Ke Theories and problems. Pr., one advanced course in labor and consent of instructor	: ::: .
208A. Graduate Seminar in Economics. A. (5 to 7) Mun Systematic review of the theories of value, price, and distribution; special references recent developments. Pr., consent of instructor.	nd.
210A, C. French and German Economists. A, S. (3,3) Pr., consent of instructor.	er.
*212. Seminar in Public Service Problems.	
214A. Graduate Seminar in International Economics. A. (5 to 7) Hub Pr., graduate standing, consent of instructor.	er.
*215B. Seminar in Economic History.	
258. Graduate Seminar in Accounting. S. (5) McConah Graduate standing and consent of instructor.	ey.
Teachers' courses in Economics and Business. (See Educ. 75E, 75F.)	
EDUCATION	
Professors Powers, Bolton, Cole, Corbally, Draper, Dvorak‡, Osburn, Steve Williams; Associate Professor Jessup; Acting Assistant Professor Hayden; Associate Batie.	ns,
1. Education Orientation. A,W, S. (2) William Preview of the field of teaching. Conferences. For those contemplating teaching as a p fession. Credit only to freshmen and sophomores. Required of all undergraduates plann to secure the three-year secondary teaching certificate.	ns.)ro- ing
I. Elementary Courses (Upper Division Credit)	
9. Psychology of Secondary Education. A,W,S. (3) Batie, Power Pr., 1, Psych. 1, and all-university grade-point average of at least 2.2.	ers.
30. Washington State Manual. A,W, S. (No credit.) Corbally, Jess For all applicants for Washington teaching certificates.	up.

- 60. Principles of Secondary Education. A, W, S. (3) Draper. Problems of high school teaching. Conferences; visits to public schools. May be taken concurrently with 90. Pr., 1, 9, 70, 75, and all-university grade-point average of at least 2.2.
- 70. Introduction to High School Procedures. A,W,S. (5) Williams, Jessup. Pr., 1, 9, and all-university grade-point average of at least 2.2.

* Not offered in 1943-1944.

† On leave.

Courses in Education

71-72. Cadet Teaching. A-W; W-S. (Semester basis, 5-3) Corbally, Powers. 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. Also register for Education 30, no credit. Three successive free hours should be provided in the schedule each quarter for cadet teaching. Cadets registering for autumn semester report at 113b Education Hall, Monday, September 20, from 8:30 to 11:30 a.m. for assignments.

71N-72N. Cadet Teaching for Vocational Home Economics Majors Only.

A-W; W-S. (Semester basis, 5-3) Corbally. Education 72N may follow or precede 71N. Students should take Education 30 the same quarter in which they are registered for 71N. Pr., as for 71-72.

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71P-72P. W.	Cadet Teaching for Women Physical and Health Education Majors. (5-3) Corbally.	,
tion to 7	for women and the director of cadet teaching. Education 30 must be taken prior 1P.	,

Teachers' Courses in Secondary Subjects

- 75A. Art. A. (2) Johnson. Summary of aims, objectives, and current methods of teaching and supervising art. Pr., Educ. 70, senior standing in art, consent.
- 75B. Botany. A. (2) Pr., two years of botany. To be taken concurrently with 71.
- 75C. Chemistry. A,W, S. (2) Pr., at least 20 credits of college chemistry of average "B" grade.
- 75D. Civics. S. (2) Attitude of approach, arrangement of material, methods of presentation.
- 75E. Commercial Course, Accounting. S. (5) Draper. Two credits to count as education; three credits as economics and business. Pr., 30 credits of the 54 required for a major in commercial teaching, including 15 credits in accounting.
- 75F. Commercial Course, Shorthand and Typewriting. S. (5) Hamack. Study of curriculum, methods, objectives, standards, grading, examination, and demonstrational problems.
- 75H. English. A, S. (5) Two credits count as education; three as English.
- 75K. French. W. (2) Pr., Fr. 103, and 158.
- 75L. German. S. (2) Pr., Ger. 120, or consent of instructor.

75M. History. S. (5) Two credits count as education; three as history. Special reference to work of the high school. Open to seniors.

75NA. Home Economics. S. (3) Two credits only count toward teaching certificate. Objectives, organization, curricula of home economics in elementary, junior, and senior high schools. Pr., 25 credits in home economics.

Courses	in	Ed	ucation
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750.	Geography. S. (2) Pr., Geog. 1, and five additional credits.	Earle.
Journs	alism. (See Journalism 125 for teachers' course in journalism.)	
75P. 1	Latin. S. (2) Pr., 20 credits of college Latin. Course must be taken in combination with Latin special arrangement.	Stone. n 106 by
75Q. I	Mathematics. S. (3) ⁷ Two credits count as education; one credit as elective. Pr., Math. 109.	Jerbert.
75 R.	Senior High School Music. W, S. (2) Analysis of the high school problem in relation to music. Pr., 116.	Munro.
Physic	cal Education for Men. (See P.E. 158, 161, 163, for teachers' con Physical Education.)	urses in
75 V .	Health and Physical Education for Women. W. (2) Pr., P. E. 156, 162, 163, 164, at least five credits of which must be in residence.	Wilson.
Piano	. (See Music 167 for teachers' course in piano.)	
75X.	. Speech. S. (5) Two credits count as education; three as electives in speech.	Wenhe.
75¥.	Spanish. S. (2) W. Pr., Span. 103 and 158.	Wilson.
75Z.	Zoology. W. (2) Pr., 20 credits in zoology.	Hatch.
90.	Measurement in Secondary Education. A,W,S. (2) Use of tests and scales for diagnosis, remedial education, motivation, and study dual differences. May be taken concurrently with 60. Pr., 1, 9, 70, and all- grade-point average of at least 2.2.	Hayden. of indivi- university
	II. Intermediate Courses (Upper Division and Graduate Credit)	
101.	Educational Psychology. A. (3) Systematic treatment of theoretical principles and experimental backgrounds.	Powers.
104.	Psychology and Training of Exceptional Children. S. (5) Subnormal, superior, backward, eccentric, and delinquent children studied from of view of the teacher.	Hayden. the point
120.	Educational Sociology. A,W, S. (3) Consideration of problems of education related to process of social evolution.	Jessup.
122.	Diagnosis in Education. W. (3) For administrators, elementary and secondary teachers. A study of the literatur cational diagnosis; materials and devices for locating pupil difficulties. Special to scholastic progress.	Osburn. re of edu- reference

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Courses in Education

- 140. School Supervision. A. (4) Tessup. Problems and technique of the improvement of school work through the in-service education of teachers. Supervision of Elementary School Subjects. W. (4) Jessup. 141. 145B. Principles and Objectives of Safety Education. S. (3) Corbally. The safety problem and its relation to education. Types of school programs in elementary and secondary schools, safety under school jurisdiction, coordination of safety education programs. 146. Extracurricular Activities. S. (3) Draper. Weekly conferences with instructor. Class limited to twenty students. Pr., 60. 147. Principles of Guidance. A. (3) Corbally. 153. Elementary School Curricula. S. (4) Jessup. 158A. Investigations in Reading. A. (3) Osburn. Scientific studies of elementary school reading. Primarily for administrators and teachers with experience. 175. Improvement of Teaching. S. (3) Osburn. Adaptation of instruction to individual differences. Examination of laboratory studies; summarization of research. 180, 181, 182. History of Education. A,W, S. (3,3,3) Jessup. Social interpretation of the historic beginnings of education. 184. Comparative Education. S. (5) Jessup. Modern education in foreign countries. Jessup. 188. Philosophy of Education. A. (3) Advanced Educational Measurements. W. (3) Hayden. 191. Pr., 90 or equivalent. Character Education. W. (3) 193. Powers. Experimental background of the modern effort toward character development. 197, 198, 199. Individual Research. A,W, S. (2 to 5 each quarter) Staff. Pr., consent of department. III. Advanced Courses (Open to Graduates Only) 201. Advanced Educational Psychology. S. (3) Powers. Pr., courses in general and educational psychology. 220. Seminar in Educational Sociology. W. (5) Corbally. 222. Seminar in Diagnostic and Remedial Work in Education. S. (5) Osburn. 245,246,247. Organization of Supervisory and Administrative Programs. A,W, S. (5,5,5) Cole. Types of schools and changes being made in them. Supervision of instruction, and pupil accounting. 260-261. Seminar in Secondary Education. A,W. (2) Draper. 263. Junior College. S. (3) Hayden.
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265, 266, College Problems, A.W. (5) Stevens. Higher education from the standpoint of the new instructor. History of administrative organization. Course will be adapted to individual needs through special assignments. One two-hour lab. period to be arranged. 267, 268, 269. Guidance and Counseling. A,W, S. (5,5,5) Stevens. Counseling in colleges and public schools. Students must reserve time each week for duties in a counselor's office. Discussion and reports. 270. Problems in Modern Methods. A. (3) Williams. 275. Improvement of College Teaching. S. (5) Stevens. Effective methods. One two-hour lab. period to be arranged. 287, 288, 289. Seminar in Philosophy of Education. A.W. S. (3.3.3) Williams. 290. Educational Statistics. A. (5) Hayden. Required of candidates for the doctor's degree in education. 291. Methods of Educational Research. A.W. (3) Hayden. Required for master's and doctor's degrees in education. 298, 299, 300. Individual Research. A,W, S. (†) Staff. Field of interest should be indicated by letter when registering. Sections or "fields": A. Educational psychology. B. Educational sociology. C. Educational administration and supervision. D. Elementary education. E. Secondary education. F. Classroom techniques. G. History and philosophy of education and comparative education. H. Higher education. I. Curriculum. J. Guidance and extra-curricular activities. K. Remedial and special education.

Thesis. A.W.S. (†)

Staff. 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.

ELECTRICAL ENGINEERING

Professors A. V. Eastman, Loew, Hoard, Shuck, G. S. Smith; Associate Professor Lindblom; Assistant Professors Cochran, Hill; Instructor Sheckels.

- Direct and Alternating Currents. A,W. (5) Staff. 71. A short course in electric circuit theory and machinery, for Naval Science students. Pr., one year high school physics.
- 73. Vacuum Tubes and Radio. W.S. (5) Hill. A short course in vacuum tubes and radio, for Naval Science students. Code practice is included. Pr., 71.

† To be arranged.

Courses in Electrical Engineering

- 101. Direct Currents. A,W, S. (4) Staff. Short course in direct-current theory and machinery, for non-electrical students. To be taken with E.E. 102. Pr., Physics 98, Math. 41.
- 102. Direct-current Laboratory. A,W,S. (2) Staff. Direct-current machinery, for non-electrical students. To be taken with E.E. 101. Pr., Physics 98.
- 103. Direct Currents. A. (3) Staff. Short course in direct-current theory and machinery for civil engineering students. To be taken with 104. Pr., Physics 98, Math. 41.
- 104. Direct-current Laboratory. A. (1) Staff. Direct-current machinery for civil engineering students. To be taken with 103. Pr., Physics 98.

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Shuck.

- 105. Electric Wiring. A. (2) Short course for architects.
- 109. Direct Currents. A,W. (5) Staff. Theory of electric, magnetic and dielectric circuits; preliminary study of direct-current machinery. To be taken with 110. Preceded or accompanied by Math. 41.
- 110. Direct-current Laboratory. A,W. (2) Staff. Laboratory work in direct-current circuits and direct-current measurements. To be taken with 109.
- 111. Direct Currents. W,S. (3) Staff. Continuation of 109. Theory and characteristics of direct-current machinery. Directcurrent distribution and applications. To be taken with 112. Pr., 109.
- 112. Direct-current Laboratory. W,S. (4) Staff. Experimental work on direct-current dynamo machinery. To be taken with 111. Pr., 110.
- ****15.** Elementary Direct Currents. (Extension night class) Shuck. Laws of the electric and magnetic circuits with application to direct-current machinery. Practical course for electricians.
- ****20.** Elementary Alternating Currents. (Extension night class) Shuck. Alternating-current theory with experimental work on alternating-current machinery. Pr., 15.
- 121. Alternating Currents. A,W,S. (4) Staff. Short course in alternating-current theory and machinery for non-electrical students. To be taken with 122. Pr., 101.
- 122. Alternating-current Laboratory. A,W,S. (2) Staff. Experimental work on alternating-current machinery. To be taken with 121. Pr., E.E. 102.
- 123. Alternating Currents. W. (3) Staff. Short course in alternating-current theory and machinery for civil engineering students. To be taken with 124. Pr., 103, 104.
- 124. Alternating-current Laboratory. W. (1) Staff. For civil engineering students. To be taken with 123. Pr., 103, 104.

*141. Illumination.

^{**}Will be offered if a sufficient number of students elect the course.

^{*} Not offered in 1943-1944.

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*152.	Electrical Machine Design.
* 154.	Design of Electric Apparatus.
159.	Alternating Currents. W,S. (3) Staff. Fundamental theory of alternating-current circuits. Pr., 109.
161.	Alternating Currents. A,S. (4) Staff. Theory of alternating-current machinery; transformers, induction motors, alternators, synchronous motors and single-phase motors. To be taken with 162. Pr., 111 and 159.
162.	Alternating-current Laboratory. A,S. (4) Staff. Experimental work in alternating-current circuits and machinery. To be taken with 161. Pr., 112.
*163.	Alternating Currents. Staff. Theory of dielectric circuits and of transmission and distribution systems. To be taken with 164. Pr., 161.
*164.	Alternating-current Laboratory. Staff. Experimental work with alternating-current machinery and transmission lines. To be taken with 163. Pr., 162.
170, I	172, 174. Individual Projects. A,W,S. (2-5 each quarter) Staff.
*171.	Electric Railways.
* 173.	Central Stations.
*175.	Power Transmission.
181.	Vacuum Tubes. A,S. (4) Hill, Hoard. Fundamentals, theory of rectifiers and amplifiers; photoelectric cells, thyratrons; appli- cations to power and low-frequency fields. To be taken with 182. Pr., 159.
182.	Vacuum-tube Laboratory. A.S. (2) Lindblom, Hoard. Experimental work with vacuum tubes. To be taken with 181. Pr., 159.
183.	Vacuum Tube Circuits. A,W,S. (4) Eastman, Cochran. Theory of vacuum-tube amplifiers and oscillators; applications of the vacuum tube in the communication field. To be taken with 184. Pr., 181.
184.	Vacuum Tube Circuits Laboratory. A,W. (2) Hill. Experimental work with vacuum tubes, amplifiers and oscillators. To be taken with 183. Pr., 182.
185.	Communication Networks. A,W. (4) Cochran. Network theorems; coupled circuits; theory of transmission lines; theory and design of filters; equalizers; impedance matching. To be taken with 186. Pr., 159.
186.	Communication Networks Laboratory. A,W. (2) Staff. Experimental work with communication networks. To be taken with 185.
187.	Wave Propagation and Antennas. A,W,S. (4) Eastman. Propagation of radio waves; Maxwell's equations; r-f transmission lines; antennas; arrays; wave guides. To be taken with 188. Pr., 185.
188.	Wave Propagation and Antenna Laboratory. A,W,S. (2) Staff. Experimental work on r-f transmission lines, antennas and wave guides. To be taken with 187.
*190.	Radio-Telephone Transmitter Practice.
191.	Advanced Circuit Theory. S. (3) Loew. Operational calculus applied to the solution of electric circuits. Pr., 161, 162.
*193.	Advanced Circuit Theory.
*194.	Seminar.
	*-Not offered in 1943-1944.

- Courses in Electrical Engineering, English
- 195. Electric Transients. A,W,S. (4) Single and double energy transients; standing and traveling waves; short-circuit transients; surges; corona; lightning. Pr., 161.
- 196. Electric-transient Laboratory. A,W,S. (2) To be taken with 195. Pr., 162.
- *197. Seminar.
- 198. Electric-transient Laboratory. A,W,S. (2 to 5) Smith. Continuation of 196. Study of electric-transient phenomena by means of vibrator and cathode ray oscillographs, klydonograph, and voltage impulse recorders.
- HFT-1. Ultra-high-frequency Techniques. A,W. (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 and 184.
- HFT-2. Ultra-high-frequency Techniques. A,W,S. (4) Radio receivers; radio transmitters; ultra-high-frequency generators, including velocitymodulation tubes and magnetrons. Pr., HFT-1.

Courses for Graduates Only

*205. Seminar. S. (3)

Eastman. Staff.

Smith.

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210, 212, 214. Research. A,W,S. (2 to 5 each quarter)

ENGLISH

Language and Literature: Professors Griffith, Benham, Cox, Harrison, Hughes, Taylor, Winther; Associate Professors Blankenship, Eby, Wagenknecht; Assistant Professors ‡Bostetter, ‡Cornu, Kocher, ‡Stirling, Zillman; Lecturer Sperlin; Instructors ‡Burns, ‡Ethel, Kahin; Associate Butterworth. Composition and Creative Writing: Professor Bement, director; Associate Professor Lawson (in charge Freshman English); Assistant Professors Hall (in charge of Engineering English), Savage; Instructors Beal, Gillette, Nix, Person, Walters, Watters; Associates Adams, S. F. Anderson, V. Anderson, Burgess, Emery, Kuhn, Mark, McKinlay, Norlin, St. Clair, Stubbs, Vickner.

English 1 or equivalent is prerequisite to all literature courses.

- A. Elementary Composition. A,W,S. (Non-credit.) Lawson in charge. Required of students who fail in examinations for entrance into 1 or 4.
- B. Elementary Composition. A,W, S. (Non-credit.) Hall in charge. Fundamentals of writing. For those who fail in test for admission to English 100. Passing grade in Composition B is equivalent to passing test for English 100.
- 1, 2, 3. Composition. A,W,S. (5,5,5) Lawson in charge. Principles and practice of composition, supplemented by an analysis of essays, poetry, novel, and drama; methods of collecting material for longer papers and introduction to the study of evidence, fallacies, and proof.
 - 4, 5, 6. Composition. A,W, S. (3, 3, 3) Lawson in charge. For students in architecture, art, and nursing education. In content, this course is the same as 1 and 2.
 - 9, 10. Composition. W, S. (3,2) For students in pharmacy.

Lawson in charge.

‡ On war leave.

^{*37.} Argumentation.

^{*} Not offered in 1943-1944.

Advanced writing, similar in method to English 1, 2, and 3, and adjusting the writing to the student's particular interests and needs. Military forms and reports. Upper division credit for upper division students. Prerequisite, English 1 and 2, or equivalent.

51, 52, 53. Advanced Exposition. A,W, S. (3,3,3)

Introduction to Non-fictional Writing. A,W. (3) 54. Savage. Writing of biographies, magazine and feature articles, and expository papers. Upper division credit for upper division students. Prerequisite, English 1 and 2, or equivalent, Writing for Form and Style. A,W,S. (3) 55. Harrison, Kahin. Writing for English majors and others to develop diction and style. Upper division credit for upper division students. Prerequisite, English 1 and 2, or equivalent. 57. Introduction to Poetry. A,W, S. (5) Zillman. With illustrations from the nineteenth century. Not open to students who have credit for 21, 83, and 84. X 58. Introduction to Fiction. A,W,S. (5) Griffith, Winther. Critical analysis of narrative poems, short stories, novels, plays. For majors in literature and drama and for others who desire to study the organization of narrative literature. Upper division credit for upper division students. Not open to students who have credit for Lit. 75. 60. Report Writing. W,S. (3) Person, Adams. Organization and writing of reports. Especially designed for students in departments other than English who desire training in the writing of their particular fields. Upper division credit for upper division students. Section B, winter quarter, is for students in the College of Forestry. Prerequisite, English 1, or equivalent. 61, 62, 63. Verse Writing. A,W, S. (2, 2, 2) Zillman. Pr., English 1, 2. 64, 65, 66. Literary Backgrounds. A,W,S. (5,5,5) Cox, Kahin, Kocher, Wagenknecht. English classics, especially Beowulf, Chaucer, Spenser, Shakespeare, Milton, Dryden, Pope, Johnson, Burns, Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, and some nineteenth-century novelists, emphasizing literary forms, their appreciation, and so-cial relations. Grade of "A" or "B" grants upper division credit to an upper division student for the quarter in which the grade is earned. Course 66 not open to those having credit for 50. Survey of American Literature. A,W, S. (5) Blankenship. Not open to students having credit for Lit. 20. 73. Introduction to Modern Literature. A,W,S. (5) Essays on European and American thought. Readings in poetry, novel, and drama. 74, 75, 76. Dramatic Composition. A,W, S. (3, 3, 3) Savage. Study of principles with experimental creative work in dramatic writing. May be substituted for required courses in drama with the consent of the School of Drama. Upper division credit for upper division students. Pr., 1 and 2 or equivalent. 77, 78, 79. Introduction to Narrative Writing. A,W, S. (3,3,3) Bement. For students desiring an introduction to fiction writing. Upper division credit for upper division students. Pr., English 1 and 2, or equivalent. 96. The Bible as Literature. S. (5) Wagenknecht. Open to all. Upper division credit for upper division students. Not open to those having credit for 97, 98, 99.

Person.

- Courses in English
- 100. Technical Composition. A,W,S. (3) Hall in charge. For students in the colleges of Engineering and Mines. Logical organization of material, its effective presentation in form of articles, business letters, and reports. Pr., passing of test in the mechanics of English, given to sophomore engineers on the third Tuesday of autumn quarter.
- 101. Modern Reading. A,W, S. (3 to 5) Hall. For students in technology. Intended to direct reading in the non-technological fields. Conferences, written and oral reports. Students registered in this course may continue directed reading during vacations.
- 102. English for Engineers. A,W,S. (3) Hall. For students in the colleges of Engineering and Mines who wish to come in contact with authors representative of the thought or the culture of the past or present. Student is given opportunity to improve his style of writing and to progress in accordance with his ability. Individual weekly conferences. Pr., English 100.

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Hall.

- 103. English for Engineers. A,W, S. (3) Continuation of English 102.
- 104. Modern European Literature. A. (5) Harrison. Special studies in continental contemporary literature for advanced students.
- 106. Modern English Literature. W. (5) Harrison. Special studies in English contemporary literature for advanced students, with emphasis upon the novel.
- 107, 108, 109. Non-Technical Reading. A,W, S. (1,1,1) Hall. For students in the colleges of Engineering and Mines. Pr., 100.
- 110, 111, 112. Advanced Verse Writing. A,W, S. (2, 2, 2) Zillman. Given in conjunction with 61, 62, 63. All the elementary credits must be earned before advanced credit will be given.
- 117. History of the English Language. A,W, S. (5) Butterworth. Pronunciation, vocabulary, and syntax. Open to sophomores who intend to major in English. English 180 may be substituted for this course.
- 131, *132, *133. Advanced Non-fictional Writing. S. (5) Savage. Advanced writing of biographies, magazine and feature articles, expository papers, and non-fictional books. Pr., 54.
- 137, 138, 139. Advanced Short Story Writing. A,W, S. (5,5,5) Bement. Pr., 77, 78, 79, or permission.
- 140. Social Ideals in Literature. W. (5) Benham. Model commonwealths and such other literatures as illustrate the development of social and economic thought.
- 144, 145. Eighteenth Century Literature. A,W, S. (5,5) Cox. The classic period, Johnson and his age, and pre-romanticism. Pr., 144 for 145.
- 147, 148, *149. The English Novel. W. (3) Wagenknecht. Austen to Eliot.

150, 151. Old and Middle English Literature. A,W, S. (5,5) Griffith, Butterworth, Wagenknecht.

Old English literature in translation (150); Middle English: Chaucer and contemporaries (151). Course 151 required of majors.

* Not offered in 1943-1944.

Courses in English

- *153, 154. English Literature: 1476-1642. S. (5,5) Taylor. The Renaissance, Spenser and his contemporaries (153); non-Shakespearean Elizabethan drama (154).
- 156, 157, 158. Novel Writing. A,W, S. (5,5,5) Savage. Pr., 77, 78, 79, or permission.
- 161, 162, 163. American Literature. A,W,S. (5,5,5)
 Course 161, exclusive of New England; 162, New England; 163, Twain, Howells, James. Course 163 not open to students having credit for 164. Pr., Lit. 67.
- 166. Modern American Literature. A,W, S. (5) Harrison. The beginning of realism; tendencies from 1900 to 1915; contemporary fiction and poetry.
- 167, 168, 169. Seventeenth Century Literature. A,W,S. (5,5,5) Benham. Survey of the period; Milton and his contemporaries; the Restoration.
- 170, 171, 172. Shakespeare. A,W,S. (5,5,5) Taylor, Kocher, Kahin. Introduction (170); Comedies and Histories (171); Tragedies and Romances (172). Pr., 64 and 65, or permission; 170 for 171 and/or 172.
- 174, 175. Late Nineteenth Century Literature. A,W, S. (5,5) Poetry, novels, essays, and drama. Pr., 174 for 175.
- *176. Late Nineteenth Century Literature: Browning.
- 177, 178. Early Nineteenth Century Literature. A,W,S. (5,5) Cox, Zillman. Poetry, novels, essays, and drama. Pr., 177 for 178.
- 180, 181, 182. Old English Language. A,W, S. (5, 5, 5) Butterworth. Reading of Anglo-Saxon classics in the original; study of grammatical forms.
- 184, 185, 186. Creative Writing Conference. A,W, S. (3 to 5 each quarter)

Bement, Savage. Revision of manuscripts for emphasis, organization, and style. Student entering this course should have the preliminary work on his writing project completed. Pr., permission of instructor.

191. Major Conference. A,W,S. (5)

Teachers' courses. (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. A.W. (5,5) ______. Introduction to graduate study by practice in research writing, bibliography, reading and studies in assigned periods of English and American literature. Required of candidates for the master's degree.

- 203. Literary Criticism. S. (5) Winther. History of English criticism. Required of candidates for the master's degree.
- 204, 205, 206. Chaucer. A,W, S. (5, 5, 5) Griffith. Problems of Chaucerian scholarship. Required of candidates for the doctor's degree.

Staff.

208, 209, 210. Pre-Shakespearean Drama. A,W,S. (5,5,5)	Benham.
*211, 212, 213. Sixteenth Century Literature: Spenser.	
217, 218, 219. Shakespeare. A,W, S. (5,5,5)	Taylor.
*221, 222, 223. Seventeenth Century Literature.	
224, 225, 226. American Literature. A,W,S. (5,5,5)	Eby.
*229. American Literature: Whitman.	
230, 231, 232. Old English. A,W, S. (5, 5, 5) Anglo-Saxon grammar, readings in Old English prose and poetry; Mi guage; Beowulf. Required of candidates for the doctor's degree.	Butterworth. iddle English Ian-
*233, *234. Advanced Old English.	
238, 239, 240. Early 19th Century Literature. A,W,S. (5,5,5)	Cox.
241, 242, 243. Victorian Literature. A,W, S. (†)	Winther.
244, 245, 246. Eighteenth Century Literature. A,W,S. (5,5,5)	Cox.
250, 251, 252. Thesis Research. A,W,S. (†) Student should not enroll for this course until he has chosen a thesis	Staff. subject.

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FAR EASTERN

- Professor Taylor; Professor Gowen; ‡Associate Professor Schultheis; Assoc. Professor Spector; Assistant Professors Michael, ‡Tatsumi; Instructors Creel, Bacon, Gershevsky; Associates Presson, Ch'eh, Tweddell.
 - 10. Survey, Problems of the Pacific. A,W,S. (5) Michael. Contemporary problems, background of Pacific Rim countries.
- 40. Chinese Civilization. W. (5) Social, intellectual, institutional life of the Chinese; emphasis on recent changes.

*41. Japanese Civilization.

- 42. Civilization of Southeastern Asia. S. (5) Bacon. Peoples of Indo-China, Indonesia and the Philippines; domestic and political problems.
- 50. Literature of India. A. (5) Gowen. Indian literature from the Vedas to Tagore. Upper division credit to upper division students.
- 52. The Muhammadan World. W. (5) Gowen. The literary, religious, and cultural background of the Muhammadan world, including recent developments. Upper division credit to upper division students.
- 90. History of China. A. (5)

Introduction to Chinese history, political, social, intellectual. Upper division credit to upper division students.

‡ On leave.

[•] Not offered in 1943-1944.

[†] To be arranged.

Courses in Far Eastern

91.	History of Japan. W. (5) Steiner.
	Introduction to Japanese history, political, social, religious, aesthetic. Upper division credit to upper division students.
*101-	102-103. Hebrew.
*104-	105-106. Sanskrit.
* 114.	History of Religion.
Primi	itive Religion. See Anthro. 142.
115.	History of Religion. A. (3) Gowen. Religions of the Ancient Empires, and religions of the Orient.
116.	History of Religion. W. (3) Gowen. Survey of Judaism, Christianity, Muhammadanism.
*117-	118-119. Arabic or Aramaic.
Intern	national Relations of the Far East. (See Pol. Sci. 129.)
*Orie	ntal Political Thought. (See Pol. Sci. 114.)
Far E	astern Government and Politics. (See Pol. Sci. 158.)
Ine r	Middle and Near East. (See Pol. Sci. 130.)
Amer 130	Russian Literature S (5) Spector
1.50.	Great Russian novelists of the Golden Age; post-revolutionary literature.
136.	Modern Russian History. W. (5) Spector. The nineteenth century and the contemporary period in Russian history, with special
+160	attention to the Russian Revolution.
*155	1), 1)4. Sanskrit. 156 157 Hebrew
*158.	159, 160. Arabic.
*170.	Literature of China in Translation.
* 171.	Literature of Japan in Translation.
180.	Modern Chinese History. W. (5) Michael, Staff.
	The nineteenth century and the contemporary period in Chinese history, with major emphasis upon internal affairs. Pr., 90 or upper division standing.
181.	Modern Japanese History. S. (5) Steiner.
	Intensive topical treatment of periods in Japanese history; particular attention to modern developments.
182.	Modern India. W. (5) Bacon. Its geography, peoples, and politics.
190.	Undergraduate Research. A,W, S. (3 to 5) Staff. Directed reading concentrated in some specific field of Asiatic history. The student will
	submit reports and papers. Primarily for F.E. majors. Pr., instructor's permission.
* 192.	History of the Ming Dynasty.
*195.	The Meiji Restoration in Japan.
196.	Russian Expansion and Colonization in Asia. A. (3) Intensive study of development of Russian empire in Asia from Peter the Great to 1917, with special reference to methods of research in primary sources. Pr., instructor's per- mission.
N	Nore: Course 190 may, with consent of instructor, be repeated for credit.

* Not offered in 1943-1944.

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Courses in Far Eastern

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Language Courses

Japat	1656:
1.	Japanese Language. A,W,S. (10) Creel, Staff.
3.	Japanese Language. A,W,S. (5) Creel, Staff. Special course for students under intensive course B level. For students with some knowledge of Chinese or Lananese.
107.	Japanese Language. A,W,S. (10) Creel, Staff. Intensive course B; spoken and written language. Pr., Intensive A or equivalent.
109.	Japanese Language. A,W,S. (10) Creel, Staff. Intensive course C; spoken and written language. Pr., Intensive B or equivalent.
Russi	an:
7.	Russian Language. A,W,S. (10) Spector, Staff. Intensive course A; spoken and written language.
9.	Russian Language. A,W,S. (5) Spector, Staff. Special course for students under intensive course B level. For students with some knowledge of Russian.
141.	Russian Language. A,W,S. (10) Spector, Staff. Intensive course B; spoken and written language. Pr., Intensive A or equivalent.
162.	Russian Language. A,W,S. (10) Spector, Staff. Intensive course C; spoken and written language. Pr., Intensive B or equivalent.
Chin	ese:
44.	Chinese Language. A,W,S. (10) Ch'eh, Tweddell. Intensive course A; spoken and written language.
46.	Chinese Language. A,W,S. (5) Ch'eh, Tweddell. Special course for students under intensive course B level. For students with some knowledge of Chinese or Japanese.
147.	Chinese Language. A,W,S. (10) Intensive course B; spoken and written language. Pr., Intensive A or equivalent.
149.	Chinese Language. A,W,S. (10) Intensive course C; spoken and written language. Pr., Intensive B or equivalent.
	Courses Primarily for Graduates
*220	. Seminar in Eastern Asia.
*221	. Sources in East Asia.
222.	Sources in West Asia and India. W. (2) Gowen. Introduction to standard primary and secondary sources for study of West Asiatic and Indian history, religion, and literature.
225,	226. Seminar in Far Eastern Diplomacy. A,W. (3,3)
280,	281, 282. Research. A,W, S. (†) Staff. Research in Far Eastern and Slavic fields for those qualified. Instructor's permission necessary.
290,	291, 292. Thesis. A,W, S. (2 to 5 each quarter) Staff. Directed investigation and writing in connection with work for advanced degrees.
	• Not offered in 1943-1944.

† To be arranged.
FISHERIES

Professor W. F. Thompson; Associate Professor Lynch; Assistant Professors Donaldson, Rankin; Associate Welander

- Comparative Anatomy of Fishes. A. (5) Welander. Morphology. Emphasis on evolution of structures in reference to phylogeny. Pr., Zool. 1 and 2. Two lab. periods, three lectures.
- 102. Classification and Identification of Soft-rayed Fishes. W. (5) Welander. Special attention given to salmon and trout. Two lab. periods, three lectures. Pr., 101.
- 103. Classification and Identification of Spiny-rayed Fishes. S. (5) Welander. Special emphasis on game and food fishes. Two lab. periods, three lectures. Pr., 102.
- 105, 106, 107. Commercial Aquatic Invertebrates. A,W, S. (5,5,5) Lynch. Classification, life history, uses of commercially important invertebrates. Two lab. periods, three lectures. Pr., Zool. 1 and 2.
- 108, 109, 110. Problems of Fisheries Science. A,W,S. (1, 1, 1) Thompson, staff. No prerequisite. Required of all majors not later than junior year.
- 125. Spawning Habits of Game and Other Fishes. A. (5) Donaldson. Observations of salmon and trout spawning made in the field. Two 4-hour lab. periods, three lectures. Pr., 101, 102.
- 126. Early Life History of Fishes. W. (5) Donaldson. Sexual maturity, growth, development, and the various environmental factors influencing growth of fish eggs, larvae and young fish. Two 4-hour lab. periods, three lectures. Pr., 125.
- 151. Natural Fish Foods and Water Supplies. A. (5) Lynch, Donaldson. 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. Three 2-hour lab. periods and three lectures. Pr., Zool. 1 and 2; Chem. 1, 2, or 21 and 22.
- 152. Propagation of Freshwater Fishes; Methods of Hatching and Rearing. W.
 (5) Lynch, Donaldson.
 Methods of feeding and efficiency evaluation of diets. Design, structure, maintenance of hatcheries, pond systems, and aquaria. Three 2-hour lab. periods, three lectures. Pr., 151.
- 153. Hatchery Biology. S. (5) Lynch, Donaldson. Algae, higher plants, and miscellaneous invertebrates in relation to fish. Sanitation, disease prevention. Stream improvement. Stocking policies. Three 2-hour lab. periods, three lectures. Pr., 152.
- 154. Diseases of Fish. A. (5) Nature and cause of disease in fish. Two lab. periods, three lectures. Pr., Zool. 1 and 2; Fish. 101 and 102. Bacteriology 101.
- *157. Age and Growth of Game and Food Fishes.
- *158. Migrations of Game and Food Fishes.
- 165, 166, 167. Elementary Problems. A,W, S. (2 to 5 each quarter.) Staff. Students assigned problems to be worked out under direction of an instructor. Pr., 15 credits in fisheries.
- 195, 196. 197. Seminar. A,W, S. (2 to 5 each quarter.) Thompson. Reports and discussions of current fisheries literature. Pr., 15 credits in fisheries.

* Not offered in 1943-1944.

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Courses in Forestry

Courses for Graduates Only

201, 202, 203. Research. A,W,S. (2 to 5 each quarter) Thompson and staff. Pr., 25 credits in fisheries or its equivalent in zoology.

205, 206, 207. Graduate Seminar. A,W,S. (2 to 5 each quarter)

Thompson, staff.

Staff.

Staff.

Winkenwerder.

Dr. Hall.

Staff.

Winkenwerder.

Winkenwerder, assistants.

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Required of all graduate students. Maximum 6 credits. Open to graduates in zoology.

FORESTRY AND LUMBERING

Professors Winkenwerder, Grondal, Marckworth; ‡Associate Professor Pearce; Assistant Professors Hanley, Schrader, ‡Wangaard, ‡Zumwalt.

- 1a. Dendrology. S. (3) Identification, classification, distribution of the trees of North America.
- 1b. Dendrology. A. (3) Continuation of 1a. Pr., 1a.
- 2. Introduction to Forestry. A. (2) Orientation course required of all freshmen.
- 3. Introduction to Forestry. W. (2) Continuation of but need not be preceded by 2.
- Forest Protection. S. (3) Winkenwerder, assistants. Factors influencing the spread of forest fires, methods of presuppression, detection and suppression. Required of all freshmen.
- 5. First Aid to the Injured. S. (2)
- General Forestry. W. (3) Survey of forestry as a whole for non-majors.
- 7. Forestry Problems. S. (3) Schrader. Training in methods of attacking forestry problems, emphasizing accuracy, analysis, and interpretation of forestry data. Pr., Math. 4, Plane Trigonometry.
- 8. Forestry Problems. A. (3) Continuation of For. 7. Pr., 7.
- Wood Technology. A. (3) Grondal. Identification, taxonomy, physical and chemical properties of wood. Pr., Physics 3 or 6, For. 1a, 10 credits in chemistry, Bot. 10 and 11.
- Wood Structure. W. (3) Grondal, assistants. Microstructure of wood; identification, xylotomy, and elementary microtechnique. Pr., 10.
- 15. General Lumbering. A. (4) Staff. Comparative methods of lumbering on the Pacific Coast and in other lumbering regions of the United States. Prerequisite to all courses in logging and milling.
- 40. Silviculture. S. (2) Staff. Field studies of forest types and silvicultural problems. Given at Pack Forest. Pr., 121.
- 60. Forest Mensuration. W. (5) Staff. Theory of scaling, volume and taper tables, sample plot methods, determination of contents of stands, growth, yield. Pr., 3, Math. 4, For. 7, 8.

[‡] On leave.

Courses in Forestry

- 62. Forest Mensuration. S. (6) Staff. Studies in scaling, volume tables, cruising, mapping, growth and yield. Given at Pack Forest. Pr., 1b, 60, G.E. 7.
- *65. Forest Recreation Planning.

104. Timber Physics. A. (5) Schrader, assistants. General mechanics, stresses, tests, theory of flexure, moisture and strength; mechanical properties of wood. Pr., For. 8, Physics 3 or 6.

- 105. Wood Preservation. S. (3) Schrader. Factors influencing development of fungi; classification and control of wood-destroying agencies; mechanical properties of treated wood. Pr., 11.
- 106. Wood Preservation Laboratory. S. (2) Grondal. Evaluation of preservatives; methods of testing and inspection of treated material. Must be preceded or accompanied by 105.
- 115. Forest Protection. S. (3) Winkenwerder. Fire plans, relation of forestry practice in the control of insect and fungus attacks. Pr., 4.
- 119. Forest Administration. W. (3) Marckworth. Objects, principles, and methods of administering private and public forest industries. Pr., E.B. 3 or 4; senior standing.
- 121. Silvics. W. (3) Staff. Relation of trees and forests to soil, moisture, light, and temperature as a foundation for forest practice; forest ecology. Pr., 1b, 3, Bot. 11.
- 122. Silvicultural Methods. A. (5) Staff. Type and site classification; intermediate cuttings; final cuttings; natural and artificial regeneration. Pr., 40, 121.
- 126. Forest Economics. A. (4) Marckworth. Position of forests in the economic structure of the U.S. and other countries. Pr., E.B. 3 or 4; senior standing.
- 140. Construction. W. (4) Staff. Machinery, specifications, cost estimates, maintenance and methods of constructing roads, trails, wooden bridges, telephone lines; land clearing. Pr., 104, G.E. 7, C.E. 56.
- 151. Forest Finance. A. (4) Marckworth. Mathematics of forest finance and operations; cost of growing timber; valuation of land for forest production. Pr., 122.
- 152. Forest Organization. W. (4) Marckworth. Principles of organization and regulation; sustained yield management; forest working plans. Pr., 151.
- *154. Wild Life Management.
- *155. Range Management.
- 158. Forest Utilization. W. (5) Staff. Classification and utilization of secondary and derived forest products from the viewpoint of forest economics. Pr., 10.

* Not offered in 1943-1944.

- 160, 161, 162. Undergraduate Studies. A,W, S. (1 to 5 ea. qtr.) Staff. 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. Forest Management Surveys. S. (4) Marckworth.
- 164. Forest Management Surveys. S. (4) Senior field trip.
- 165. Forest Management Inventory. S. (4) Senior field trip.
- 166. Forest Management Studies. S. (4) Senior field trip.
- 167. Forest Management Report. S. (4) Marckworth. Senior field trip. Lectures, assigned readings and extensive field work on large scale tracts of timber. Required of management majors. Pr., 119, 152.
- 171. Forest Geography. W. (4) Staff. Economic geography of the forest regions of world. Forest resources, management, products, industries, trade. Pr., senior standing.
- *182. Lumber Grading.
- 183. Milling. A. (5) Grondal. Organization, planning, operation, and administration of timber conversion plants. Pr., 15, 104, 158, M.E. 82.
- 184. Manufacturing Problems. S. (5) Schrader. Lumber producing regions; economics and geography of utilization; selling and distribution of lumber; financing methods. Pr., E.B. 62, For. 183.

185. Forest Engineering. A. (5) Staff. Logging plans and costs; correlation of logging engineering methods with condition of stand, topography, forest management, etc. Pr., senior standing.

- *186. Logging Engineering.
- 187. Logging Engineering Field Trip.
- 188. Theory and Practice of Kiln Drying. W. (3) Grondal. Wood-liquid relationships and hygrometry; application of gas laws. Problems in the design of dry kilns. Pr., 11, 158.
- 189. Wood Pulp. S. (5) Grondal. Design of waste conversion plants; wood pulp manufacture. Pr., 11, 158, 183, 188.
- *193, *194. Seminar. A,W. (3,3)

Courses for Graduates Only

- 202. Thesis. A,W, S. (3 to 6 each quarter.) Staff. Total requirement nine credits; instructors assigned according to nature of work.
- 203. Advanced Wood Preservation. A. (3) Grondal. Theory of penetrance; design of wood preservation plants. Fire proofing and fire proofing compounds. Pr., 105, 106.
- 204. Forest Management Plans. A,W, S. (3 to 5 each quarter) Marckworth. Development of data covering a working circle; valuation of forest area; organizing forest property to conserve earning and productive power. Pr., 164, 165, 166, 167.

* Not offered in 1943-1944.

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Staff.

Marckworth.

Marckworth.

- 208. Graduate Seminar. W. (3) Staff. Reviews, assigned readings, reports and discussions on current periodical literature, Forest Service and state publications.
- 210, 211, 212. Graduate Studies. A,W, S. (3 to 5 each quarter) Staff. For students who wish to prepare themselves in fields in which the faculty of the department is prepared to give instruction but for which there is not sufficient demand to organize regular courses. Pr., graduate standing.
- 213, 214, 215. Research. A,W, S. (3 to 5 each quarter.) Staff. Ample opportunity is offered for research in special phases of forestry.
- 220. Advanced Forest Engineering. W. (5) Staff. Logging management, analysis of costs. Economic selective logging and valuation. Stumpage and logging appraisal; financial reports. Pr., graduate standing.
- 221. Forest History and Policy. W. (3) Marckworth. Forest policy of the U. S.; forestry in the states and island possessions; the rise of forestry abroad.

GENERAL ENGINEERING

Professors Wilcox, Warner; Associate Professor Brown; Assistant Professors Éngel, Jacobsen, Jensen, Rowlands; Instructors Boehmer, Douglass, Gullikson, Hiltner, Thwing, Twelker, Wallace; Lecturer Bliven; Associate Hillis.

- 1. Engineering Drawing. A,W,S. (3) Warner, Boehmer. Fundamental principles of orthographic projection; theory of related views; types of graphical representation. Should be preceded by or accompanied by solid geometry.
- 2. Engineering Drawing. A,W,S. (3) Rowlands, Douglass. Fundamental requirements of working drawings; practice in their reading and execution. Pr., 1.
- 3. Drafting Problems. A.W. S. (3) Warner. Detailed analysis and solution of engineering problems by use of drafting room methods. Descriptive geometry. Pr., 1, 2.
- 7. Engineering Drawing. W. (3) Warner, Chittenden. Special short course for forestry students.
- 9. Engineering Drawing. S. (3) Warner. Basic theory of engineering drawing. Emphasis on reading commercial drawings. Not open for credit to engineers.
- 11. Engineering Problems. A, W, S. (3) Wilcox, Brown. Training in methods of attacking, analyzing, and solving engineering problems. Coaching in proper methods of work and study, including training in systematic arrangement and clear workmanship. Deals principally with problems in dynamics. Student is assisted in orienting himself in his engineering work. Pr., high school physics, advanced algebra.
- 12. Engineering Problems. A,W,S. (3) Wilcox, Jensen. Elementary mechanics, statics, and graphics. Continuation of 11. Pr., 1, 11, Math. 31.
- Plane Surveying. A,W, S. (3) 21. Engel. Surveying methods, use of instruments, computations, mapping, U. S. public land surveys. Pr., 1, 2, or equivalents, and trigonometry.
- 47-48. Elementary Theory of Construction. A,W. (3 ea. qtr.) Sergev, Jensen. Analysis of fundamental structural problems by application of the laws of equilibrium. Three credits a quarter; autumn, winter. (For architecture majors only.)
- 151. Inventions and Patents. A. (1) Bliven. Law and procedure for patenting inventions, employer-employee relationship, trademarks. Pr., junior standing.

GENERAL LITERATURE

Professor Benham.

51-52-53. Masterpieces of European Literature. A,W, S. (3-3-3)

- 101. Introduction to Criticism and Literature. S. (5) Benham. The relation to life in the light of recent critical, philosophical, psychological, and social scholarship. (May receive credit in English.)
- 191, 192, 193. General European Literature. A,W, S. (3,3,3) Benham. A synthetic view of the literatures of the world as they have affected English literature. Course conducted by means of lectures and readings in English literature and other literatures in translation.
- 194, 195, 196. General European Literature. A,W, S. (3,3,3) Benham. Continuation of studies begun in Gen. Lit. 191, 192, 193, to approximately 1650 A.D.

For other courses that form a part of the general literature program, see English, the foreign language departments, and especially the following courses offering foreign literatures in English translation: French 34, 35, 36, 118, 119, 120, 134, 135, 136; German 100, 101, 102, 103, 104; Greek 11, 13, 17, 18; Italian 34, 35, 36, 134, 135, 136, 181, 182, 184; Latin 11, 13; Far Eastern 50, 170, 171; Scandinavian 98, 99, 109, 110, 111, 180, 181, 182; and Spanish 34, 35, 36, 115, 116, 117, 118, 119, 120, 134, 135, 136.

GENERAL STUDIES

Advisory Committee: H. B. Densmore (Greek), Chairman; J. B. Harrison (English);
 N. S. Hayner (Sociology); C. L. Hitchcock (Botany); M. E. Jensen (History);
 H. L. Nostrand (Romanic Languages); V. Sivertz (Chemistry).

21-22. American Social Trends. A.W. (5-5)

Non-technical introduction to the various social sciences in terms of American experiences and institutions. Lectures, discussion sections, supervised reading and individual projects.

151, 152. Sources of the Modern Cultural Crisis. 151: A,S.; 152: A. (2-6,3)

Interdepartmental Staff.¹

151: Individual reading, to be assigned by the appropriate members of the interdepartmental staff, and tested early in autumn quarter. May be repeated in various fields in the same or successive quarters. 152: Directed reading and discussion, based on Randall, *Making of the Modern Mind*, and selected primary source material. Primarily for upperdivision students. Pr., permission of the department based on (a) general preparation, and (b) standing in major field.

155-156. Analysis of the Modern Cultural Crisis. W,S. (3-3)

Interdepartmental Staff.¹

Lectures, discussion, and reports. A series of faculty-student discussions will treat the chief aspects of the present social crisis (e.g. economic, psychological, scientific and technological, artistic, moral, religious). Essential conflicts will be studied, as well as the problem of synthesis. Primarily for seniors. Pr. 152 or permission of the department.

191, 192, 193. Senior Study. A,W, S. (†)

Seniors who wish to follow some course of supervised study or who need research allowance for their major project may enroll in these courses for credit to be arranged on consultation with their advisers.

† To be arranged.

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³G. Costigan (History), H. B. Densmore (General Studies), R. H. Gundlach (Psychology), J. B. Harrison (English), M. H. Hatch (Zoology), A. E. Hudson (Anthropology), M. Jacobs (Anthropology), C. Kerr (Economics and Business), W. G. Lutey (Liberal Arts), L. A. Mander (Political Science), H. L. Nostrand (Romanic Languages), H. J. Phillips (Philosophy), L. H. Pries (Architecture), M. Rader (Philosophy), V. Sivertz (Chemistry), D. Thomson (Classics), R. G. Tyler (Engineering), C. T. Williams (Education).

Courses in Geography

GEOGRAPHY

Professor Martin; Associate Professors Earle, von Brevern; Assistant Professor ‡Church; Instructor Pierson; Associate Sherman.

- 1. Survey of World Geography. A,W,S. (5) Earle, von Brevern. World regions; man's changing relation to his habitat; background for social sciences. Not open to students who have had 7 or 70.
- Physical Geography. W,S. (5) Pierson.
 Physical basis of geography. Major and minor land forms; types and uses of soils; underground and surface waters; mineral products. Use and interpretation of topographic maps. Lab., field trips.
- Economic Geography. A,W,S. (5) Martin. Resources of the world; factors locating industries; commodities in international trade. Not open to students who have had 1 or 70.
- 11. Weather and Climate. A,W,S. (5) Barle, Pierson, Sherman. World distribution of temperature, pressure, winds, precipitation. Climatic cycles. Interpretation of weather maps.
- K70. World Geography. A. (5) Martin. Economico-political geography especially designed for journalism students. Not open to students who have had 1 or 7.
- *77. Urban Geography.
- 101. World Regional Geography. A,W,S. (5) Earle, von Brevern. Same as 1, but with additional work and readings. Not open to those who have had 1, 7, or 70. Pr., junior standing.
- 102. Geography of United States. A,W,S. (5) Martin, Pierson. Regional specialization; sectionalism, growth of cities, internal problems. Pr., 1 or 101, 7 or junior standing.
- 103. Geography of Asia. A. (5) Earle. Countries and natural regions. Distribution of resources; population problems. Transportation and trade. Pr., 1, or 101, 7, or permission.
- 104. Geography of Europe. S. (5) von Brevern. Survey by countries. Localization of manufactures. Geographic bases for commerce. Pr., 1 or 101, 7, or permission.
- 105. Geography of South America. S. (5) Pierson. Economic and social development; raw materials and potential markets; inter-American relations. Pr., 1 or 101, 7, or permission.
- 106. Geography of Africa-Australasia. W. (5) Earle. European colonization and development. The native problem. Resources, plantation agriculture, tropical trade. Pr., 1 or 101, 7, or permission.
- 108. Geography of Canada and Alaska. S. (3) Pierson. Natural regions, resources, economic and social development; problems of northern settlement. Pr., 1 or 101, 7, or permission.
- 109. Geography of Middle America. W. (3) Martin. Regions and resources of Mexico, Central America, the West Indies. Transportation and trade. American policy in the Caribbean. Pr., 1 or 101, 7, or permission. Not open to those having 115.

* Not offered in 1943-1944. ‡ On leave. Courses in Geography

- 110. Resources of the Pacific Northwest. A. (3) Pierson. Geography and resources of the Northwest; rural and urban development; industry and commerce; regional problems.
- 111. Climatology. A,W,S. (5) Same as 11, but with additional work and readings. Not open to those who have had 11. Pr., junior standing.

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- 112. Meteorology. A,W,S. (5) Fundamentals of the physics of the atmosphere. Pr., 11, or 111.
- 121. Regional Climatology. S. (5) Sherman. Descriptive analysis of climatic characteristics of continents. Controls of climate. Types and distribution. Climatic classifications. Pr., 11, 111, or permission.
- 122. Aeronautical Meteorology. W. (3) Sherman. The troposphere. Radiation, temperature, clouds, fog, thunderstorms, ice formation on aircraft. Engineering juniors and seniors only.
- 125. Geographic Background of History. W. (3) Martin. Use of geographic data in interpretation of American history. Pr., 10 credits of history or geography.
- 132. Islands of the Pacific. A. (3) Geography, climate, resources of Hawaii, Philippines, East Indies, Samoa, Fiji, Solomons, etc. Pr., Geog. 1, 101, 7 or consent.
- 140. Geography in the Social Studies. W. (3) Earle. The place of geography in the social science curriculum. Pr., 10 credits in geography, or permission.
- 152. Air Mass Analysis. W. (3) The frontal theory. Vertical and horizontal properties of air masses. Life cycle of extratropical cyclones. Practice forecasting. Pr., 112 or 122.
- 153, 154. Meteorological Laboratory. W,S. (3,3) Sherman. Construction and analysis of weather charts based on frontal and isentropic methods. Practice forecasting.
- 155. Influences of Geographic Environment. S. (5) Earle. Development of geographic theory; studies of occupance; urbanization; human adjustment. Pr., 20 credits of geography, or permission.
- 160. Cartography. W. (5) Pierson. Map projections, areal distribution, scales, sketch mapping, block diagrams.
- 170. Conservation of Natural Resources. W. (5) Martin. Public policy in the management of soils, forests, minerals, fisheries, etc. Land reclamation; problems in resource utilization.
- 175. Problems in Political Geography. W. (5) von Brevern. Geographic aspects of current international issues. Territorial problems. Pr., 10 credits of geography, permission.
- 192. Research Problems in Meteorology and Climatology. A,W,S. (†) Sherman. Pr., permission.
- 195. Individual Conference and Research. A,W, S. (2 to 5) Staff. For advanced undergraduates. Pr., permission.
- 199. Preseminar in Geography. S. (5) Martin. Training in research methods; preparation and presentation of a paper. Pr., permission.

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

^{*} Not offered in 1943-1944.

[†] To be arranged.

Courses in Geography, Geology

Courses for Graduates Only

200. Seminar. S. (5) Martin. 201. Research. A,W, S. (†) Staff. 207. World Resources and Industries, A.W.S. (†) Martin. Readings and research. 211. Research in Meteorology. A,W,S. (†) 220. Land Utilization. S. (5) Pierson. Resource inventory, land classification, conservation, and theory of use. Earle. 255. History and Theory of Geography. A. (†) GEOLOGY Professors Goodspeed. Weaver. Fuller: Associate Professor Mackin: Assistant Professors *‡Barksdale*, Coombs. 1. Survey of Geology. A,W,S. (5) Lectures, laboratory, field trips. Goodspeed. 5. Rocks and Minerals. A. (5) Pr., at least a high school course in chemistry. Elements of Physiography. W. (5) Mackin. 6. Processes and agencies affecting the earth's surface; relation of topography to structure, etc. Pr., 1 or 5. 7. Historical Geology. S. (5) Weaver. Origin and evolution of the earth, with emphasis on the general history of North America. Pr., five credits of geology or Zool. 1 and 2. 101. History of Geology. A. (3) Mackin. The rise of geology as a science. Required of all majors in geology. Pr., 15 credits in geology. Petrology as Applied to Engineering. A. (5) Goodspeed, Coombs. 105. Same as 5, but with additional work, readings. For students in civil, electrical, or mechanical engineering. Pr., junior standing. 106. Elements of Physiography. W. (5) Mackin. Same as 6, but with additional work and readings. Pr., junior standing. 107. Historical Geology. S. (5) Weaver. Same as 7, but with additional work and reading. Pr., 5 credits in geology or Zool. 1 and 2, and junior standing. *112. Physiography of Eastern United States. Mackin. Physiography of Western United States. A. (5) 113. Physical history of surface forms in the physiographic provinces of the western United States. Pr., 5, 6, 7, 131, or permission. 114. Map Interpretation: Constructional Landforms. W. (5) Mackin. Pr., 5, 6, 7, 112, or 113. * Not offered in 1943-1944. † To be arranged. ‡ On leave 1943-1944.

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Courses in Geology

- 116. Glacial Geology. S. (5) Mackin. Study of mechanism of glacial action including field work on actual glaciers. Pr., 5 and 6.
- 121. Mineralogy. S. (5) Goodspeed, Coombs. Elements of crystallography and blowpipe analysis. Descriptive and determinative mineralogy. Pr., 5, and at least high school chemistry.
- 123. Optical Mineralogy. A. (3 or 5) Coombs. Principles in the use of the petrographic microscope and recognition of common minerals in thin section. Pr., 5, 121 (except for U.D. chemistry students).
- 124. Petrography and Petrology. W. (3 or 5) Coombs. Systematic study of rocks both in the hand specimen and in thin section with the petrographic microscope. Pr., 123.
- 125. Petrography and Petrology. S. (3 or 5) Goodspeed. Continuation of methods in 124. Special problems of petrogenesis and field petrology. Pr., 124.

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- 126. Sedimentary Petrography. A. (3 or 5) Coombs. Principles of correlation of sedimentary rocks by their mineral constituents. Pr., 124.
- 127. Ore Deposits. W. (5) Goodspeed. Form, structure, mineralogy, petrology, and mode of origin of ore deposits. Pr., 121, 124.
- *128. Mineral Resources-Non-Metals.

*129. Mineral Resources-Metals.

- 130. General Paleontology. W. (5) Weaver. Principles of paleontology and a general systematic study of fossils. Pr., 7, or Zool. 1 and 2.
- 131. Stratigraphy. A. (3) Origin, deposition, and methods of correlation of sedimentary strata. Pr., 5, 6, 7, 124.
- 132. Invertebrate Paleontology. S. (5) Important type fossils of each geologic period. Pr., 7, or Zool. 1 and 2.
- 133. Mesozoic Geology. W. (5) Weaver. Geological history of the Mesozoic era and its fauna from a world-wide standpoint with special emphasis upon Europe. Pr., 130, 132.
- 134. Tertiary Geology. S. (5) Weaver. Tertiary formations and their faunas, with special emphasis upon Europe and correlation with North and South America. Pr., 130, 132.
- *135. Study of Ammonites.
- *136. Geology of South America.
- 137. Tertiary Faunas of Washington. W. (5) Weaver. Pr., permission.

* Not offered in 1943-1944.

Courses in Geology

- 142. Structural Geology. W. (5) Interpretation of rock structures and their genesis. Pr., 5, 6, 7.
- 143. Advanced Structural Geology. S. (3) Pr., 142.
- 144. Field Methods. S. (5) Methods of geologic and topographic surveying and recording in geologic field work. Pr., 124, 142.
- *150. Elements of Seismology.
- *160. Principles of Geomorphology.
- 181. Preparation of Geologic Reports and Publications. S. (3) Coombs. The procedure in preparing and illustrating a geological report. Pr., senior standing in geology.
- 190. Undergraduate Thesis. A,W, S. (†) Staff. Preparation of thesis in geology or any of its branches. Thesis must be submitted at least one month before graduation. Pr., senior standing. Five credits allowed for thesis.

Course Open to Approved Seniors and Graduates

200. Field Studies. A,W, S. (†) Staff. Advanced work in geology or a general seminar. Open to advanced undergraduates upon permission of instructor.

Courses for Graduates Only

Two modern languages, a Teutonic and a Romanic, are necessary for graduate work in geology.

201. Advanced Petrography and Petrology of Igneous Rocks. A,W, S. (†) Goodspeed.

202. Advanced Petrography and Petrology of Metamorphic Rocks. A,W, S. (†) Goodspeed.

- 212. Advanced Studies or Field Work in Physiography. A,W, S. (†) Mackin.
- 220. Advanced or Research Work in Mineralogy, Petrography, and Petrology. A,W, S. (†) Goodspeed, Coombs.
- 227. Advanced or Research Work in Economic Geology. A,W, S. (†) Goodspeed.
- Advanced or Research Work in Paleontology and Stratigraphy. A,W, S.
 (†) Weaver.
- 240. Advanced Studies in Structural Geology. A,W,S. (†)

^{*} Not offered in 1943-1944.

t To be arranged.

GERMANIC LANGUAGES AND LITERATURE

Professors Vail, Eckelman, Lauer, Meisnest; Associate Professor Meyer; Instructors Ankele, Schertel; Associates Wesner, Wilkie.

Students of mathematics and the applied sciences should take German 1-2, 3, an additional course in second-year German, 60, and the upper-division scientific courses for specialized reading.

Students of history and the social sciences should elect German 10 or 30 and the courses listed in the 130's.

Credit is allowed for any quarter in any course except German 1-2.

- 1-2. First Year. A,W, S. (5-5) Stage pronunciation, grammar, reading of easy prose, oral and aural training.
- Wilkie. 1X, 2X, 3X. First Year, Intensive Course. A,W,S. (10,10,10) An intensive course offering the essentials of grammar and leading as rapidly as possible toward the reading and speaking objective. Pr., consent of instructor or executive officer of the department.
- 3. First Year Reading. A.W.S. (5) Wilkie. Modern prose, oral and aural training, continuance of grammar and vocabulary studies. Pr., 1-2, or one year in high school.
- 4. Second Year Reading. A,W,S. (5) Staff. Pronunciation, vocabulary building, modern prose, aural and oral training. Pr., 3, or two years high school.
- 5. Second Year Reading. A,W, S. (3) Staff. Vocabulary building, modern prose, oral and aural training. Pr., 3, or two years high school. Not open to students having had 4.
- *6. Second Year Reading.
- 7. Second Year Grammar Review. A,W. (3) Wesner. Systematic grammar review with some elementary composition. For second-year students wishing to develop correctness of expression and accuracy in reading. Especially valuable as preparation for 120, 121, 122. Pr., 4, 5, or 6.
- 10. Advanced Second Year Reading. W. (3) Staff. Pronunciation, modern prose, vocabulary building, oral and aural training. Pr., 4, 5, or 6.
- 30. Conversation Based on Rapid Reading. S. (3) Ankele. Second year reading. Special emphasis upon oral and aural training. For students interested primarily in acquiring a speaking knowledge of the language. Pr., 4, 5, or 6.
- 60. Lower Division Scientific German. A,W, S. (3) Staff. Introduction to general scientific German. Outside and class reading. Vocabulary build-ing. 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. W. (2) Staff. Continuation of 60.

*Not offered in 1943-1944.

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- 100. Literature in Translation: Main Currents in German Literature. A. (5) Vail. The Middle Ages to the 19th century. Major tendencies and movements as reflected in personalities and masterpieces. Lectures, discussions, reports. No knowledge of German required. Open to freshmen and sophomores.
- *101. Literature in Translation: The Novel.
- Ankele. 102. Literature in Translation: Goethe. W. (3) Lyric, prose, and dramatic works of Goethe's formative, Storm and Stress period. Faust, Part I. Lectures, special reports. No knowledge of German required. Open to freshmen and sophomores.
- *103. Literature in Translation: The Drama.

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- 104. Literature in Translation: Frenssen and Thomas Mann. S. (3) Schertel. Study of conflicting tendencies in German thought and letters during the 20th century. Social and economic backgrounds. Interpretation of Jorn Uhl, Buddenbrooks, Magic Mountain, and Joseph and His Brothers. No knowledge of German required. Open to freshmen and sophomores.
- 113, 114, 115. Upper Division Scientific German. A,W, S. (2 or 3 each quarter) Schertel. Scientific monographs, technical periodicals. Each student reports on reading in his own field in weekly conferences. Pr., 60, grade "B," or 61, or equivalent.
- 116. Upper Division Scientific German for Pre-medics. W.S. (3) Schertel Readings in medical German. Pr., 60, grade "B," or 61, or equivalent.
- 117. Military German. A,W,S. (2 or 3) Schertel. Readings based upon military, naval, and aeronautical science. A study of Nazi terminology and tactics as revealed in the current writings. Pr., eight credits of second-year German, or equivalent.
- 120, 121, 122. Grammar and Composition. A,W,S. (2,2,2) Vail, Ankele. Grammar and syntax, translation and original composition, dictation, oral work, letter writing, themes. Primarily for majors and minors. To be taken preferably in the junior or senior year of study. Pr., eight credits of second-year German, or equivalent.
- 128. Phonetics. S. (2) Meyer. Systematic study of the nature, production, and classification of the German speech sounds. Stage pronunciation, phonetic transcription, oral practice. Pr., 3.
- 129. History of the German Language. S. (5) Meyer. From early Germanic to the present day: sound changes, and the development of dialect and standard German. Open to senior and graduate majors and minors, and to junior majors.
- 130, 131. Introduction to the Classical Period. A,W. (3,3) Ankele. The reading of representative dramas and other works of Lessing, Goethe, and Schiller. Biographical studies. Discussion, oral and written reports. Pr., eight credits of secondyear German, or equivalent.
- Introduction to the German Novelle. S. (3) 132. Wesner. The reading and study of Novellen by such representative writers as Keller, Meyer, and Storm. Lectures, discussions, and reports on the works and on the theory of the Novelle. Biographical studies. Pr., eight credits of second-year German, or equivalent.
- *139. Studies in German Literature.

^{*} Not offered in 1943-1944.

Courses in Germanic Languages

- 140. Heimatkunst. A. (3) Reading of the earlier works of Frenssen, Löns, and others. Pr., 130, or equivalent.
- *141. Recent Novellen.
- *143. Expressionism and Twentieth Century Realism.
- *145. Modern Novels.
- *147, 148. Modern Drama.

*160. Lessing: Life and Dramatic Works.

- *162. Goethe's Lyric Poetry.
- 163. Goethe's Dramatic Works. S. (3) Eckelman. The reading of representative plays from the several periods of Goethe's life; study of his dramatic technique and influence. Pr., 130, or equivalent.

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*166. Goethe's Faust, Part I.

*168. Schiller's Historical Dramas.

- *167. Goethe's Faust, Part II.
- 180, 181, 182. Nineteenth Century Literature. A,W,S. (3,3,3) Eckelman. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer. The naturalistic movement, *Heimatkunst*, expressionism. Lectures, special problems, term papers. Pr., 130, or equivalent.

183, 184, 185. History of German Literature.

186. Lyrics and Ballads. W. (3) Vail. A survey of the lyrics and ballads from the earliest times to the Twentieth Century. Lectures, discussions, reports. Pr., 130, or equivalent.

Teachers' Course in German. (See Educ. 75L.)

For courses in comparative philology, consult the offerings in the Department of Scandinavian Languages.

Courses for Graduates Only

The following graduate courses are regularly offered by the department. In order to form suitable groups for graduate study, students must consult with the executive officer of the department and secure permission to register for any of the courses listed below. Credit and time for all courses will be arranged.

200, 201, 202. Goethe's Lyrics and Letters.

203, 204, 205. Storm and Stress Period.

206, 207, 208. The Romantic School.

209, 210, 211. Schiller.

220, 221, 222. Interrelations of German and English Literature.

- 230. Reformation.
- 234. The Age of Enlightenment.
- 235. Pietism and Sentimentalism.

* Not offered in 1943-1944.

- 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.

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259. Old Saxon.

270. Renaissance.

HISTORY

Professors Holt, Levy, Lucas; Associate Professors Costigan, Dobie, Jensen, Quainton; Assistant Professors Gates, Kats; Lecturer Kimmel; Associate Davis.

- 1-2. Medieval and Modern European History. A,W, S. (5-5) Lucas, Quainton, Dobie. General survey from the Roman world empire of Augustus to our own times. Both 1 and 2 given each quarter. 3-4. Survey of Western Civilization. A.W. (5-5) Lucas. Introduction to the social sciences. 5-6. English Political and Social History. A.W. (5-5) Costigan. By special work, upper division students may receive upper division credit. 7. A Survey of the History of the United States. A,W,S. (5) Gates. By special work, upper division students may receive upper division credit. 21-22. American Social Trends. A.W. (5-5) Jensen. Survey of social trends from the earliest times to the present. Lectures, discussion sections, supervised reading, and individual projects. 72-73. Ancient History. A,W, (5-5) Levy. The Ancient Mediterranean world, Greece and Rome. By special work, upper division students may receive upper division credit. Not open to freshmen. *100. Greece in the Age of Pericles. *101. Alexander the Great, and the Hellenistic Period. *103. Age of Caesar and Cicero: History and Culture. *104. The Roman Empire.
- 106. English Constitutional History. S. (5) Costigan. Development of legal and governmental institutions of the English people to the present time. Pr., 5-6.

* Not offered in 1943-1944.

Courses in History

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200	Courses willistory	
* 110.	The Byzantine Empire: History and Culture.	
* 111.	Greek and Roman Political Institutions.	
114.	The Culture of the Renaissance. A. (5) Lu	cas.
115.	The Reformation. W. (5) Lu	cas.
* 118.	Medieval Civilization: The Dark Ages from the Barbarian Invasions to Age of Feudalism (350-1000).	Гhe
* 11 9 .	Medieval Civilization: Economic Aspects of the Middle Ages from Decline of Rome to the Renaissance.	the
120.	Medieval Civilization: Art, Letters, Religion, Education and Thought. (5) Lu	S. cas.
* 124.	Economic History of Europe Since the Industrial Revolution.	
* 128.	France from the Reformation to the French Revolution.	
129.	The French Revolution and Napoleonic Era. W. (5) Quain	юп.
130.	Europe 1814-1870. S. (5) Quaint	on.
131.	Europe 1870-1914. A. (5) Quaint	юп.
132.	History of Modern Colonial Empires. S. (5) Do	bie.
133.	Europe Since 1914. A. (5)	evy.
* 134.	Germany from 1648 to 1914.	
135.	History of Modern Military Systems from Gustavus Adolphus to the Pres A. (5)	ent. nel.
	Pr., junior standing or permission.	
140.	American Colonial History. A. (5) Jen:	sen.
141.	American Revolution and Confederation. A,W. (5) Jen	sen.
144.	History of the United States, 1789-1829. S. (5) Jen	sen.
*145.	History of the United States, 1829-1860.	
*147.	History of the Civil War Period and Reconstruction.	
149.	History of the United States, 1877-1920. A. (5) Ga	tes.
*151.	History of American Industrial Society.	
155.	History of Canada. S. (5) Do Canadian development to the present time.	bie.
*158.	The United States in World Affairs: 1776-1861.	
159.	The United States in World Affairs: 1861 to the Present Day. W. (5) Ga	ites.
164.	History of Washington and the Pacific Northwest. S. (5) Ga	tes.
*166.	Constitutional Law in Europe.	

* Not offered in 1943-1944.

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170. Constitutional History of the United States: From the Colonial Foundations to 1801. S. (5) Jensen.		
*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. W. (5) Dobie.		
*181. History of the British Empire since 1783: British Commonwealth of Nations.		
182. England in the Eighteenth Century. A. (5) Costigan.		
183. England in the Nineteenth Century. W. (5) Costigan.		
184. England in the Twentieth Century. S. (5) Costigan.		
190. Introduction to Roman Law. W. (5) Levy. Open to qualified sophomores.		
*191. Comparative Law.		
*192. Introduction to Modern Civil Law.		
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. A. (5) Staff. Normally the first graduate course in history. Required of all majors and minors.		
*202-203. American Historiography.		
*208, 209. Greek and Roman History		
216, 217. Philosophy of History. W, S. (3,3) Costigan.		
218, 219. British Empire. A,W. (3,3) Dobie.		
*221-222-223. American History.		
225-226. American History. W, S. (3-3) Gates.		
227-228. American History. W, S. (3-3) Jensen.		
231, 232, 233. Modern European History (1600-1815). A,W, S. (3,3,3) Quainton		
234. Roman Law. A. (3) Levy		
*251, 252, 253. Advanced Seminar in American History. A,W,S. (†) Jensen, Gates. Admission by invitation only.		
300, 301, 302. Individual Research or Thesis Work. A,W, S. (†) Staff		
* Not offered in 1943-1944. † To be arranged.		

HOME ECONOMICS

- Professors Raitt, Denny, Monroe, Payne, Rowntree; Associate Professors Bliss, Dresslar, Ingalls; Assistant Professors Terrell, Tilden, Starr, Storvick; Lecturer Wade; Instructors Black, Bucknell, McAdams.
 - Raitt. 7. Introduction to Home Economics. A. (2) Function of home economics, history, present status in technological and relational aspecta, place in curriculum, professional opportunities, personal accounts, and budgets.
 - Nutrition for Student Nurses. A,W, S. (6) Bliss. 9. Nutrition and food preparation. Open to student nurses only. Pr., Chem. 21.
 - Costume Design and Construction. A,W, S. (5) Payne, Ingalls, Starr. 12 General enough to be of practical value if only one course is taken, yet basically organized as a foundation for the costume design courses which follow.
 - Food Preparation. A, S. (3 or 5) Dresslar, Tilden. General enough to be of practical value if only one course taken, yet basically organized as a foundation for all the food preparation which follows. Technics presented by demon-stration followed by laboratory practice. Students who present two years of home economics credit from high school may omit the laboratory work and receive 3 credits. 15.
- *24. Textiles for Non-Majors. (2)
- 25. Textiles. W, S. (5) Denny. Textile products and their uses, economic and esthetic values. Relation of raw material, construction, and finish to quality and cost of fabrics. Not open to freshmen.
- 26. Institution Textiles. W. (3) Denny. Textile supplies for institutions. Methods of purchase, specifications, testing, storage, care,
- *41. Home Furnishing for Non-Majors.
- 101, 102. Needlecraft. A,W. (2,2) Pavne. Interpretation of the needle arts of various nationalities. Application of authentic and original designs. Study of historic laces and embroideries is carried through the courses. Pr., 12, Art 9.
- 104. Nutrition for Non-Majors. S. (2) For physical education majors, pre-medics, social service workers and others for whom a specific nutritional knowledge is essential. Pr., Physiol. 7, high school or college chemistry, junior standing, or permission of instructor.
- Diet Therapy for Graduate and Student Nurses. W, S. (5) Storvick. 105. Pr., graduate nurse; or Home Econ. 9, Chem. 1, 2, 137, Physiol. 53, 54.
- Nutrition for Public Health Nurses. A. (5) 106. Storvick. Pr., graduate nurse.
- 107-108. Nutrition. A, W. (5-3) Rowntree. Fundamental principles of human nutrition. Pr., Chem. 135-136, H.E. 15, Physiol. 7. Pre-medical students and chemistry majors may enroll with the instructor's consent. Prerequisite to all advanced courses in nutrition.
- 109. Consumption Problems and Management of Income. W. (3) Monroe. Cost-of-living and consumption studies; economic factors influencing family standards, expenditures and levels of living; attempts through social control to raise levels of living. Of special interest to social workers and students not in Home Economics.

* Not offered in 1943-1944.

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Rowntree.

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*110. Food Study for Technology.

*111. Nutrition for Technology.

- 112. Costume Design and Construction. A,W. (3) Staff. Study and construction of children's clothing and wool dresses with choices based on personality, principles of design, and social and economic factors. Pr., 12, Art 9.
- 113. Costume Design and Construction. W, S. (3) Ingalls. Design of clothing by modeling garments in muslin. Final problem in silk. Psychology of dress, factory-made clothing, fashion, and sources of consumer information. Pr., 112.
- 114. Costume Design and Construction. S. (3) Ingalls. Application of the basic principles of coat and suit construction. Selection and purchase of clothing as related to the budget. Pr., 113.
- 115. Food Preparation. A,W. (3) Dresslar, Tilden. Relation of the fundamental sciences to the processes and technics of food preparation. Introduction to investigation methods. Pr., 15, Chem. 1-2, Physiol. 7.
- 116. Advanced Food Preparation. W,S. (5) Dresslar. Adapted for teacher-training majors. Pr., 115.
- 120. Advanced Food Preparation. W,S. (3) Adapted for institution administration majors. Pr., 115.
- 121. Institution Food Preparation. S. (5) Terrell. Study and practice in large quantity manipulation, cost accounting, standardization of formulas, menu planning. Pr., 120.
- 122. Institution Purchasing. W. (3) Terrell. Factors influencing quality, grade, and cost of food with a view to developing accurate judgments in food purchase. Pr., 120.
- 123. Institution Management I. W. (3) Raitt. Organization, housing, and furnishing standards for institutions. Open to students accepted for the professional curriculum; others by permission of instructor. Pr., E.B. 1-2.
- 124. Institution Management II. W, S. (3) Terrell. Food service organization and administration. A study of financial, personnel, and equipment management. Open to students accepted for the professional curriculum; others by permission. Pr., 121.
- 126. Demonstration Cookery. W. (3) Dresslar. Study, observation, and experience in the technic of the demonstration as an effective method in teaching and business. Pr., 116 or 120.
- 131. Clothing Selection. A. (2) Ingalls. Choice of clothing, emphasizing appropriateness to personality and occasion as well as judgment of quality and cost. Two lectures a week. No credit to those who take 12.
- 133. History of Costume. S. (5) Payne. Costumes as an expression of the culture of successive periods in history. A large collection of national costumes enriches the course. Source material for professional costume designers. Pr., 112, Art 169.
- 141. The House, Equipment, Management. A,W, S. (5) Black. Housing needs for various groups; floor plans and construction. Housing standards and social regulation; fixtures and equipment. Household management in relation to time and energy. Pr. or parallel, Physics 89 or Chem. 1.

* Not offered in 1943-1944.

Tilden.

- 144. Income Management. A.S. (3) Monroe. Planning personal and family expenditures in accordance with needs and aims in living; problems of choice-making and spending; factors influencing real income; guides and standards for planning expenditures; considerations for savings and investment program. Pr., E.B. 1 or 4, or permission of instructor.
- 145. Family Relationships. W,S. (3) Raitt. Organization of the household. Basic principles and desirable attitudes in family relationships. Pr., E.B. 1 or 4, junior standing.
- 147. Home Furnishing. A.S. (5) Denny. Economic and esthetic values applied to purchase and arrangement of furnishings. Study of historic and modern furniture, pictures, rugs, tapestry, china, glass, silver. Pr., Art 9.
- 148. Home Management House. A, W, S. (2) Black. Organization, inancial management, records, housekeeping, food preparation and service, and hospitality. For home economics majors. Pr., fifth year.
- 160, 161. Advanced Costume Design and Construction. A,W. (5,5) Payne. Creative designing of costumes by flat pattern and modeling methods. Open to students accepted for the professional curriculum and others by permission of instructor. Pr.,114, Art 169.
- 175. Institution Equipment. S. (3) Terrell. Construction, operation, and care of equipment; routing of work. One-hour conference and eight hours laboratory work a week. Open to students accepted for the professional curriculum and others by permission of instructor. Pr., or parallel, 124.
- 180. Family Incomes and Consumption. S. (5) Monroe. The place of credit in family financial planning; survey and analysis of short-term and long-term consumer credit agencies from the viewpoint of the family; the social implications of credit. Of special interest to students in sociology, economics, social work and home economics. Pr., Sr. standing or permission of instructor.
- 181. Consumer Problems. A.W. (3)

The consumer's position in present-day markets; protection through legislation and other forces of social control; factors influencing consumer demand; standardization and informative labeling; advantages offered consumers by different types of retail stores; installment buying and consumer credit; how consumers may influence and be influenced by marketing policies, costs, and trends. Pr., E.B. 1 or 4, or permission of instructor.

- 187. Experimental Cookery. A. (3) Dresslar. Study of fundamental principles of the entire field of cookery through reading and laboratory experimentation. Pr., senior or graduate standing, permission of the instructor.
- (3) 188. Advanced Textiles. A. Technics and evaluation of testing methods, analysis of fabrics, textile legislation, standardization, consumer education. Pr., 25, E.B. 4.
- 189. Hand Weaving. S. (2) Starr. Hand weaving as a medium of artistic expression. Color, design, texture, technic of weaving, interpretation of drafts. A collection of modern and traditional weaving of many countries is available for study. Pr., Art 9, H.E. 25.
- 190. Child Nutrition and Care. W,S. (5) Rowntree. Problems of maternity and infancy, methods of improving physical and mental health of children. Laboratory work in University Child Nutrition Service. Pr., 107.
- 191. Diet Therapy. S. (3) Storvick. Open to students accepted for the professional curriculum, and others by permission of instructor. Pr., 108.

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Monroe.

Denny.

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Courses in Home Economics

195. Research in Home Economics. A,W,S. (†) Staff. An assigned problem in household management as a research project under various staff members. Pr., fifth year.

196, 197. Supervised Field Work in Institution Administration. W,S. (15, 15) Terrell.

Six months of supervised field work in the fifth year. Pr., 195 credits. The following are acceptable:

- A. Hospital interneship approved by the American Dietetic Association.
- Administrative interneship under the auspices of members of the Home Economics B. staff and approved by the American Dietetic Association.
- C. Nursery School Service.

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- D. Field work in other lines as adequate supervision may be established.
- 198. Historic Textiles. W. (3) Denny. A collection of rare materials is available for study of tapestry, rugs, lace, embroidery, damask, brocades, and velvets, in their historic settings. Pr., 25, 47, Art 9, 10, 11, or equivalent.
- Teachers' Course in Home Economics. (For junior and senior high school. See Educ. 75NA.)
- *Teachers' Course in Home Economics. For institution administration. See Educ. 75NB.)

Courses for Graduates Only

- 200. Investigation Cookery. A. (3) Dresslar. Introduction to methods of research, study of problems in food supply and preparation based upon related sciences. Pr., 116 or 120.
- *202. Home Economics Education.
- 204. Introduction to Research in Nutrition. A. (†) Storvick. Elementary research carried on cooperatively in basal metabolism studies, animal experimentation, nitrogen, calcium and hemoglobin determination. Must parallel 214. Pr., 108.
- 205, 206. Research in Nutrition. W, S. (†) Storvick. Individual research in mineral or energy metabolism, animal feeding, or dictary studies. Pr., 204.
- 207, 208, 209. Research in Textiles. A,W,S. (†) Denny. Pr., graduate standing. Confer with instructor before registering.
- 211, 212. Research in Costume Design. A,W. (†) Payne. Pr., 114, 133.
- 214. Readings in Nutrition. A. (†) Library research. Pr., 108.
- 215. Readings in Nutrition. W. (†) Library research. Pr., 214.
- 220, 221, 222. Research in Institution Administration. A,W, S. (†) Terrell Problems dealing with food service and housing units in various types of institutions. Pr., 121, 122, 123, 124, 175, or equivalent.
- Social and Economic Problems of the Consumer. A. (†) 245. Monroe. Readings and a survey of research in the field of consumption. Pr., 144, 145, 181.

250. Thesis. A, W, S. (9)

* Not offered in 1943-1944. † To be arranged.

Staff.

Rowntree.

Storvick.

Courses in Journalism

IOURNALISM

Professors \$McKensie, Jones; Associate Professors \$Benson, \$Christian, Kennedy; Assistant Professors Ryan, Mansfield; Associate ‡Peterson.

- \checkmark 1. Journalism as a Profession. A. (1) McKenzie. Required in the freshman year of pre-journalism majors.
 - 2. The Newspaper and Society. W. (1) Required in the freshman year of pre-journalism majors. Pr., 1.
 - 51. Preliminary News Writing. A,W,S. (5) Christian, Benson, Mansfield, Ryan. Not open to freshmen; for majors and minors only. Required in the sophomore year of pre-journalism majors.
 - 90,* 91, 92. Contemporary Affairs. W. S. (2, 2) Current state, national, and world movements. Not open to freshmen.
- 116. Propaganda as a Social and Political Force. W. (5) McKenzie.
- 125. Principles of High School Journalism. S. (5) Benson. Introductory course primarily for teachers of high school and junior college journalism. Covers problems involved in editorial, advertising, circulation and mechanical production of school publications. Pr., 51, 147 and 149.
- 130. Fundamentals of Advertising. A. (5) Jones. The theory of advertising display, attention devices, media. Open only to majors in journalism and to majors in marketing and advertising in the College of Economics and Business. Others must have written permission of instructor.
- 131. Display Advertising. W. (5) Layouts and copy for publications advertising. Pr., 130.
- 132. Advertising Typography. S. (5) Laboratory course in display advertising. Pr., 130, 131.
- 147-148-. Fundamentals of Journalism. A. (5-5) Staff. Business management, contemporary affairs, reporting, copy reading. (Minors may register for 147 only. They will meet with junior majors, but work will consist of copy editing, headline writing, newspaper make-up, typography, engraving and printing processes.)
- 149-150-151-. Fundamentals of Journalism. W. (5-5) Staff. Advertising, reporting, contemporary affairs, law of the press, copy reading. (Minors may register for 149 only. They will meet with junior majors, but work will consist of news-paper advertising and history of journalism.)
- 152-153-154. Fundamentals of Journalism. S. (5-5-5) Staff. History of American journalism, public relations, advertising, contemporary affairs.
- 171-172. Magazine and Feature Writing and Trade Journalism. A.W. (3-3) Iones.

Articles graded according to probable marketability.

- 173, 174-175. Short Story Writing. A,W, S. (5, 5-5) Mansfield. Critical appreciation and practical work in the writing of short stories. Not open to lower division students. Signature of instructor necessary before registration for autumn quarter.
- 191, 192, 193. Advanced Journalism. A,W, S. (2, 2, 2) Staff. Research and conference course, continuing junior journalism studies in journalistic problems. Pr., 147-154. Registration by special permission of instructors only.
- 195. Independent Supervised Study. A,W, S. (5 to 10) McKenzie. Open to journalism majors who have completed their third year.

* Not offered in 1943-1944.

‡ Leave of absence.

McKenzie.

Christian.

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Jones.

Jones.

Courses in Journalism, Law

199. Problems of Journalism. A,W, S. (2 to 5) McKenzie. Actual research in the field. Open to seniors and graduate students only.

Courses for Graduates Only

- 201. Propaganda. S. (5) McKenzie. Study of the crystallization of public opinion and of propaganda techniques. Pr., except by special permission, Journ. 116. Seminar restricted to a maximum of 10 students.
- 225, 226, 227. Advanced Short Story Writing. A,W, S. (2 to 4 each quarter) Mansfield.

Class restricted to a maximum of eight students; admitted by special permission of instructor. Pr., 173, 174, 175.

250. Research in Journalism. A,W,S. (3 to 5 each quarter) Admission by consent of instructor.

LAW

Professors Falknor, Ayer, Beardsley, Harsch, Levy, Nottelmann, O'Bryan, Richards, Shattuck, Sholley; Associate Professor Taylor; Assistant Professors Cornu, Cross, Oberdorfer; Lecturers McConahey, Shefelman, Thorgrimson. , **,** ••

FIRST YEAR

All first-year subjects are required.

100.	Property I. A. (3) Aigler, Bigelow & Powell, Cases on Property, Vol. 1.	Cross.
‡101.	Contracts. A. (4); W,S. (3-3) Goble and Patterson, Cases on Contracts.	Taylor.
‡102.	Torts. A. (4); W,S. (3-3) Casebook to be announced.	Ayer.
‡104.	Property II. W,S. (3-3) Aigler, Bigelow & Powell, Cases on Property, Vol. 1.	Cross.
‡105.	Criminal Law and Procedure. A,W. (3-3) Harno, Cases on Criminal Law, 2nd ed., and O'Bryan, Cases on Crimin	O'Bryan. al Procedure
112.	Agency. S. (4) Casebook to be announced.	Oberdorfer.
130.	Legal Bibliography. W. (3) Beardsley, Legal Bibliography and the Use of Law Books.	Beardsley.
	SECOND YEAR	
	All second-year subjects are required.	
‡110.	Sales. A,W. (3-3) Vold, Cases on Sales.	Ayer.
111.	Wills. A. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed.	Falknor.
113.	Domestic Relations. S. (3) Shattuck, Washington Materials on Domestic Relations.	Beardsley.
‡114.	Equity. A,W. (5-3) Walsh, Cases on Equity.	Nottelmann.
‡115.	Evidence. W,S. (4-4) McCormick. Cases on Evidence.	Falknor.

‡ No examination for credit until completion of entire course.

Staff.

276	Courses in Law	
‡116.	Bills and Notes. W,S. (3-3) Britton, Cases on Bills and Notes, 2nd ed.	Falknor.
‡119.	Constitutional Law. A,W,S. (3-2-3) Dowling, Cases on Constitutional Law.	Oberdorfer.
	THIRD YEAR	
	All third-year subjects are required.	
117.	Legal Administration and Ethics. W. (3) Cheatham, Cases and Materials on the Legal Profession.	Shefelman.
121.	Administrative Law. S. (4) Gellhorn, Administrative Law, Cases and Comments.	Oberdorfer.
‡123.	Property III. W,S. (3-3) Aigler, Bigelow & Powell, Cases on Property, Vol. 2.	Cross.
‡126 .	Trusts. A,W. (3-3) Scott, Cases on Trusts, 2nd ed.	Nottelmann.
127.	Code Pleading. A. (3) Cathcart & Howell, Cases on Code Pleading.	Falknor.
142.	Practice and Procedure I. A. (3) McBaine, Cases on Trial Practice, supplemented by Washington (Washington cases. In 142 and 144, Moot Court meets once each week. Each studen his case to issue, introduce the evidence, and try the case before t	O'Bryan. Code of Procedure and at is required to bring he court or jury.
144.	Practice and Procedure III. S. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed Washington Probate Code and Washington cases.	O'Bryan. d., supplemented by the
‡145.	Credit Transactions. A,W. (4-2) Shattuck, Washington Materials on Security Transactions.	Taylor.
‡149.	Business Associations. W,S. (4-4) Ballantine and Lattin, Cases and Materials on the Law of Corpo on other business organizations.	Ayer. orations. Cases assigned
	FOURTH YEAR	
	Required Courses	
118.	Conflict of Laws. W. (4) Cheatham, Dowling, Goodrich and Griswold, Cases and Material of	Oberdorfer. on Conflict of Laws.
124.	Community Property A. (3) Mechem, Sholley, Luccock, Cases on Washington Law of Commun	Cross. nity Property.
135.	Legislation. A,W. (2-2) Horack, Cases on Legislation.	Beardsley.
146.	Taxation. S. (5) Magill and Maguire, Cases on Taxation, 3rd ed.	Cross.
199.	Seminars and Individual Research Courses. Ten hours required of the following one-quarter seminars, each credit.	carrying five hours of
*199A.	Trusts.	

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^{*} Not offered in 1943-1944. \$ No examination for credit until completion of entire course.

*199C. Public Utility Regulation.

- *199D. Law of Income Taxation.
- *199E. Law of Corporation Finance, Regulation and Reorganization.
- *199F. Corporation Practice.
 - 199G. Comparative Law. W. (5)

*199H. Government Regulation of Business.

199I. Civil and Criminal Procedure. A. (5)

199J. Labor Law. S. (5)

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ELECTIVE FOURTH-YEAR COURSES

Sixteen hours of electives to be selected. Of this sixteen, an additional five hours 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.
*125.	Trade Regulation.	
* 128.	Damages.	
*129.	Drafting of Legal Instruments.	
*131.	Quasi-Contracts.	
*132.	Legal Accounting.	
133.	Public Utilities. S. (4) Welch, Cases on Public Utility Regulation, 2nd ed., with supplement.	Nottelmann.
* 134.	Federal Jurisdiction and Procedure.	
136.	Insurance. S. (3) Vance, Cases on Insurance.	Taylor.
*137.	Water Rights.	
*138.	Future Interests.	
139.	Administration of Debtors' Estates. A. (3) Sturges, Cases and Materials on Debtors' Estates.	Oberdorfer.
* 140.	Mining Law.	
141.	Admiralty. S. (4) Lord and Sprague, Cases on Admiralty, 2nd ed.	Shefelman.
147.	Municipal Corporations. W. (4) Tooke, Cases on Municipal Corporations, 2nd ed.	Thorgrimson.
	*Not offered 1943-1944. ‡No examination for credit until completion of lecture course.	

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Falknor.

Nottelmann.

190. Roman Law. A. (3) Radin, Handbook of Roman Law.

*191. Comparative Law.

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 in-dividual research in any of the major fields covered by the curriculum.

LIBERAL ARTS

Professor Corv: Instructor ¶Lutev.

- 1. Introduction to Modern Thought. A.S. (5) Cory, Lutey. Study of man's place in the universe in the light of contemporary thought; cosmic origins; the origin and nature of life; mind and behavior; values. Upper division students may obtain upper division credit by registering in the proper sections.
- 11. Introduction to the Study of the Fine Arts. W. (5) Cory, Lutey. The appreciation of masterpieces of architecture, painting, sculpture, poetry, and music; a study of the problems common to them; the philosophy of art; the relations of beauty and truth and morality. Upper division students may obtain upper division credit on the basis of extra reading and conferences.
- 114, 115, 116. Realism in Philosophy, Literature and the Arts. A,W, S. (5 each quarter)

Cory.

LIBRARIANSHIP

- Professors Worden, C. W. Smith, Beardsley; Associate Professor Alfonso; Assistant Professor Andrews; Instructor Turner; Lecturer W. H. Carlson.
- §170. Introduction to Children's Work. A. (3) A basic course. ‡171. Children's Books. W. (2) Andrews. A survey of the history of children's books, standards of selection and methods of introducing books to children. §172. Introduction to Library Work. A. (2) Worden. Library organization, problems of different types of libraries, and current library topics. \$175. Classification, Cataloging, Subject Headings. A,W. (4) Alfonso, Turner. ‡176. Reference for High School Libraries. A, S. (3) Turner. **‡184.** Classification, Cataloging, Subject Headings. W.S. (3) Alfonso, Turner. Pr., 175. §191. Classification, Cataloging, Subject Headings. S. (3 or 5) Alfonso. Pr. 184. §177. Bibliography and Reference. A. (3) Smith, Alfonso. Includes trade and subject bibliography and government documents. §185. Bibliography and Reference. W. (3 or 4)Smith, Alfonso. Continuation of 177. * Not offered in 1943-1944.
 - § Open only to students registered in the School.
 - [‡] Open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools.

I Leave of absence.

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Staff.

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Andrews.

Courses in Librarianship

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§194.	Bibliography and Reference. S. (2 or 4) Continuation of 185.	Alfonso.
§178.	History of the Book. W. (3)	Carlson.
§179,	188, 196 . Books for Libraries. A,W,S. (4, 2 or 3, 3) Study of the book field, and the problems of selecting books.	Worden.
180.	Story Telling. A, §S. (3) Study of folk and fairy tales, myths, epics, and short stories as source materi- telling. Open to juniors and seniors in autumn.	Andrews. al for story
§181.	Advanced Children's Work. W. (2) Organization of a children's department; problems of book buying and adm Pr., 170.	Andrews.
‡182.	School Library Administration. A,W, S. (3)	Turner.
§183.	Selection of Books for Children. W. (3) Pr., 170.	Andrews.
§186.	Practice. S. (5) Four weeks (40 hours a week) of practice work under expert supervision in Northwest libraries.	Worden. neighboring
§189.	Organization and Administration of Small Libraries. W. (2)	Worden.
§190.	Selection of Books for Children. S. (3) Pr., 183.	Andrews.
§192.	Administration. S. (2) Problems of library management, buildings, equipment, finance, publicity.	Worden.
‡195 .	Book Selection for High School Libraries. A,W, S. (3)	Andrews.
§240.	Advanced Legal Bibliography. A. (4) Bibliographical data and use of federal and state law reports and statutes; qui commissioners' reports of the states, for association records, legal periodicals, digests, legal regional bibliographies, cooperative bibliographies of law collection	Beardsley. asi-legal and indexes and 18.
§241.	Order and Accessioning of Law Books. A. (4) Study of aids to law book selection, ordering and accessioning of law books, micro-photography of legal material, etc.	Beardsley. processing,
§242.	Legal Reference and Research. W. (5)	Beardsley.
-	Study of bibliographical lists, law reference questions, briefing, annotations, history.	, local legal
§243.	Law Library Administration. S. (5) Staff problems, patrons and public relations, circulation problems and pro- library architecture and planning, book arrangements, equipment, rules, public tions, budgets, reports, professional societies, regional service, cooperative bu	Beardsley. cedure, law city, publica- lying.
	SECOND-YEAR LIBRARY WORK WITH CHILDREN (Not offered in 1943-1944)	
*201	, 202, 203. Children's Literature.	
* 204	, 205, 206. Administration of Children's Libraries.	
*207	, 208, 209. Traditional Literature.	
*210	, 211, 212. School Work.	
*213	, 214, 215. Field Work. (Not required of students with library exper	ience.)
	* Not offered in 1943-1944.	•

\$ Open only to students registered in the School.
 \$ Open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools.

MATHEMATICS

Professors Carpenter, Ballantine, Winger; Associate Professors Cramlet, Jerber	I,		
McFarlan; Assistant Professors Birnbaum, Jacobsen, Mullemeister, Taub;			
Instructors Beaumont, Haller, Zuckerman; Associates Kingston,			
Watson.			

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- 1. Advanced Algebra. A,W, S. (5) Algebra from quadratics on. Pr., one year high school algebra.
- 2. Solid Geometry. A,W, S. (5) Pr., one year of plane geometry.
- 3. Survey of Mathematics. S. (5) Staff. Introduction to mathematical thought and procedure. Elementary processes and their applications. Not for majors. Pr., one year algebra and one year plane geometry.
- 4. Plane Trigonometry. A,W,S. (5) Staff. Primarily for students in the College of Arts and Sciences. Pr., one and one-half years algebra and one year plane geometry.
- College Algebra. W, S. (5) Staff. Primarily for students in the College of Arts and Sciences. Pr., Math. 1 or one and onehalf years high school algebra.
- 6. Analytic Geometry. A, S. (5) Primarily for students in the College of Arts and Sciences. Pr., 4.
- Theory of Investment. A,W, S. (5) Staff. Interest, annuities, amortization, capitalization and depreclation, sinking funds, etc. Pr., one year algebra.
- 12. Mathematics of Finance and Insurance. W, S. (5) Staff. Pr., 11.
- 13. Elements of Statistical Method. A,W, S. (5) Birnbaum. Pr., one year algebra, one year plane geometry.
- *21. Mathematics for Foresters.
- 31, 32, 33. Engineering Freshman Mathematics. A,W, S. (5, 5, 5) Staff. Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
- 41, 42, 43. Engineering Calculus. A,W, S. (3, 3, 3) Staff. Pr., 33 for 41; 41 and solid geometry for 42; 42 for 43.
- 54, 55, 56. Mathematics for Architects. A,W,S. (3, 3, 3) Jerbert. Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
- *101. Advanced Trigonometry.

- 105. Mathematics of Navigation. A,W,S. (5,5,5) Jacobsen. Spherical trigonometry as applied to navigation and nautical astronomy. Pr., Math. 4, or equivalent.
- 107, 108, 109. Calculus. A,W, S. (5, 5, 5) Staff. Differential and integral. Pr., 6; each course prerequisite to the following course.
- *111, 112. Introduction to Actuarial Science.
- 114, 115, 116. Ordinary and Partial Differential Equations. A,W, S. (3, 3, 2) Pr., 109 or 42; each course prerequisite to the following course.

* Not offered in 1943-1944.

Courses in Mathematics

^{*102, 103, 104.} Advanced Analytic Geometry.

- *117, 118, 119. Projective Geometry.
- *121, 122, 123. Theory of Equations.
- *124, 125, 126. Algebraic Curves.
- *127, 128, 129. Elementary Theory of Numbers.
- *131. Selected Topics in Mathematics.
- *141, 142, 143. Calculus of Probabilities and Statistics.
- 144, 145, 146. Calculus of Observations. A,W,S. (3,3,3) Birnbaum. Numerical computation and solution of equations. Numerical integration of differential equations. Theory of errors of observations, method of least squares. Fourier-analysis and search for periodicities. Fundamentals of theoretical statistics and evaluation of statistical data. Pr., 109.
- 150, 151. Advanced Analysis. W,S. (2,3) Selected topics in advanced differential calculus. Pr., 109 or 114; 150 pr. to 151.
- 152, 153. Interpolation and Approximation. W,S. (3-3) Ballantine. Polynomial approximations to functions which are tabulated together with their first k derivatives, and the application of those polynomials to interpolation, numerical differentiation and integration. Pr., 107 or 41.
- 160. Vector Analysis. S. (3) Pr., 107 or 33.
- *167, 168, 169. Boolean Algebra and Foundations of Algebra.
- Teachers' Course in Mathematics. (See Education 75Q.)

Courses for Graduates Only

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

- *201, 202, 203. Projective Differential Geometry.
- 204, 205, 206. Modern Algebra. A,W, S. (3,3,3) Beaumont. Theory of matrices, linear dependence, linear transformations, bilinear and quadratic forms, algebraic invariants, and elementary divisors.
- *207, 208. Topology.

*209. Finite Differences.

- 214, 215, 216. Higher Calculus. A,W,S. (3,3,3) Two lectures and one seminar period per week, with readings from Wilson's and Goursat's treatises in the calculus.
- *217, 218, 219. Finite Collineation Groups.

*224, 225, 226. Functions of a Real Variable.

*230, 231, 232. Advanced Topics in Algebra.

***237, 238, 239.** Invariant Theory.

*241, 242, 243. Functions of Complex Variables.

* Not offered in 1943-1944.

Zuckerman.

- *244, 245, 246. Calculus of Variations.
- *247, 248, 249. Metric Differential Geometry.
- *251, 252, 253. Harmonic Analysis.
- *254, 255, 256. Riemannian Geometry.
- *257, 258, 259. Theory of Relativity.
- *261, 262, 263. Integral Equations.
- *264, 265, 266. Continuous Groups.
- *267, 268, 269. Orthogonal Functions.
- 271, 272, 273. Advanced Differential Equations. A,W,S. (3,3,3) Cramlet. Existence theorems of ordinary and partial differential equations, linear equations and their applications in detail. Pr., Math. 115.
- *274, 275, 276. Advanced Projective Differential Geometry.

MECHANICAL ENGINEERING

Professors Eastwood, McMinn, Schaller, Wilson, Winslow; Associate Professors McIntyre, Tymstra; Instructors Crain, Sullivan, Cooper; Associate Snyder.

- 53. Manufacturing Methods. A,W, S. (1, 1, 1) Schaller. Principles of the founding of ferrous metals.
- 54. Manufacturing Methods. A,W, S. (1, 1, 1) Schaller, Sullivan. Arc and oxy-acetylene welding, flame cutting, heat treating.
- 55. Manufacturing Methods. A,W, S. (1, 1, 1) Sullivan, Schaller. Fundamental theory and practice of machining operations on metal.
- Mechanism. A,W,S. (3,3,3) McIntyre, Tymstra, Crain, Cooper.
 Operation of machines involving the transmission of forces and the production of determinate motions. Pr., G.E. 3, Math. 32.
- 82. Steam Engineering. A,W, S. (3, 3, 3) Eastwood, McMinn, Tymstra, Crain, Cooper. Various apparatus used in modern steam plants. Not open to freshmen. Pr., G.E. 2.
- Steam Engineering Laboratory. A, W,S. (3,3,3) Wilson, McIntyre. Calibrations of instruments; horse-power tests; complete engine and boiler test. Preceded or accompanied by 82.
- 104. Manufacturing Methods. W, S. (1) Schaller. Founding, welding, and machining of non-ferrous metals. Pr., 53, 54, 55.
- 105. Advanced Manufacturing Methods. A. (1) Sullivan. Individual problems of machine tooling. Pr., 53, 54, 55.
- 106. Advanced Manufacturing Methods. W. (1) Sullivan. Study of machining problems from the standpoint of production. Pr., 105.
- 107. Production Planning. S. (1) Schaller. Design and equipment of a representative manufacturing plant. Pr., 106.
- 108. Production Management. A, S. (3) Schaller. Study of location, operation, and organization of manufacturing plants.

* Not offered in 1943-1944.

- 109. Factory Cost Analysis. W. (3) Schaller. Analyzing shop operations from the standpoint of manufacturing costs.
- 110. Heating and Ventilation. S. (2) Eastwood. Abridged for architecture students. Pr., junior standing in architecture.
- 111, 112. Machine Design. A,W, S. (3, 3) McMinn, McIntyre, Tymstra, Crain, Cooper. Design of machine details. Pr., C.E. 92.
- 113, 114. Machine Design. A,W. (2,2) Advanced problems in machine design. Pr., 112.

*115. Steam Engine Design.

- 123, 124. Engines and Boilers. A,W. (2, 3) Winslow. Analysis of power, speed regulation and forces in various types of engines. Steam boiler designs and specifications. Pr., 83; C.E. 91.
- *140. Time Study and Job Analysis.
- 151, 152, 153. Experimental Engineering. A,W,S. (3,3,3) Wilson, McIntyre. Continuation of 83, involving more extended and complete investigations. Pr., 83.
- 167. Engineering Materials. A,W, S. (3) McMinn. Properties of the various materials used in engineering construction. Recitation and laboratory. Pr., C.E. 92.
- 182. Heating and Ventilation. W. (3) Eastwood. Various systems of heating and ventilating methods with designs. Pr., 82, junior standing in engineering.
- 183. Thermodynamics and Refrigeration. A, S. (5) Eastwood. Principles underlying transformation of heat into work. Special application to engineering. Pr., 82, junior standing in engineering.
- 184. Power Plants. S. (5) Winslow. Design of steam power plants, involving their location, building, prime movers, and power transmission. Pr., 83, 123.
- 185. Naval Architecture. A. (3) Rowlands. Theory of naval architecture. Displacement; stability; strength; construction. Pr., junior standing.
- 191, 192, 193. Research. A,W, S. (2 to 5 each quarter.)
- 195. Thesis. A,W,S. (2 to 5 each quarter.) Wilson. Investigation, design, or experiment, under direction of the professor in charge. To be taken in the senior year.
- 198. Internal Combustion Engines. A,W, S. (3) Wilson. Development of gas engineering; stationary, marine, automobile, and airplane motors, and gas-producer plants. Pr., 82, junior standing in engineering.
- 199. Internal Combustion Engine Design. S. (3) Wilson. Calculations and plans for the design of a given type of motor. Pr., 198.

Courses for Graduates Only

200. Vibrations of Machinery. A. (3) Winslow. Mathematical investigations of vibration phenomena, emphasis on applications to operating conditions of machines. Elective for approved veniors, graduates.

211, 212, 213. Research. A,W, S. (3, 3, 3)

* Not offered in 1943-1944.

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Winslow.

Staff.

Staff.

MILITARY SCIENCE AND TACTICS (ARMY ROTC)

Colonel Eden; Lieutenant Colonel Richards, Lieutenant Colonel Ames, Lieutenant Colonel Joseph; Major Beebe, Major Myers, Major Nichols; Captain Guthrie, Captain Oustad, Captain Vivrette, Captain Wienker, Captain Collins; First Lieutenant Felder, First Lieutenant Dawson, First Lieutenant Harwick, First Lieutenant Hemingway; Second Lieutenant Hilsenberg, Second Lieutenant McCoy, Second Lieutenant Koenig, Second Lieutenant Human; Technical Ser-geant Bell; Staff Sergeants Goldenberg, Harrison; Sergeants Gage, Bolster, Turner, Opem, Whitehorn, Grant, Lattimer, White, Dobson, Gurian, Clemmens, Lustig, Naber, Foerstel, Estes.

The instruction for the first two years, together with that provided for the third and fourth years, constitutes the courses prescribed by the War Department for institutional units of the Reserve Officers' Training Corps. The advanced courses, those of the third and fourth years, are open to selected students who have completed the first two years (basic course) of instruction and training.

First Year

- 1, 2, 3. Basic Infantry. A,W,S. (2,2,2) Collins, Hilsenberg. Orientation (National Defense Act, obligations of citizenship, military history and policy); military discipline, courtesy and customs of the service; military sanitation and first aid; military organization, general; military organization, infantry; map reading; leadership; rifle marksmanship. Two hours class instruction, one hour unit training.
- 4, 5, 6. Basic Coast Artillery. A,W,S. (2,2,2) Leadership; military fundamentals (National Defense Act, obligations of citizenship, military history and policy); military and Coast Artillery organization; military discipline and courtesy; military sanitation and first aid; map reading; rifle marksmanship; coast artillery instruction (ammunition, weapons and materiel, rigging). Two hours class instruction, one hour unit training.
- 11, 12, 13. Band. A.W.S. (2.2.2)
- 31, 32, 33. Basic Signal Corps. A,W,S. (2,2,2) Koenig, Human. Leadership; National Defense Act, obligations of citizenship; military history and policy; organization of the Army; military discipline and courtesy; military sanitation and first aid; map reading; organization of the Signal Corps and military signal communication; field wire communication. Two hours class instruction, one hour unit training.

Second Year

- 51, 52, 53. Basic Infantry. A,W,S. (2,2,2) Myers, McCoy. Leadership; infantry weapons; combat training; tactical training; technique of rifle fire. Two hours class instruction, one hour unit training.
- 61, 62, 63. Basic Coast Artillery. A,W,S. (2,2,2) Beebe. Leadership; coast artillery instruction (weapons and materiel, fire control instruments for seacoast artillery, basic gunnery for anti-aircraft, identification of aircraft, characteristics of naval targets). Two hours class instruction, one hour unit training.
- 81, 82, 83. Band. A,W,S. (2,2,2)
- 91, 92, 93. Basic Signal Corps. A,W,S. (2,2,2) Koenig, Human. Leadership; organization of the Signal Corps; signal communication for all arms and services; field radio communication; radio operation. Two hours class instruction, one hour unit training.

Third Year

- 104. Advanced Infantry. A,W,S. (3) Felder. Aerial photograph reading; care and operation of motor vehicles; administration I; administration II; interior guard duty; leadership; weapons; defense against chemical warfare. Four hours class instruction, one hour unit training.
- 105. Advanced Infantry. A,W,S. (3) Felder. Leadership; weapons; combat training; tactics of the heavy machine gun platoon in attack, security and defense; tactical employment of 81 mm squad, section, platoon in attack, security and defense; tactical employment of the battalion, anti-tank platoon, section and squads; hasty field fortifications. Four hours class instruction, one hour unit training.

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Vivrette.

Vivrette.

- 106. Advanced Infantry. A,W,S. (3) Felder. Leadership; weapons; combat training (marches, security, development for combat, offensive and defensive combat, organization of the ground, security at rest; tactics of platoons of rifle and heavy weapons companies in attack, security and defense; tactics of the weapons platoon of rifle company in attack, security and defense). Four hours class instruction, and one hour unit training.
- Advanced Coast Artillery. A, W, S. (3) 114. Oustad. Leadership; administration; Coast Artillery instructions (fire control and position finding for seacoast artillery, gunnery for seacoast artillery). Four hours class instruction, one hour unit training.
- Advanced Coast Artillery. A,W,S. (3) 115. Oustad. Leadership; Coast Artillery instruction (gunnery for anti-aircraft artillery). Four hours class instruction, one hour unit training.
- 116. Advanced Coast Artillery. A,W,S. (3) Oustad. Leadership; Coast Artillery instruction signal communication, orientation; rifle and pistol marksmanship. Four hours class instruction, one hour unit training.
- Advanced Quartermaster Corps. A. (3) 124. Harwick. Military fundamentals; company administration; defense against chemicals; aerial photo-graphs; leadership; related subjects; Q.M.C. functions. Four hours class instruction, one hour unit training.
- 125. Advanced Quartermaster Corps. W. (3) Quartermaster Corps functions; fiscal operations; procurement; leadership. Four hours instruction, one hour unit training.
- 126 Advanced Quartermaster Corps. S. (3) Harwick. Property accounting; storage and issue; salvage; leadership. Four hours class instruction, one hour unit training.
- Advanced Signal Corps. A. (3) Koenig, Human. 134. Leadership: organization of the Army and Signal Corps; defense against chemical warfare; aerial photograph reading; company administration; combat and signal orders. Four hours class instruction, one hour unit training.
- Advanced Signal Corps. W. (3) Koenig, Human. 135. Leadership; field wire communication, Four hours class instruction, one hour unit training.
- Advanced Signal Corps. S. (3) 136. Koenig, Human. Leadership; military cryptography; message center procedure; homing pigeons; field wire communication. Four hours class instruction, one hour unit training.
- Advanced Infantry. A,W,S. (3) Wienker. 154. Military history and policy; military law; property, emergency procurement, and funds; leadership; extended order; tanks and associated arms in support of infantry; mess management; methods of instruction (theoretical); methods of instruction (practical). Four hours class instruction, one hour unit training.
- Advanced Infantry. A,W,S. (3) Wienker. 155. Close order drill; extended order; review of combat training; tactics of rifle and heavy weapons companies. Four hours class instruction, one hour unit training.
- Advanced Infantry. A,W,S. (3) 156. Wienker. Officers' Reserve Corps; tactics of rifle and heavy weapons companies; anti-aircraft defense; anti-tank defense; combat duties of intelligence personnel; signal communications. Four hours class instruction, one hour unit training.

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- Advanced Coast Artillery. A,W,S. (3) 164. Joseph. Leadership; military history and policy; military law and administration; mechanization; defense against chemical warfare; Coast Artillery instruction (combat orders). Four hours class instruction, one hour unit training.
- Advanced Coast Artillery. A,W,S. (3) 165. Joseph. Leadership; Coast Artillery instruction (artillery technique and tactics, field fortification). Four hours class instruction, one hour unit training.

Harwick.

- Advanced Coast Artillery. A,W,S. (3) Joseph. 166. Leadership; artillery technique and tactics; Coast Artillery motor transportation; aerial photograph reading; administration; property and funds; duties of reserve officers. Four hours class instruction, one hour unit training.
- 174. Advanced Ouartermaster Corps. A. (3) Military history and policy; military law; instruction in general matters applicable to members of the Officers' Reserve Corps; plans and principles of training; subsistence; leadership; chemical warfare. Four hours class instruction, one hour unit training.
- 175. Advanced Quartermaster Corps. W. (3) Commissary operation; mess management; commercial transportation; field operations; Quartermaster Corps troop units; leadership. Four hours class instruction, one hour unit training.
- 176. Advanced Quartermaster Corps. S. (3) Middleton. Map reading; supply establishments in theater of operation; quartermaster service, in-fantry division; quartermaster service, armored division; quartermaster service in the air force; supply in the theater of operations; motor transportation; field orders; the division special and general staff; leadership. Four hours class instruction, one hour unit training.
- 194. Advanced Signal Corps. A. (3) Koenig, Human. Leadership; military law and court martial procedure; property procurement; signal corps supply; Officers' Reserve Corps regulations; motor transport; signal orders. Four hours class instruction, one hour unit training.
- 195. Advanced Signal Corps. W. (3) Koenig, Human. Leadership; radio operation; field radio communication. Four hours class instruction, one hour unit training.
- 196. Advanced Signal Corps. S. (3) Koenig, Human. Leadership: radio operation: field radio communication: training management. Four hours class instruction, one hour unit training.

MINING, METALLURGICAL AND CERAMIC ENGINEERING

Professors Roberts, Daniels; Associate Professor Corey; Assistant Professor Pask: Instructor Keith.

Mining Engineering

- 51. Elements of Mining. A. (3) Daniels. Principles of mining, including prospecting, boring, drilling, explosives, rock breaking. Three recitations. Pr., G.E. 1, 2, or sophomore standing.
- Methods of Mining. 52. ₩. (3) Daniels. Continuation of 51. Methods of working metal, coal, and placer mines, non-metallic deposits. Two recitations and one lab. period. Pr., 51.
- 101. Milling. A. (3) Roberts. Preliminary course in the principles and practice of mineral dressing. Two recitations and one lab. period. Pr., junior engineering standing.
- 103. Mine Rescue Training. W. (1) Daniels. Practice in the use of oxygen rescue apparatus, instruction in first-aid; instruction during first six weeks of quarter. Physical examination required.
- 106. Mine Excursion. S. (1) Staff. Five-day trip in spring of junior year to a neighboring mining region; detailed inspection of mines. Expense approximately \$25.
- 107. Mine Excursion. S. (1) Five-day trip in spring of senior year, similar to 106.

Middleton.

Middleton.

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Staff.

- 122. Coal Mining Methods. W. (3) Daniels. Special methods involved in prospecting, development, and operation of coal and stratified deposits. Three recitations. Pr., 51, 52.
- 151. Elements of Mining. A. (3) Daniels. Principles of mining, including prospecting, boring, drilling, explosives, rock breaking. Three recitations. Pr., junior standing. Not open to those who have had 51. .
- **W.** (3) 152. Methods of Mining. Daniels. Continuation of 151. Methods of working metal, coal, and placer mines, non-metallic deposits. Two recitations and one lab. period. Pr., 151 and junior standing. Not open to those who have had 52.
- 161. Mineral Dressing. A. (4) Roberts. The principal branches of mineral dressing, with laboratory practice in complete mill tests. Two recitations, two lab. periods. Pr., 101.
- Economics of the Mineral Industry. W. (4) 162 Roberts. Mine valuation; costs of plant and operation; financial provisions; mining law. Three reci-tations, one lab. period. Pr., senior engineering standing.

163. Mining Engineering. S. (4) Roberts. Principles and practice as exemplified by typical mines. Laboratory studies of air compressors, drills, etc.; studies at near-by mines. Two recitations, two lab. periods. Pr., senior engineering standing.

- *164. Mine Operation.
- Daniels. 171. Mine Ventilation. S. (3) Composition and properties of mine gases; principles of ventilation applied to both coal and metal mines. Three recitations. Pr., 51, 52, 103.
- 176. Coal Preparation. S. (5) Daniels. Methods of preparing coal by dry and wet cleaning processes; control by float-and-sink methods. Examinations of washing plants at local mines. Two recitations, two 4-hour lab. periods. Pr., 101, Met. 103.
- 182. Mineral Industry Management. S. (3) Daniels. Employment of labor, systems of payment, social and economic aspects of mineral en-gineering operations. Three recitations. Pr., senior engineering standing, E.B. 3.
- 191, 192, 193, 194. Thesis. A,W,S,Su. (†) Staff. Preparation of graduation thesis in mining, metallurgical, or ceramic engineering. Completed thesis due three weeks before graduation. Pr., senior standing. Minimum of five credits required.

Courses for Graduates Only

- 201, 202, 203. Seminar. A,W.S. (1, 1, 1) Lectures and discussions by Bureau of Mines staff, mining engineering faculty and fellows. Required of fellowship holders in the College of Mines. Pr., graduate standing.
- 211, 212, 213, 214. Graduate Thesis. A, W, S. (†) Staff. Preparation of thesis in mining, metallurgical, or ceramic engineering. Finished thesis due one month before graduation. Total of nine credits allowed for thesis.
- 22, 223. Metal Mining. † (†) Studies in metal mining. Pr., graduate standing. 221, 222, 223. Roberts.
- 231, 232, 233. Mineral Dressing. + (†) Roberts. Studies in the dressing of ores and industrial minerals. Pr., graduate standing.
- † (†) 251, 252, 253. Coal Mining. Studies in coal mining or in the preparation of coal. Pr., graduate standing. 261, 262, 263. Fuels and Combustion. Daniels.
- (†) Fuels, their utilization and combustion. Pr., graduate standing. Staff.
- 271. Cooperative Research with U. S. Bureau of Mines. A. (6) Investigations by holders of cooperative fellowships in College of Mines and Northwest Experiment Station.

* Not offered in 1943-1944. **†** To be arranged.

Daniels.

Metallurgical Engineering

- Elements of Metallurgy. S. (3) 53. Corev. Properties of metals and alloys, fuels, refractory materials, furnaces, the extraction of the common metals from their ores. Open to all engineering students with sophomore standing. Three recitations. Pr., Chem. 23. Fire Assaying. A. (3) Corev. 101. Testing of reagents, crushing, sampling, and assaying of ores, furnace and mill products. One recitation, two lab. periods. Pr., Chem. 111. Metallurgical Laboratory. S. (2) Corey. 102. Experiments illustrating metallurgical principles. One 4-hour lab. period. Pr., 53. 103. Fuel Technology. W. (4) Daniels, Corey. Primary and manufactured fuels; source, composition, methods of utilization, and economy. Laboratory work in analysis of fuels. Three recitations, one lab. period. Pr., junior standing. 104. Non-ferrous Metallurgy. A. (3) Corev. Metallurgy of copper, lead, zinc, gold, and silver, especially the methods of utilization, and economy. Three recitations. Pr., Met. 53. Elements of Metallurgy. S. 153. Corev. (3) Properties of metals and alloys, fuels, refractory materials, furnaces, the extraction of the common metals from their ores. Three recitations. Pr., junior standing. Not open to those who have had 53. 154. Wet Assaying. W.S. (3) Corey. Methods for the determination of elements in ores and furnace products. One recitation, two lab. periods. Pr., Chem. 109, 110, or 111. 155. Iron and Steel. A. (3) Daniels. Metallurgy and manufacture of iron and steel; their properties and uses in engineering work. Three recitations. Pr., junior engineering standing. 160. Metallurgical Analysis. S. Corey. (2) Technical methods of analysis of slags, industrial products and (for ceramics and geology students) clays and rocks. Two lab. periods. Pr., 153. 162. Physical Metallurgy. A. (3) Corev. The constitution of metals and alloys and their relations to the physical and mechanical properties of the metal. Open to all upperclass engineering students. Three recitations. 163. 163. Metallography. W. Corev. Preparation, photomicrography, study of metal sections. One recitation, two lab. periods. Open to all senior engineering students. 165. Metallurgical Calculations. W. (3) Corev. Physical chemistry of the metallurgist, slag calculations, furnace problems. Three recitations. Pr., 104. 166. Advanced Non-ferrous Metallurgy. S. (3) Corey. Study of methods and practice in the extraction of the minor non-ferrous metals. Pr., senior Mines or graduate standing. Courses for Graduates Only 221, 222, 223. Advanced Metallurgy. † (†) Corev. Studies in metallurgy. Pr., graduate standing. **Ceramic Engineering** 90. Industrial Minerals. A,W, S. (3) Pask. Beginning study of non-metallic minerals and their products. Three recitations. Pr., sophomore standing in Mines, Engineering, or Science.
- Clays, Plasticity, and Suspensions. A. (3) 100. Pask. Physical characteristics of ceramic materials in the plastic condition and as slip-suspensions, Three recitations. Pr., 90.

† To be arranged.

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- 101. Firing and Firing Problems. W. (3) Pask. Effect of heat on ceramic materials; vitrification of clay; melting, fusion, crystallization of silicates. Three recitations. Pr., 100.
- Ceramic Decoration. S. (3 to 6) Value of decoration in ceramics; study of ceramic colors, surface textures, glazes. Three 102. recitations. Pr., 101.
- Calculations for Bodies and Glazes. A. (3) Keith. Physics and chemistry of preparing, drying, firing, and testing ceramic materials and 104. glazes. Three recitations. Pr., junior standing in Mines or Engineering.
- 105. Drying and Drying Problems. W. (3) Keith. Problems in the physics and chemistry of drying clay products. Three recitations. Pr., junior standing in Mines or Engineering.
- Ceramic Physical-Chemical Measurements. S. (2) Keith. Testing of clays and other ceramic materials. One recitation, two lab. periods. Pr., junior 110. standing in Mines or Engineering.
- 121, 122, 123. Ceramic Products Laboratory. A,W, S. (5,5,5) Pask, Keith. Laboratory problems in preparing raw materials; manufacture and testing of ceramic and non-metallic products. Two recitations, three lab. periods. Pr., 90 to 110.
- 131, 132, 133. General Ceramics, Pottery Techniques. A,W, S. (3 to 5 ea. gtr.) Keith. (For 3 hrs. credit, 6 hrs. lab.; for 5 hrs. credit, 8 hrs. lab. and a special problem.)

Industrial and craft methods of manufacturing ceramic products, mainly architectural terra cotta and pottery; decorative processes; glaze studies. No prerequisites.

- 161, 162, 163. Glazes, Enamels and Refractories. A.W.S. (†) Pask, Keith. Laboratory problems in the application of ceramic colors, glazes, and enamels. Consent of instructor required.
- 190. Industrial Minerals. A,W, S. (3) Pask. Beginning study of non-metallic minerals and their products. Three recitations. Pr., junior standing. Not open to those who have had 90.

Courses for Graduates Only

221, 222, 223. Ceramic Research. † Pask. (†) Studies of the ceramic resources of the Pacific Northwest or in the development of new products or processes. Pr., graduate standing.

MUSIC

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

The following courses are recommended as electives 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. A,W,S. (2-2-2) Bostwick. Group instruction. For music students not majoring in piano. Fee, \$5.‡

ØP. 1CX-2CX-3CX. Elementary Voice. A,W,S. (2-2-2) Wilson. Group instruction. For music students not majoring in voice. Fee, \$5.\$

Introduction to Music Literature and History. A,W. (2) Woodcock. Technic of listening and of using reference materials in relation to concert programs. 4. Woodcock. Required of freshman music majors.

† To be arranged.

1 Not governed by refund provisions, page 64, if withdrawal is made after beginning of instruction.

Courses in Music

- Bostwick. 7AX, 8AX, 9AX. Elementary Piano. A,W, S. (2,2,2) Group instruction, second year. Fee, \$5.\$
- 7CX, 8CX, 9CX. Elementary Voice. A,W, S. (2, 2, 2) Wilson. Group instruction, second year. Fee, \$5.‡
 - 10-11-12. University Chorus. A,W, S. (1-1-1) Lawrence. Mixed voices. Pr., some choral experience, ability to read music at sight.
 - 14. Fundamentals I. A. (3) Groth in charge. Laboratory work in hearing and reading music; keyboard drill and dictation; melody writing.
 - 15. Fundamentals II. W,S. (3) Pr., 14 or exemption.
 - 16. Fundamentals III. S. (3) Pr., 15 or exemption.
 - 18, 19, 20. Vocal or Instrumental Music. A,W, S. (2 or 3 each quarter.) Staff. Majors in vocal or instrumental music will not receive credit for 18, 19, 20, except in a secondary branch. Register for one-hour class in interpretation and repertory and for 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 of vocal and instrumental music 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).
 - B. Violin or Viola. Rosen.
 - C. Voice. Werner (C1), Lawrence (C2), Wilson (C8).
 - D. Violoncello or Bass. Kirchner.
 - E. Organ. Eichinger.
 - F. Woodwind. Horsfall (flute, F1), Tustin (oboe, F2), Phillips (clarinet, F3), Pauly (bassoon, F4).

 - G. Brass. H. Harp. Beck (H1), Graf (H2).
 - 21. Survey of Music. A,W, S. (5) Woodcock. Irvine. Illustrated lectures with supplementary readings to provide backgrounds for understanding of common musical forms, idioms, styles.
 - 22. Music Appreciation. A,W, S. (2) Irvine. Introduction to symphonic music. For the general student; no credit to music majors. By special work, upper division students may receive upper division credit.
 - 23. Music Appreciation: Opera. W. (2) Irvine. Special attention to operas of the current season. By special work, upper division students may receive upper division credit.
 - 24. Music Appreciation: Solo and Chamber Music. S. (2) Woodcock. By special work, upper division students may receive upper division credit.
 - 30, 31, 32. Elementary Band. A,W, S. (1, 1, 1) For underclassmen not registered in Military Band.
 - 37, 38, 39. Piano Ensemble L. A.W.S. (1, 1, 1) Van Ogle. Experience in reading symphonic literature arranged for two pianos. Permission required.
 - 40. Elementary Orchestral Instruments (Woodwind). A,W, S. (3) Welke, Normann.

Fundamental playing principles of each woodwind instrument. Pr., 15.

Groth in charge.

Groth in charge.

Welke.

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- Elementary Orchestral Instruments (Brass). A,W, S. (3) Welke, Normann. Fundamental playing principles of each brass instrument. Pr., 15. 41. 42. Elementary Orchestral Instruments (Strings). A,W, S. (3) Kirchner. Fundamental playing principles of each string instrument. Pr., 15. 43. Elementary Orchestra. A.W.S. (2) Welke. Performance and analysis of school orchestra material. 48, 49, 50. Vocal or Instrumental Music. A,W, S. (2 or 3 each quarter.) Staff. First year for vocal or instrumental majors. See description for 18, 19, 20. Elementary Harmony. A,W,S. (5) 51. Staff. Structure and physical basis of chords. All primary harmonies and non-harmonic tones. Pr., 16 and 3AX or equivalent. 52. Score Reading. A,W,S. (3) Irvine. Practice in reading vocal and instrumental scores; special attention to sight reading, harmonic analysis, ear training, and transposition. Pr., 51. **Eichinger.** 53. Intermediate Harmony. A.W.S. (5) Secondary harmonies and simple modulations. Pr., 52 or exemption. 54. The Symphonic Poem. A. (2) Van Ogle. Berlioz, Liszt, Strauss, Pr., 4 or 22, 55. Russian Composers. W. (2) Van Ogle. The Russian Five, Chaikovski. Pr., 4 or 22, 60. Advanced Orchestral Instruments (Wind) W. (3) Welke. Class instruction in woodwind and brass. Pr., 40 or permission. 62. Advanced Orchestral Instruments (String). S. (3) Kirchner. Class instruction in strings. Pr., 42 or permission. 65-66-67. Choral Ensemble. A,W, S. (2-2-2) Lawrence, Werner. Men's and Women's Glee Clubs. 68, 69, 70. Vocal or Instrumental Music. A,W, S. (2 or 3 each quarter.) Staff. See description for 18, 19, 20. Pr., 50. 80-81-82. University Choir. A,W, S. (2-2-2) Lawrence. Mixed voices. Audition required. Not open to freshmen. Gregorian Chant. W. (1) Woodcock. 87. Introductory study of rhythm, modes, forms, elements of performance and conducting. No credit when taken with 187. 90, 91, 92. University Concert Band. A,W, S. (2,2,2) Welke. Study and production of more difficult compositions for band. Audition required first week of quarter. 93, 94, 95. University Symphony Orchestra. A,W,S. (2,2,2) Kirchner. Study and production of more difficult orchestral compositions. Auditions every afternoon, first week of quarter. 98. Choral Music I. A, W, S. (2) Groth, Hall. A cappella singing with emphasis upon skill in part-singing and interpretation. Pr., 51.
- 101. Advanced Harmony. A,W, S. (5) McKay. Chromatic harmonies and modulations. Pr., 109.

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Courses in Music

- Van Ogle. The French Impressionists. W. (2) 105 Debussy, Ravel, Satie, and the "Six." 106. Modern Spanish and British Composers. S. (2) Van Ogle. 109. Counterpoint I. A,W,S. (5) Wood. Bichinger. Regulation of concurrent melodies. Sixteenth century motet style. Pr., 53, 98. Wood, Woodcock. Musical Forms. A, S. (5) 112. Analysis and exercises in composition. Pr., 53. Elementary School Music. A,W. (5) Normann. 113. Application of educational principles to the teaching of music in the first six grades. Pr., 51, 98. 116. Junior High School Music. A.S. (3) Hall. Contribution of music to the needs of the adolescent. Pr., 113, 136. 118, 119, 120. Vocal or Instrumental Music. A,W,S. (2 or 3 each quarter) Staff. See description for 18, 19, 20. Pr., 70. Hall. 121-122-123. Madrigal Singers. A,W, S. (2-2-2) An organization of selected voices. 124, 125, 126. Chamber Music. A,W, S. (2, 2, 2) Rosen, Jacobson. Literature for small instrumental groups both with and without piano. Pr., permission of instructor. 128. Choral Music II. A.W.S. (2) Groth, Hall. A cappella singing with emphasis upon skill in part-singing and interpretation. Pr., 98. 132. Haydn, Mozart, and Beethoven. W.S. (2) Woodcock. Orchestral and chamber music. Pr., 112. Technique of Conducting. A.W.S. (3) 136. Munro. Principles of conducting; practical experience in directing choral groups. Pr., 98. 138. Accompanying. W. (2) Woodcock. Study of music of different types and periods for piano in combination with voice or instruments. Permission of instructor required. 139. Piano Ensemble II. A, S. (2) Jacobson. Two-piano literature for advanced pianists. Permission of instructor required. 143. Orchestration. W. (5) McKay. Technic of composing and arranging for instrumental and vocal ensembles. Pr., 109. 145. Church Music. S. (3) Munro, Wilson. Comprehensive study of the chant, anthem, solo, and small ensemble. Pr., 136. 148, 149, 150. Vocal or Instrumental Music. A.W.S. (2 or 3 each quarter) Staff. See description for 18, 19, 20. Pr., 120. Richard Wagner. A. (2) 151. Van Ogle. His theories and use of motives. 153. Modern Russian and Finnish Composers. S. (2) Van Ogle. Scriabin, Stravinsky, Sibelius. 155. Music Supervision. A, S. (3) Normann. Problems related to the organization and supervision of school music. Pr., Educ. 75R.
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157, 158, 159. Composers' Laboratory, First Year. A.W.S. (3.3.3)

- Problems of contemporary music with practical and individual procedure. For composition majors and others specially qualified. Pr., permission. 160. Song Literature. W. (2) Werner. A study of the Art Song from the standpoint of interpretation. Permission required. Music in the Americas. W. (3) 161. Kinscella. History of the music of the Americas to the beginning of the twentieth century. Lecture and illustration. 162. Music in the Americas. S. (3) Kinscella. History of music in the Americas in the twentieth century. Lecture and illustration. 163. Counterpoint II. W. (5) Wood. Style of Bach. Analysis and composition of the invention and fugue. Pr., 109. 165-166-167. Piano Teaching. A.W.S. (2-2-2) Woodcock. Survey of teaching material, consideration of principles, supervised practice teaching. Pr., permission. 168, 169, 170. Vocal or Instrumental Music. A,W, S. (2 or 3 each quarter.) Staff. See description for 18, 19, 20. Pr., 150. 177, 178, 179. Composers' Laboratory, Second Year. A,W,S. (3,3,3) McKay. See description for 157, 158, 159. Pr., permission. 180. Orchestral Conducting. W,S. (3) Welke. Practical experience afforded by combining with 43. Pr., 40, 42, 136. 181. History of Keyboard Music. W. (3) Kinscella. Keyboard music from the earliest times to the present day. Lecture and illustration. Music of the Middle Ages. W. (3) Munro, Woodcock. 187. Song and polyphony up to the sixteenth century. Lectures with laboratory in Gregorian chant. 190. Palestrina to Bach. A. (3) Munro. Detailed study and performance. Pr., senior standing. Vocal Music: Havdn to Brahms. W. (3) Wilson. 191. Detailed study and performance. Pr., senior standing. 192. Contemporary Music. S. (3) McKay, Wilson. Twentieth century music literature, its idioms and tendencies, through performance. Pr., senior standing. Music History Reading Course. S. (5) Irvine. 193. Required of senior music majors and of graduate students from other institutions. Munro. 195. Choral Conducting. S. (3) Practical experience and analysis of choral compositions. Pr., 136. Staff. 199. Senior Recital. A.W.S. (2) Pr., permission of faculty committee. Teachers' Course in Music. See Education 75R. Courses for Graduates Only 200. Introduction to Musicology. A. (2) Irvine.
 - 200. Introduction to Musicology. A. (2) Invine. Survey of scope, aims, and methods; training in research procedure. Lectures, reports, and discussions. Permission required.

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Courses in Music, Naval Science

- 210. History of Musical Performance. S. (2) Munro.
- 211. Music of the Elizabethan Age. W. (2) Hall.
- *212. Opera.
- 218, 219, 220. Graduate Vocal or Instrumental Music. A,W, S. (2 or 3) Staff. Pr., thirty credits in the same branch of music. See description for 18, 19, 20.
- *221. History of Instruments.
- 222. History of Notation. W. (2) Irvine.
- 223. History of Music Theory. S. (2) Irvine.
- 230. Seminar in Music Education. A.W.S. (1 to 3) Munro. Selected topics in secondary school music and supervision. Pr., one year of approved teaching experience.
- Seminar in Musicology. W.S. (1 to 3) Irvine. 233. Selected topics in music history, literature, and theory. Pr., permission.
- 240, 241, 242. Graduate Composition. † (†) McKay. Original work including composition submitted as thesis.
- 250, 251, 252. Research and Thesis † (†) Staff. Individual problems in music education or musicology. Pr., permission.

NAVAL SCIENCE AND TACTICS

Captain Barr; Commander Warren, Commander Farwell; Lieutenant Commander Ramsey, Lieutenant Commander Thompson; Lieutenant Commander Wendelburg; Lieutenant Mathany, Lieutenant Sargent; Chief Gunner's Mate Hamilton; Chief Quartermaster Harmony; Chief Turret Captain Sincere, Chief Turret Captain Hoffman; Chief Yeoman Littell, Chief Yeoman Berns; Chief Specialist Keist; Yeoman Second Class Weisenborn.

First Year

1, 2, 3. Basic Course-Indoctrination and Seamanship. A,W, S. (3, 3, 3) Theory and practice in elements of radio communication, history and traditions of our Navy, military drill under arms, small boats under oars and sail. Winter and spring quarters offer a thorough theoretical and practical course in seamanship, International and Inland Rules of the Road, and the elements of piloting. Three hours a week plus two hours of drill.

Second Year

51, 52, 53. Basic Course-Navigation and Nautical Astronomy ‡. A,W,S. (3-3-3)

Theory and practice in piloting and ocean navigation. Includes methods of chart construction; variation and deviation of a compass; calculation of a ship's position by dead reckoning, by observation of celestial objects, and by bearings of terrestrial objects, or by any combination of the three. Use of navigational instruments. Compensation of the compass. Calculation of tides and currents. Air navigation. Radio and navigation by radio bear-ings. Three hours a week plus two hours of drill. Pr., advanced algebra and plane trigonometry.

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[†]To be arranged.

[‡] See section regarding summer cruises, page 164. The cruises are offered only to those regularly enrolled in the R.O.T.C. Not offered in 1943-1944.

Third Year

- 101, 102, 103. Advanced Course—Ordnance, Gunnery, Naval Engineering and Electricity. A,W, S. (3, 3, 3) Offered to Naval R.O.T.C. students only. Theoretical course in ordnance and including interior and exterior ballistics, gunnery, powder, and explosives. Electrical installations in the Navy. Naval machinery. Radio communications. Three hours a week, plus two hours of drill.
- 110. Advanced Course Cruise. Su. (3) For Naval R.O.T.C. students only. Required practice cruise, on a vessel of the United States Navy, of about three weeks in the summer, following completion of Nav. Sci. 103. Practical training in general ship's duties at deck and engineering stations, and gunnery practice to supplement theoretical work of the first three years in naval science courses.

Fourth Year

151, 152, 153. Advanced Course. A,W, S. (3, 3, 3) For Naval R.O.T.C. students only. Leadership, administration, strategy and tactics, naval communications, naval aviation, military law; supplemented by a Moot Court and week-end cruises (voluntary) in a naval vessel. Three hours a week, plus two hours of drill.

Courses Open to General Registration

The following courses in naval science are open to general registration and are offered to all students registered in the University not enrolled in the Naval Reserve Officers' Training Corps.

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54. Indoctrination and Seamanship. A. (5) Same as 1. By permission.	Thompson.
55-56. Seamanship. W,S. (3-3) Same as 2 and 3. By permission.	Thompson.
57c. Seamanship. (By Extension Only.) (3) Rules of the Road, collision cases. Complete analysis of the practi Nautical Rules of the Road.	Farwell. ical application of the
61-62 Sea Navigation. A,W. (3-3)	Staff.

Same as 51-52. Pr., advanced algebra and plane trigonometry. By permission.

- -63. Advanced Sea Navigation and Air Navigation. S. (-3) Staff. Same as 53. By permission.
 - 4. The History of Sea Power and U. S. Naval History. W. (2) Thompson. By permission.

NAVAL AVIATION TRAINING

The Navy Department offers to students of junior standing or University graduates a complete course in Naval Aviation. This training is divided into four phases:

- (a) Physical training and Ground School work at Naval Aviation Induction Centers: three months.
- (b) Preliminary flight training at Naval Reserve Air Bases; three months.
- (c) Advanced flight training at U. S. Naval Air Stations at Pensacola, Florida, and Corpus Christi, Texas.
- (d) Active duty as Aviation Reserve Ensign in the U. S. Fleet; for the duration of the present national emergency, with regular promotion and opportunity to transfer to the Regular Navy.

Enrollment in the Naval R.O.T.C. is not necessary. For particulars, apply to the Professor of Naval Science and Tactics, Naval R.O.T.C. Bldg., on the campus, or to the Procurement Officer, Room 301, 117 Marion Street, Seattle, Washington.

Courses in Nursing Education

NURSING EDUCATION

- Professor Soule; Associate Professor Adams; Assistant Professors Cross, Leahy, Olcott, Smith, Tschudin; Instructors Anderson, Basham, Beckstrom, ‡Boyle, Blackman, ‡Bovier, Braker, ‡Byers, Coffman, Connell, Darling, Forman, Gausman, Hejtmanek, Hoffman, ‡Johnson, Kintner, Lamberty, Larson, ‡McDuffee, ‡Miller, ‡Moser, Northrop, Odde, Ruch, Seels, Shattuck, Slough, Svelander, Watson; Lecturers Newsom, Powers.
 - 1. History of Nursing. A,W, S. (3) Soule, Leahy. Informational study of nursing from the earliest times; traditions of nursing as a profession. Survey of the present field of nursing. Open to any woman student in the University.
 - 5. Home Care of the Sick, and Child Hygiene. A, S. (3) Anderson. Practical course for women students. Instruction in home nursing procedures, including care of patients ill with common communicable diseases, care of chronics, and infants.
- 104. Public Health Administration and Epidemiology. W. (2) Newsom. Pr., graduate registered nurse or permission.
 - All Courses 120-148 Open Only to Nursing Majors Enrolled in Curriculum "A"
- 120. Principles and Practice of Elementary Nursing. W. (5) Boyle, Hoffman. Elementary nursing techniques used in general care of patients. Two lectures, three twohour laboratory periods.
- 121. Advanced Nursing Procedure and Methods of Planning Individualized Nursing Care. A,W,S. (3) Boyle, Odde. Clinical case study and practice in making advanced nursing care plans, considering the physical, mental, social, and economic needs of the patient.
- 122-123. Introduction to Hospital and Special Therapy Practice. A,W, S. (5-5) Boyle, Hoffman, Odde.

Twenty-four weeks hospital practice in elementary nursing and special therapy, including medical and surgical wards, hospital supplies, pharmacy, diet therapy, physical therapy, laboratory and X-ray services. N. Ed. 123 not open to students who have had 65.

- 124. Principles of General Medicine, Surgery, Otolaryngology and Nursing Care. A,W,S. (5) Blackman, Bovier, Beckstrom, physicians. Survey of these fields with etiology, pathology, symptoms, complications, treatments, prevention, and specialized nursing of each disease. Lecture, demonstrations, clinics. Recording and nomenclature included. Not open to students who have had 60 and 70.
- 125. Principles of Medical and Surgical Specialties and Their Nursing Care. A,W,S. (5) Blackman, Bovier, Hejtmanek, physicians. Including gynecology, endocrinology and metabolism, dermatology, neurology, orthopedica, and opthalmology. Not open to students who have had 61, 71, 76.
- 128. Medical Nursing Practice. A,W,S. (6) Blackman. Practical application of principles of nursing in medical diseases. Twelve weeks experience in medical wards, including weekly clinics, conference, and case studies on each disease.
- 129. Principles of Special Therapy. A,W,S. (2) Tschudin, department heads. The use of light, electricity, heat, water, massage, exercise, and occupation as aids in the care or control of disease processes.
- 130. Principles of Preventive Medicine and Nursing Care in Communicable Diseases. A,W,S. (4) Cross, Blackman, physicians. Etiology, modes of transmission, symptomatology, complications, treatment, methods of prevention and control in acute communicable, tuberculosis, and venereal diseases. Special emphasis on medical aseptic technique, specialized nursing care and assistance in public health education.
- 132. Surgical Nursing Practice. A,W,S. (6) Beckstrom. Practical application of principles of nursing in surgical diseases. Twelve weeks experience in surgical wards, including weekly clinic, conference and case study of each surgical disease.

‡On leave for military service.

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- 133. Operating Room Practice. A,W,S. (6) Hejtmanek, Hoffman. Practical application of principles of operating room technique, including twelve weeks experience in operative nursing and anaesthetic care.
- Nursing Practice in Clinics and Emergency Services. A, W, S. (6) 134. Bovier. Six weeks out-patient and emergency practice, six weeks in-patient emergency and orthopedic practice including weekly clinics, conferences, and case assignments; 36 hours per week hospital practice.
- 137. Introduction to Public Health Nursing. A.W.S. (2) Soule.
- Smith. 138. Professional Problems in Nursing. A.W.S. (2) Includes study of nursing organizations, legislation, grading of schools of nursing, and similar topics.
- 139. Principles of Pediatrics and Pediatric Nursing. A,W, S. (5)

Shattuck, Basham, physicians. Physical and mental development of normal children, principles of their care and feeding. Clinical presentation of cases illustrating common diseases of infancy and childhood and the appropriate medical and nursing care, together with program of prevention.

- 140. Pediatric Nursing Practice. A,W, S. (6) Shattuck, Basham, Twelve weeks practical experience in nursing care of infants and children, including practice in formula room, nursery, out-patient, orthopedic, and pediatric wards, weekly ward clinics, conference, and case study.
- 141. Principles of Obstetrics & Obstetrical Nursing. A,W,S. (5) Forman, obstetrician.

Anatomical and physiological aspects of pregnancy, labor, and puerperium, care during normal, operative, and complicated labors, nursing care of mother and new-born. Lectures, demonstrations, clinics.

- Obstetrical Nursing Practice. A,W,S. (6) Forman, Hoffman, obstetricians. 142. Practical application of principles of obstetrical nursing. Twelve weeks experience in nursing care of patients during pre-natal, labor, and post-partum periods, including care of the new-born. Weekly clinics, conference, case study.
- 145. Tuberculosis Nursing Practice. A,W,S. Cross, Gausman. Six weeks nursing practice in tuberculosis hospital and clinics.
- 146. Visiting Nursing Practice. A,W,S. (3) Cross, Connell, Johnson. Six weeks nursing practice in a public health nursing agency, including bedside nursing and public health field observation, with emphasis on communicable disease control.
- 147. Principles of Psychiatry and Psychiatric Nursing. A,W, S. (5)

Lamberty, Darling, psychiatrist. Lectures, demonstrations, and clinics, dealing with various types of mental diseases, principles of mental hygiene, and nursing care of mentally ill patients.

148. Psychiatric Nursing Practice. A,W,S. (6)

Lamberty, Darling, Seels, Kintner. Practical application of principles of psychiatric nursing. Twelve weeks experience in psychiatric wards, out-patient, and commitment clinics; weekly ward clinic, conference and case study.

150. Principles of Teaching Nursing and Health. A,W,S. (5)

Anderson, Olcott, Tschudin. Applied to school of nursing or the field of public health. Pr., graduate registered nurse.

- 151. Administration of Schools of Nursing. A.S. (5) Olcott. Deals with organization and equipment. Curriculum and content of courses. Class and ward schedule of instruction and classes.
- 152. Supervision of Hospital Departments. W. (5) Olcott, Tschudin. Organization, equipment, administration.
- 153. Hospital Administration in Relation to Nursing Service. **W**. (5) Olcott Tschudin.

Pr., graduate registered nurse.

154. Cadet Teaching and Ward Administration in Hospitals. A.W, S. (10) Olcott. Tschudin.

Pr., 150, 152, graduate registered nurse.

- 155, 156, 157. Advanced Nursing Practice in Institutional Specialties. A, W, S. (3 each quarter) Department Supervisors. Twelve weeks advanced experience and review for the graduate nurse in her major specialty. Includes weekly doctors' clinics, nursing conference and case assignment, combined with 36 hours hospital practice per week.
- 158. Advanced Nursing Practice in Emergency, Fracture, and Neurological Injuries. A, W, S. (3) Bovier. Twelve weeks experience in emergency care of the injured, including admission, receiving ward, emergency surgery, and post operative care. Includes weekly doctors' clinic, nursing conference, combined with a minimum of 36 hours hospital practice per week.

162. Field Practice in Public Health Nursing. A,W, S. (5) Leahy, Watson, supervisors. Application of the principles of public health nursing in relation to teaching and nursing by means of supervised field practice. Must be taken concurrently with 163 and 164. Pr., 167.

163. Field Practice in Public Health Nursing. A,W,S. (5)

> Leahy, Watson, supervisors. Application of the principles of public health nursing in relation to administrative activities and record work by means of supervised field practice. Must be taken concurrently with N.Ed. 162 and 164.

164. Field Practice in Public Health Nursing. A,W, S. (6)

Leahy, Watson, supervisors. Application of the principles of public health nursing in relation to family planning, use of social agencies, and the maintenance of community relationships by means of supervised field practice. Must be taken concurrently with N.Ed. 162 and 163.

- Survey of Current Literature in Specialized Fields in Public Health Nursing. 165. **A,₩, S.** (2) Leahy. Pr., 167.
- Advanced Field Work. A,W, S. (12) Leahy, Watson, supervisors. 166. Supervised practice in the special fields of nursing. Two hours conference and thirty hours practice a week. Pr., 162, 163, 164.
- Principles of Public Health Nursing. A, S. (3) 167. Soule. Policies and trends in the organization and administration of national, state, and local public health nursing services. Pr., graduate registered nurse.
- Special Fields of Public Health Nursing. W. (5) 168. Leahy. Study of the functions, objectives, and program in the special fields of public health nursing. Pr., 167 or 169.
- Public Health. A, S. (3) 169. Powers. History, development, principles of public health programs including official and nonofficial agencies with their community relationships. Pr., graduate registered nurse or health education major.
- 190. Methods of Supervision of Public Health Nursing. S. (3) Leahy. Pr., 167, 168, 150, graduate registered nurse.

Courses for Graduates Only

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

t To be arranged.

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Staff.

Service Courses for Other Hospitals

6. Principles and Practice of Elementary Attendant Nursing. A,W,S. (3)

Slough, Seels, assistant.

Inservice course for men and women attendants resident in approved hospitals. Instruction and practice in elementary nursing procedures and general hygienic care for persons chronically ill or convalescent.

9. Principles of Psychiatry and Psychiatric Attendant Nursing. A,W,S. (5)

Slough, Seels, assistant.

Lectures, demonstrations, and clinics, dealing with various types of mental diseases, principles of mental hygiene, and attendant care of mentally ill patients.

10. Psychiatric Attendant Nursing Practice. A,W,S. (6) Slough, Seels, assistant. Practical application of principles of psychiatric attendant nursing. Twelve weeks experience in psychiatric wards, out-patient and commitment clinics; ward clinic, conference, and case study.

Service Courses for Other University Departments

- Phys. Edu. 6. Health Education. W.S. (2) Anderson. Community hygiene. Development of public health program in the community. Two lectures a week.
- Phys. Educ. 10. Health Education. A.W.S. (5) McLellan, Anderson, Bliss. Equivalent of P.E. 4, 6, 8.

NURSERY SCHOOL

Assistant Professor Esther K. Harris; Associate Juanita Williams

- **§101.** Child Development. A. (3) Harris, Williams. Analysis of the intellectual, social and emotional development of the preschool child with directed observation in the Nursery School. Pr., Psych. 1. (May be taken con-currently.) It is recommended that students interested in this field also take Psych. 131.
- **§102.** Child Guidance. W. (3) Harris, Williams. Discussion of the basic principles of child guidance and observation of their application in the Nursery School situation. Pr., 101 or permission of the instructor.
- §103. Nursery School Curriculum. S. (3) Harris, Williams. A brief history of the development of the preschool movement and a detailed study of the Nursery School program with accompanying observations in the Nursery School. Pr., 102, or permission of the instructor.
- 104. Nursery School Participation and Special Problems. A,W,S. (†)

Harris, Williams.

Pr., permission of the instructor. An opportunity to work directly with the children as assistant teacher or to do specialized observation and reading.

OCEANOGRAPHIC LABORATORIES

Professors T. G. Thompson, Kincaid, Norris, Rigg, Utterback; Associate Professors Phifer, Robinson; Assistant Professors Church, Ordal; Instructor Crescitelli.

- 1. Survey of Oceonography. (5)
- *101. General Oceanography. (5)
- Graduate Seminar. A,W,S. (†) 249. Assigned readings and reports dealing with special topics.

250. Research in Oceanography. A.W.S. Staff. (†) (1) Special investigations by advanced students; (2) research for the master's degree: (3) research for the doctor's degree. Maximum, forty-five credits.

* Not offered in 1943-1944.

† To be arranged.

Staff.

^{\$}The above courses may be taken by women of the community who are not registered as students in the University. In such cases a special fee of \$15.00 a quarter is charged instead of the regular tuition fee.

- Courses in Oceanographical Botany. See Bot. 205, 206, 207, 210, 211.
- Courses in Oceanographical Chemistry. See Chem. 155, 156, 166, 225.
- Courses in Oceanographical Physics. See Phys. 166, 219*.
- Courses in Oceanographical Zoology. See Zool. 213, 214, 215.

Special arrangements may be made for conducting research at the laboratories at Friday Harbor throughout the year, or at the laboratories in Seattle.

PHARMACY, PHARMACOGNOSY, PHARMACEUTICAL CHEMISTRY AND TOXICOLOGY, AND PHARMACOLOGY

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

Department of General and Practical Pharmacy.

1, 2,	3. Theoretical and Manufacturing Pharmacy. A,W,S. (3,3,3) Rising.			
	Pharmaceutical operations and manufacture of U.S.P. and N.F. preparations. Two lec- tures, one lab. period a week.			
4.	The Profession of Pharmacy. A. (2)Plein.Survey of the development of pharmacy as a profession. Two lectures a week.			
9,	10, 11. Prescriptions. A,W,S. (3, 3, 3) Plein, assistants. Theory and practical application of extemporaneous compounding. Two lectures, one lab. period a week.			
15 .	Home Remedies. A,W, S. (2) Rising. Study of medicines commonly used in the home. Open to all students.			
51.	Elementary Pharmacy. A, S. (2) Larson. Survey of fundamental knowledge of dispensing for nurses.			
113,	114, 115. Advanced Prescriptions. A,W, S. (5,5,5) Rising, Plein. Problems in dispensing and manufacturing; preparation of diagnostic reagents; study U.S.P. and N.F. Two lectures, one quiz, six hours lab. a week.			
173.	Cosmetic Manufacture. A,W, S. (3 to 5) Pr., quantitative and organic chemistry.			
183.	New Remedies. W. (3) Plein. New and non-official remedies; modern methods of dispensing.			
184.	Pharmacy Laws. S. (3) Plein. A study of state and federal statutes and court decisions, developing the rights and liabilities of the pharmaceutical retailer and manufacturer.			
188.	Diagnostic Reagents. A,W, S. (2 to 5) Kelly. Manufacture and use.			
191.	Research Problems. A,W, S. (1 to 5) Staff. Open to juniors, seniors, and graduates.			
Course for Graduates Only				
201.	Investigations in Practical Pharmacy. A,W, S. (†) Rising, Plein. Maximum, 45 credits.			

† To be arranged.

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Department of Pharmacognosy

12, 1	3, 14. Pharmacognosy. A,W,S. (3,3,3) Goodrich, Youngken. Organic drugs, their source, methods of collection and preservation, identification, active constituents and adulterations. Three lectures a week			
104,	105. Pharmacognosy. W,S. (3,3) Microscopic study of crude and powdered drugs for purposes of identification and for detection of adulteration. One lecture, two lab. periods a week.			
106.	Medicinal Plants. A. (2) Youngken, Metzger. Study of cultivated and native medicinal plants of the Northwest and their commerce. One lecture, one lab. period a week.			
112.	Biologicals. A. (3) Goodrich. Deals with those animal drugs and biological products used in medicine.			
193.	Research Problems. A,W, S. (1 to 5) Staff. Open to juniors, seniors, graduates.			
	Course for Graduates Only			
202.	Investigation in Pharmacognosy. A,W,S. (†) Goodrich, Youngken. Maximum of forty-five credits.			
	Department of Pharmaceutical Chemistry and Toxicology			
5.	Gravimetric Quantitative Analysis. A. (5) Kelly. Two lectures, one quiz, two 4-hour lab. periods a week.			
6.	Volumetric Quantitative Analysis. W. (5) Kelly. Two lectures, one quiz, two 4-hour lab. periods a week.			
7.	Urinalysis. S. (2) Kelly. One lecture, one 3-hour lab. period a week.			
8.	Pharmacopoeial Assay. S. (2) Kelly. Assay of drugs by methods in the Pharmacopoeia. One lecture, three hours lab. a week.			
192.	Research Problems. A,W, S. (1 to 5) Staff. Open to juniors, seniors, and graduates.			
195,	196, 197. Pharmaceutical Chemistry and Toxicology. A,W, S. (5, 5, 5)			
	Pharmacy and chemistry of alkaloids, glucosides, oils, volatile oils, and other plant and animal principles. Also includes the separation and identification of poisons from animal tissue. Two lectures, two 4-hour lab. periods a week.			
	Courses for Graduates Only			
203.	Investigation of Toxicology. A,W,S. (†) Johnson, Fischer. Maximum of forty-five credits.			
204.	Investigation in Pharmaceutical Chemistry. A,W,S. (†)			
	Maximum of forty-five credits.			
Department of Pharmacology				
61.	Pharmacology and Therapeutics. W. (3) Larson. Source, actions, and uses of drugs. For nursing students at Harborview.			
101,	102, 103. Pharmacology and Toxicology. A,W, S. (3, 3, 3) Dille. Survey of the action of drugs, their posology and rational uses in therapeutics with con- sideration of symptoms and treatment of poisoning.			

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Courses in Pharmacy, Philosophy

- 170. Pharmacology. A.W.S. (2) Dille. Source, action, uses of the common drugs. Open to pre-medical students and others interested in a survey of the field of pharmacology.
- 185. Experimental Pharmacology. A. (2 to 3) Dille. Lecture and laboratory work on the pharmacological theories, actions, and uses of drugs. Pr., 101, 102, 103. One lecture, one lab. period a week.
- 186. Experimental Pharmacology. W. (2 to 3) Dille. Lecture and laboratory work on the pharmacological theories, actions, and uses of drugs. Pr., 101, 102, 103. One lecture, one lab. period a week.
- 187. Biological Assays. S. (2 to 3) Dille. The quantitative measurement of the action of drugs and its application to standard pharmaceutical preparations. Pr., 185 or 186. One lecture, one lab. period a week.
- Research Problems. A,W,S. (1 to 5) Staff. 194. Open to juniors, seniors, and graduates.
- Dille. 199. Seminar in Pharmacology. A,W,S. (1) Open to qualified students after conference with instructor. Reports and discussions of current research in pharmacology.

Courses for Graduates Only

- 205. Investigation in Pharmacology. A,W, S. (†) Maximum of forty-five credits.
- 210. Graduate Seminar. A,W, S. (no credit) Staff. Reports on assigned reading under direction of members of the staff. One hour a week.

PHILOSOPHY

Professors Savery, Nelson; Assistant Professors Phillips, Rader.

- 1. Introduction to Philosophy. A,W,S. (5) Main philosophic problems and typical solutions.
- 2. Introduction to Social Ethics. W. (5) Social ideals and problems, with special emphasis upon democracy.
- 3. Introduction to Ethics. S. (5) Moral principles and their application to the problems of life.
- 5. Introduction to Logic. A,W, S. (5) Nelson. Conditions of clear statement, adequate evidence, and valid reasoning, and their establishment in the mental processes of the student.
- 6, 7. Types of Philosophy. A.W. (3) Nelson. Consideration of principal types of philosophy as different ways of understanding the world and man's place in it. Naturalism, supernaturalism, idealism, materialism, dualism, intuitionism, and mysticism are among the theories treated. A continuation of Philosophy 1. Pr., 1, or consent of instructor.
- 101-102-103. History of Philosophy. A,W, S. (3-3-3) Rader. Ancient, medieval, and modern. For juniors and seniors; others by permission.
- 104-105-106. Philosophy of Nature. A,W,S. (3,3,3) Savery 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 consent of instructor.

*112. Philosophy of History.

To be arranged. * Not offered in 1943-1944.

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Courses in Philosophy

Philosophy of Religion. W. (5)113. A study of religious experience and religious belief. Pr., 1.

History of Religion. (See Far Eastern 115, 116.)

- 129. Esthetics. A. (5) Rader. Theories of the nature of art, the nature of beauty, and the various sources of esthetic effect.
- 130, 131, 132. Philosophical Issues in the War and the Peace. A,W,S. (2,2,2) Rader. A study of the philosophies underlying German and Italian Fascism, Japanese Nationalism, and British and American Democracy as a way of life; and of the kind of world which is necessary after the war if men are to live "the good life."
- 133. Ethical Theory. S. (3)

"Fundamental concepts and principles of ethics. Pr., 2 or 3.

- *137-138-139. Development of Social Philosophy.
- 141-142-143. Contemporary Philosophy. A,₩, S. (2-2-2) Nelson. Modern movements: idealism, intuitionism, positivism, pragmatism, realism, mechanism, and vitalism. Pr., 1 or 103.
- 193. Advanced Logic. S. (3) Nelson. Symbolic logic; critical examination of logical doctrines bearing on philosophical questions; inductive method. Pr., 5.
- 194. The-Hindu Philosophies of India. A. (3) Savery. A study of the contribution of philosophy to the India of today. A reading course. No prerequisite.
- Buddhism in India and China. W. (3) 195. Savery. A study of Buddhism as a way of life. A reading course. No prerequisite,
- 196. The Ethical and Political Philosophy of China. S. (3) Savery. The making of the social ideals of China. A reading course. No prerequisite.
- 197, 198, 199. Reading in the Philosophical Classics. A,W,S. (3,3,3) Savery. From Plato and Aristotle to the philosophers in modern times. No prerequisite.

Courses for Graduates Only

- 207, 208, 209. Seminar in Philosophy of Science. A,W.S. (4,4,4) Savery. Advanced study of metaphysics. Pr., consent of instructor.
- *214-215-216. Seminar in Logic.
- *234-235-236. Seminar in Descartes, Spinoza, Leibnitz.
- *237-238-239. Seminar in Locke, Berkeley, Hume.
- *241-242-243. Seminar in Plato and Aristotle.
- *244-245-246. Seminar in Kant and Hegel.
- 251, 252, 253. Research in Philosophy. A,W, S. (1 to 6 each quarter) Staff. Pr., consent of instructor.

* Not offered in 1943-1944.

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PHYSICAL AND HEALTH EDUCATION

PHYSICAL AND HEALTH EDUCATION FOR MEN

Professor Foster; Associate Professor Belshaw; Assistant Professors Auern-heimer, Reeves; Associates Buckley, Clark, Duggins, Edmundson, Egtvet, Eriksen, Graves, Kirkland, Mills, Sanberg, Ulbrickson, Welch.

1, 2, 3. Adapted Activities. A.W.S. (1,1,1) Reeves. Individual gymnastics, games, and sports. Adapted to meet the needs of the individual.

§5. 7. 8. Physical Education Activities for Majors. A.W.S. (1.1.1)

Reeves and Staff.

 \times 9, 10, 11. Physical Education for Sophomore Majors. A,W,S. (1,1,1)

- **Reeves** and Staff.
- 16 to 70. Physical Education Activities. A,W,S. (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, jui 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, fresh-man 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.
 - (2) 15. Personal Health. A,W, S. **Reeves and Staff.** Approaches to healthful living. Laws of hygiene as they apply to the individual problem of adjustment. Health information that affords a basis for intelligent guidance in the formation of health habits and attitudes. Academic credit given.

PHYSICAL AND HEALTH EDUCATION FOR WOMEN

Professor Hutchinson; Associate Professor de Vries; Assistant Professors McGownd. Rulifson, Wilson, McLellan; Instructors MacLean, Kidwell.

Activity Courses

11, 12, 13. Physical Education Activities for Freshman Majors. A,W,S. Rulifson, de Vries, Wilson, MacLean. (2, 2, 2)

Required of all freshman major students. Practice in folk and national dancing, clog and tap dancing, hockey, basketball, tennis, soccer, archery, baseball, volley ball, interpretative dancing, swimming.

- 51, 52, 53. Physical Education Activities for Sophomore Majors. A,W,S. (2, 2, 2) Rulifson, Wilson, MacLean, de Rulifson, Wilson, MacLean, de Vries. Required of all sophomore major students. Practice in the skills and techniques of soccer, tennis, volley ball, badminton, basketball, folk dancing, tap and clog dancing, swimming, life saving, and contemporary dance.
- Physical Education Activities. A,W,S. (1,1,1) Auernheimer, Rulifson, de Vries, McGownd, Jefferson, McLellan, Kidwell, Wilson, 57 to 98. MacLean.

Course 57, fencing; 58, advanced fencing; 61, folk and national dancing; 62, clog and tap dancing; 63, advanced clog and tap dancing; 64, bockey; 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, canceing; 86, advanced badminton; 87, golf**; 88, advanced golf**; 89, bowling***; 90, skiing; 91, modern dancing; 92, advanced modern dancing; 93, advanced bowling***; 94, equita-tion1; 95, elementary swimming; 96, intermediate swimming; 97, advanced swimming; 98, difference of the equipa 98, diving; 99, life saving.

- \$ These courses satisfy in part the general University requirement in physical education. ** Golf instruction fee (payable to golf club), autumn, spring, \$3; winter, \$1.50.
- ‡ Riding instruction fee (payable to riding academy), each quarter, \$17.50.

Staff.

^{***} Bowling fee (payable at bowling alley), \$4.20.

Health Education Lecture Courses

- 4. Health Education. A,♥. (2) McLellan. Personal hygiene. The development of personal and social attitudes in matters of personal and community hygiene. Two lectures a week.
- 6. Health Education. W,S. (2) Anderson. Community hygiene. Development of public health program in rural communities and cities. Public health and communicable disease. Two lectures a week.
- 8. Health Education. W,S. (2) Storvick, Bliss. Nutrition. Food selection in relation to nutritive requirements of various age groups. Two lectures a week.
- 10. Health Education. A,W,S. (5) McLellan, Storvick, Bliss, Anderson. Equivalent of 4, 6, 8.

PROFESSIONAL COURSES FOR MEN AND WOMEN

101. Methods and Materials in Gymnastics, Stunts and Tumbling. S. (3)

McLellan, Wilson. WOMEN. Classification of gymnastic material. Principles and technique of teaching. Pr. or accompanying courses, Anat. 100 and Physiol. 50.

- 102-103. Problems in Physical and Health Education and Recreation. A,W. (1-1) MEN and WOMEN. A study of problems in physical education, health education, and recreation on a basis for professional study. Required of all majors.
- 107. Personal and General Hygiene. S. (3) Reeves. MEN. Advanced course designed primarily for professional students in physical education. Pr., 15.
- 109. The School Dance Program. W. (2) Wilson. 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.
- 110. First Aid. A,W,S. (2) MEN and WOMEN. Emergency treatment. Safety measures for the prevention of injuries. Sec. A for women; sec. B for men.
- 111. Rhythmic Activities for Small Children. A. (2) Wilson. WOMEN Activities suited to the pre-school, kindergarten, and primary child. Educational value, significance in child development, methods of presentation. Lecture and practice.
- 112. Elementary School Athletic Program. S. (3) Rulifson. WOMEN Progressive series from the hunting games and elementary forms to the standard athletic activities of late adolescent years.
- 114. Advanced First Aid. A,W, S. (2) MEN and WOMEN. Pr., P.E. 110 or equivalent.

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115. Physiology of Muscular Exercise. S. (5) Belshaw. MEN and WOMEN. Physiology of muscular exercise as related to physical activities. Study of 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, or equivalent.

Reeves, MacLean.

Courses in Physical and Health Education

- First Aid and Athletic Training. A. (3) Reeves. MEN. First Aid treatment for injuries common to the playfield, gymnasium, and athletic field. Training and safety measures for the prevention of injuries. May satisfy both the 116. Standard and Advanced American Red Cross First Aid Certification. Pr., Anat. 100, Physiol. 50.
- 118. Analysis of Rhythm. A. (3) de Vries, Wilson. WOMEN. Principles underlying expression in rhythmic activities, including rhythmic form and analysis. Rhythm in 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.
- 122. Kinesiology. A. (3) Belshaw. MEN and WOMEN. Principles of body mechanics. Analysis of leverage in body move-ment and problems of readjustment in relation to posture and to physical education activities. Pr., 115, Anat. 100, Physiol. 50.
- 124. Activities and Recreational Methods. W. (3) Reeves. MEN and WOMEN. Activities suitable for various age levels, i.e., handcraft, music, dramatics, nature study, low organized games, free play, social recreation, contests and tournaments, story telling, special features, and camping and outing activities. Pr., 145.
- 125. Administration of Play and Recreation. S. (3) Reeves. MEN and WOMEN. Departmental organization and maintenance. Principles and policies. Pr., 145, 124, 110.
- 126. Observation and Practice Teaching. A,W,S. (2-4) Reeves. Wilson. MEN and WOMEN. Observation of recreational work in Seattle and vicinity. Fifty hours of practice teaching in organized recreation centers. Pr., 125 and six credits in methods courses. Sec. A, for women, winter, spring, 4 credits; sec. B, for men, autumn, winter, spring, 2 credits.
- 127. Tests and Measurements. A. (3) Belshaw. MEN and WOMEN. Place and possibilities of measurement in health and physical education. Criteria for selection of test. Analytical study of the tests in these fields. Formulation of a testing and measuring program. Pr., senior standing.
- 128. Organization and Administration of Camp Programs. S. (3) McLellan. WOMEN. Theory and practice in camp organization and administration and in the conduct of camp activities; studies are made of the educational significance of current movements and existing local and national organizations. Pr., 124.
- 129. Methods in Teaching First Aid and Safety. S. (2) Reeves. MEN AND WOMEN. Methods and techniques in teaching first aid and safety. Student may satisfy the requirements for an Instructor's First Aid certification in the American Red Cross. Pr., 110 or equivalent.
- 135. Adapted Activities. W. (3) Reeves, Kidwell. MEN and WOMEN. Study of atypical cases from the standpoint of selecting and adapting activities to meet individual needs. Observation of actual cases under supervision. Pr., 115, 122, Physiol. 50.
- 145. Principles of Physical Education. A. (3) Foster. MEN and WOMEN. Social, biological, and educational foundations. The place of physical education in the school program. Aims, objectives, content, and standards. Pr., Physiol. 50 and junior standing.
- 146. Principles of Health Education. A. (2) Foster. MEN and WOMEN. Educational foundations. The place of health education in the school program. Aims, objectives, content, and standards. Pr., Physiol. 50 and junior standing.

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- 150. The School Physical Education Program. W. (5 or 2) Foster, Hutchinson. MEN and WOMEN. Organization and administration of the physical education program in secondary schools. Pr., 158, 161, 163, or 162, 163, 164. Men, winter, five credits; women, winter, two credits.
- 153. Methods and Materials in Health Tcaching. S. (3) Hutchinson. MEN and WOMEN. The place of health education in the school program, the general program of health teaching, subject matter and methods in health teaching in both the elementary and high school. Pr., senior standing and 145, 165, Physiol. 50.
- 155. Dance Composition. S. (2) de Vries. WOMEN. Practice in modern dance. Analysis of choreography. Opportunity for creative work. Pr., 92, 118.
- 156. Methods and Materials in Teaching Dance. A. (2) de Vries. WOMEN. Selection and organization of materials in educational program; methods of presentation; sources of material; music, and types of accompaniment. Pr., 53 or 92, 118.
- 157. Theory and Practice in Dance Accompaniment and Percussion. S. (2) de Vries. WOMEN. Study of rhythmic structure in relation to percussion instruments. Rhythmic pattern and composition. Studies in types of accompaniment together with practice in their use. Pr., 92 or 53, 118.
- 158. Methods in Teaching Apparatus, Tumbling and Stunts. W. (2)

Auernheimer.

MEN. Pr., 25, 26, and competence in ten additional physical educational activities.

- 159-160. Dance Production. A,W. (2-2) de Vries. WOMEN. Study of and practice in costuming, lighting, staging, for dance concerts and festival programs. Pr., 92 or 53, 118.
- 161. Methods in Teaching Boxing and Wrestling. A. (2) Mills. MEN. Pr., 24, 27, and competence in ten additional physical educational activities.
- 162. Methods and Materials in Teaching Folk, Tap and Clog Dancing. S. (2) Wilson.

WOMEN. Section X for majors. Pr., 52. Section Y, minors.

163. Methods and Materials in Teaching Sports. W, S. (2 or 3)

Rulifson, MacLean, Reeves.

MEN and WOMEN. Sec. A, women majors; three credits; winter; pr., 51, 52, 112. Sec. B, men; two credits; spring; pr., competence in twelve activities. Sec. Y, women minors; two credits; spring.

- 164. Methods in Teaching Swimming. A, S. (3 or 2) MacLean, Buckley. MEN and WOMEN. Methods and techniques in teaching swimming and diving; consideration of life saving; direction of camp waterfront program. Sec. A, women; pr., 53, 85; or 97 and 99 may be substituted for 53; three credits. Sec. B, men; pr., 29; two credits; spring.
- 165. The School Health Education Program. W. (3) Belshaw. 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. S. (2) Welch. MEN. Theory and practice of the fundamental principles underlying both individual and team play. Pr. junior standing.

- Methods in Teaching Basketball, W. (2) 171. Edmundson. MEN. Individual and team development; offensive and defensive play. Pr., junior standing.
- Edmundson. 172. Methods in Teaching Track and Field. A. (2) MEN. Methods of training for the various events. Correct form in running. Conducting and officiating meets. Pr., junior standing.
- 173. Methods in Teaching Baseball. S. (2) Graves. MEN. Fundamentals of batting, base-running, and position play; theory and practice. Pr., junior standing.
- 193. Problems in Athletics. S. (3) Foster. 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.

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. A. (3) Hutchinson. MEN and WOMEN. Special problems, including administration of school programs, organization of activities. Problems selected will depend upon personnel of class. Pr., 20 credits in physical education.
- 203. Seminar in Health Education. S. (3) Hutchinson. MEN and WOMEN. Study of the problems relating to the school health education program. Problems selected will depend upon personnel of class. Pr., 145, 153, 165.
- 206. The Curriculum. S. (3) Foster. MEN and WOMEN. Principles underlying the curriculum. Selection and organization of program content in relation to such problems as characteristics and needs of pupils and local conditions. Practical experience in curriculum making. Pr., 20 credits in physical education.

PHYSICS

Professors Brakel, Henderson, Loughridge, Utterback; Assistant Professors Cady, Higgs, Kenworthy, Uehling: Instructors Sanderman, Anderson.

Students not in engineering, who do not have a year of high school physics, must elect Physics 4, 5, 6.

- 1, 2, 3. General Physics. A,W,S. (5,5,5) Utterback, Cady. These courses will satisfy the science requirement in the College of Arts and Sciences, and may be taken by students in forestry and pharmacy. Pr., one year of high school physics for 1; 1 for 2; 1 for 3.
 - 4, 5, 6. General Physics. A,W, S. (5,5,5) Kenworthy. For students without a year of high school physics. These courses will satisfy the same requirements as 1, 2, and 3. Pr., plane geometry, 4 pr. to 5; 4 pr. to 6.
 - 10. Survey of Physics. W. Utterback. (5) General view of the fundamental principles of physics and their relation to the welfare of man. Students who expect to continue with physics should begin with 1 or 4.

Courses in Physics

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50.	Sound and Music. S. (5)	Kenworthy.			
54.	Elementary Photography. A, S. (4) Principles and practice of the elementary photographic processes. I or chemistry.	Higgs. Pr., elementary physics			
70.	Physics for Nurses. A,S. (5) Special topics in physics applied to Nursing Education.	Sanderman.			
89-9	00. Physics of the Home. W, S. (5-5) For students in home economics.	Sanderman.			
97.	Physics for Engineers—Mechanics. A,W. (5) Pr., one year high school physics, 10 credits college mathematics.	Brakel, Uehling.			
98.	Physics for Engineers-Electricity. W, S. (5) Pr., 97.	Brakel, Loughridge.			
99.	Physics for Engineers—Light and Heat. A, S. (5) Pr., 97.	Brakel, Henderson.			
101-1	102. Introduction to Modern Physics. A,W. (3-3) Pr., 3 or 6.	Utterback.			
105-1	106. Electricity. A,W. (3-3) Pr., 3 or 6.	Brakel.			
109.	Pyrometry. S. (3). Pr., 3 or 6.	Utterback.			
115.	Photography. W. (4) Quantitative study of the more important photographic processes photography to the sciences and arts. Pr., 54.	Higgs. and the application of			
140.	Sound. W. (3) Study of sound sources, transmission, and absorption of sound with	Kenworthy. applications. Pr., 3 or 6.			
* 150	. Heat and Introduction to Thermodynamics and Kinetic	Theory.			
154.	154. Low and High Frequency Measurements. S. (4) Uehling. Measurements of resistance, inductance, and capacitance as a function of frequency. Study of simple and coupled circuits, impedance of complex circuits and vacuum tube characteristics. Pr., 106, calculus.				
155.	Introduction to Modern Physics for Electrical Engineers. Pr., Sr. E.E.	W, S. (3) Staff.			
160-1	161. Optics. A,W. (3-3) Pr., 3 or 6, calculus.				
*166	. Physical Oceanography.				
167,	168, 169. Special Problems. A,W, S. (†) Pr., permission.	Staff.			
170.	Spectrometry. W. (3) Pr., 160, or permission.				
180.	History of Physics. A. (2). Pr., 3 or 6.				
	• Not offered in 1943-1944. † To be arranged.				

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- 191, 192. Theoretical Mechanics. A,W. (4, 4) Pr., 20 credits in physics, and calculus.
- 195, 196. Experimental Atomic Physics. W, S. (3,3) Higgs. Designed to acquaint the student with a group of phenomena representative of modern experimental physics. Pr., 30 credits in physics.

Courses for Graduates Only

200, 201, 202. Introduction to Theoretical Physics. A.W.S. (6.6.6) Henderson, Loughridge, Uehling. These courses constitute a thorough foundation for subsequent specialization and more

intensive study. Pr., 40 credits in physics; Math. 114 concurrently.

- *204. Thermodynamics.
- *205. Kinetic Theory.
- *210. Mathematical Theory of Sound.
- 211. Statistical Mechanics. W. (6) Loughridge. A discussion of classical, quantum statistics to serve as a foundation for application to absorption and emission of radiation, electron gas theories, equilibrium and rates of physical-chemical processes. Pr., 202.
- *212. Conduction of Electricity Through Gases.
- *213, 214. Electricity and Magnetism.
- *216. X-Rays.
- *219. Hydrodynamics.
- 220. Advanced Dynamics. A. (6) Pr., 202.
- *221. Collision Theory.
- 222. The Metallic State. S. (6) Henderson. Theories of electron emission. Metals and insulators, conductivity and super-conductivity. Pr., 202 and permission of instructor.
- 226, 227. Electromagnetic Theory. A,W. (4,4) Henderson. The electromagnetic theory of light. Propagation of electromagnetic waves in isotropic and anisotropic media. Physical optics. Pr., 202.
- 230, 231. Atomic Structure. W.S. (4.4) Pr., 202.
- *239, 240. Wave Mechanics.
- *241, 242, 243. Relativity.
- 245, 246, 247. Advanced Quantum Mechanics. A,W,S. (4,4,4) Uehling. Relativistic theories of charged and uncharged elementary particles. Quantum electrodynamics with applications to problems of modern physics. Pr., 239, 240, or permission of instructor.
- 250, 251, 252. Seminar. A,W,S. (†)
- 256, 257, 258. Research. A,W,S. (†)

* Not offered in 1943-1944. † To be arranged.

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Utterback.

Loughridge.

Utterback.

Staff.

Staff

POLITICAL SCIENCE

Professors Martin, Cole, Levy, Mander; Associate Professors Cook, von Brevern; Lecturer Williston.

Lower Division Courses

Elementary Course Primarily for Freshmen

Survey of Political Science. A,W,S. (5) 1. Martin, Mander. Forms and functions of modern government; political ideas and institutions, American and foreign.

Intermediate Courses Primarily for Sophomores

- Principles of Politics. A. (5) 51. Cook. Introduction to certain major concepts of political science, such as sovereignty, political obligation, liberty, rights.
- 52. Introduction to Public Law. W. (5) Cole. Legal construction of political organization. The state and the individual; leading concepts in constitutional, international and administrative law.
- 54. International Relations. A. (5) Mander. Rise of modern states; alliances, imperialism, the League of Nations; present problems; factors underlying international relations.
- **60**. The American Government. S. (5) Cole_ Principles of the American governmental system, federal and state; the accommodation of eighteenth century doctrines and institutions to the needs of our modern continental republic.
- *61. Municipal Government.
- *71. Great Personalities: Europe and the Near East.
- *72. Great Personalities: The Near East and Asia.
- 100. Post-War Planning and Administration, National and International. A,₩,S. (5) Martin, Cole, Mander, Cook. Study of various proposals for post-war international organization, planning, and administration and of internal planning and administration in relation thereto. The present work of specific government agencies dealing with these matters. Administration of conquered territories.
- 101. Introduction to American Constitutional Government. A,W, S. (2) Fundamental principles of American Constitutional system; function, evolution; unwritten constitution.

Group I. Political Theory and Jurisprudence

- 111. History of Political Thought. A. (5) Cook. Major concepts of the needs of man as a political animal, from Socrates to the beginning of the nineteenth century, with special emphasis on permanent elements in tradition.
- 112. American Political Thought. W. (3) Study of some major political thinkers in America from the Colonial Period to the present, emphasizing certain lasting issues, such as centralization vs. decentralization.
- 113. Contemporary Political Thought. S. (5) Cook. Inquiry into changing concepts of the bases and functions of the state and of the sphere of the individual since the impact of the French and Industrial revolutions.
- *114. Oriental Political Thought.

*Not offered in 1943-1944.

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Cook.

- *115. Problems in Systematic Political Science.
- 118. Law and the State. A. (5) Cole. Ancient, medieval, and modern conceptions of the relationship between political authority and the legal institution. Law and politics in an ideal commonwealth.
- 119. Jurisprudence. W. (5) Cole. Law as an agency of social control. Survey of such fundamental concepts as rights, persons, property, contract, liability. Sources of law: legislation, precedent, custom.

Group II. International Relations

- 121. Foreign Relations of the United States: Europe. A. (3) von Brevern. Traditional policies of the nineteenth century. New problems after 1914. Relations with international organizations.
- 122. The Foreign Service. S. (3) Martin. Department of State; diplomatic and consular services; American diplomatic practice and procedure.
- 123. Foreign Relations of the United States: the Caribbean Area. W. (3) von Brevern.

The Monroe Doctrine; Pan-Americanism; Imperialism; our special position in relation to Mexico, Central America, and the Caribbean.

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- 124. Contemporary World Politics. S. (3) Mander. Assumptions of pre-war international organization; principles of collective security and their apparent breakdown; recent developments in Europe and the Far East.
- *126. Politics and Military Armament.
- 127. International Organization and Administration. W. (5) Mander. International unions, conferences, commissions, especially the League of Nations.
- 128. Foreign Relations of the United States: South America. S. (3) von Brevern. Extension of same criteria as in course 123 over South America; the New Deal policy; inter-dependence of the Americas; hemispheric solidarity.
- 129. International Relations in the Far East. A. (5) Williston. Relations between China, Japan, Russia, Philippines before 1839. Economic and political expansion of Europe in the East and the relations between Eastern powers from 1839 to 1930. The Far East in world politics.
- 130. The Middle and Near East. S. (5) Mander. European expansion into Egypt, Turkey, Persia, Afghanistan; the mandate for Palestine and Syria; the effect of the present war.
- 131. International Practice and Procedure. W. (3) Martin. Diplomatic protection of citizens abroad. Rights and duties of aliens. International claims. Modes of redress short of war. Regulations of war and neutrality. Extradition. International arbitral and judicial procedure.
- 132. American Foreign Policy in the Far East. W. (5) Williston. Early American trade and relations with Eastern Asia. American policy, with special reference to internal politics in America, in relation to Far Eastern Powers themselves and to foreign Powers in the Far East.
- 133. Europe Since 1914. A. (5) Levy. Broad outline of history from the World War to the present.
- 134. Power Politics. S. (3) Martin. Pragmatic philosophies and Machiavellian practices in modern world politics. Their impingement on political idealism and democratic systems.

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Courses in Political Science

- 135. Colonial Government and Administration. A. (3) von Brevern. Policies of and administration by leading colonial powers and the United States. Government of native peoples; mandates; India and the Philippines.
- Law 122. International Law. A.W. (3) Martin. General principles of international law as developed by custom and agreement, and as exhibited in decisions of international tribunals and municipal courts.

Group III. Politics and Administration

*150. Pressure Politics.

- *151. Problems in American Federal Government.
- Political Parties and Elections. S. (5) 152. Albright. Organization and methods of political parties; campaigns and conventions; election administration.
- 153. Introduction to Constitutional Law. S. (5) Cole. Growth and development of the United States Constitution as reflected in decisions of the Supreme Court. Political, economic, social effects.
- 154. The Public Service. W. (5) Albright. Government employment in the United States and Great Britain. Policies and problems of personnel administration in the United States.
- Introduction to Public Administration. A. (5) 155. Albright. General survey of the field of public administration, including relationship of administration to other agencies of government.

Public Finance. See Economics and Business 171.

*156. Parliamentary Governments in Europe.

- 157. The Governments of Europe. A. (5)
- Democracy and dictatorship in post-war Europe. Probable trends of government. ••••
- 158. Government and Politics in the Far East. S. (5) Williston. Political theory and structure of government in China, Japan, Manchukuo, Korea, Formosa. Social and economic basis of government and politics, especially in China and Jupan. Colonial administration in Indo-China and the Philippines.

*159. The British Empire.

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- *160. Eastern European Governments.
- 161. Government and Business. A. (5) Historical background, constitutional limitations, restraint of trade and manipulation of prices, government control of public utility activities.
- Albright. 162. Municipal Administration. A. (5) Civil service. finance, city planning, zoning, police, traffic, health, water, sewerage, public works, utilities, etc.

* Not offered in 1943-1944.

Albright.

Cook.

- *163. State Government and Administration.
- 164. Public Policy in Governmental Planning. S. (3) Albright. Historical development of governmental planning; legal basis of national, state, and local planning agencies; general scope of their powers and functions; policy determination; coordination of planning agencies and administrative departments.
- *165. The Legislative Process.
- *166. Constitutional Law in Europe.
- 167. Introduction to Administrative Law. W. (5) Albright. Creation of administrative authorities, scope of and limitations on their powers, remedies, judicial control of administrative action.

Courses for Advanced Undergraduates

- 170. Introduction to Geo-Politics. S. (3) von Brevern. Analysis of political development and function of states as conditioned by natural environment, ethnographic and anthropologic factors, cultural heritage.
- 190. Introduction to Roman Law. W. (5) Levy. General importance of Roman law, its sources and civil procedure. Main features of classical law of persons, property, contracts, torts, and succession in the light of modern research, with a background of political, economic, and social factors. Open to qualified sophomores.

*191. Comparative Law.

- *192. Introduction to Modern Civil Law.
- 196, 197, 198. Problems of National Administration in Wartime. A,W,S. (3,3,3) Martin, Cole, Albright. Administrative principles as applied to certain specific national problems, especially of wartime activity, such as administrative trends and organization in war and peace; wartime administrative agencies; wartime functions of permanent federal agencies; trends toward legislative centralization and administrative decentralization; impact of national administration on international affairs.
- 199. Individual Conference and Research. A,W,S. (2 to 5) Staff. For advanced undergraduates having high scholastic standing, with consent of instructor concerned.

Courses for Graduates Only

- 201, 202, 203. Graduate Seminar. A,W,S. (3, 3, 3) For candidates for higher degrees in political science.
- 211, 212, 213. Seminar in Political Thought. A,W, S. (3, 3, 3) Cole. Readings and discussions based on the writings of first importance of the masters of political science.
- 215. Methods and Research in Political Science. A. (3 to 5) Cook. Political science and the social sciences; methods of research; bibliography of general and special fields.
- Concepts of Political Theory: Problems in Authority and Liberty. W. (3 to 5)
 Cook.
- Concepts of Political Theory: Problems of Equality and Function. S. (3 to 5)
- 221, 222. Seminar in International Organization. A, W. (3 to 5 each quarter.) Mander.

* Not offered in 1943-1944.

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Martin.

Cook.

- 234. Seminar in Roman Law. A. (3) Levy. Introduction to modern research in Roman law. Readings in Justinian's Institutes and Digest in English translation.
- Seminar in Politics and Administration. W. (3 to 5) 251. Albright. Research in special problems.
- 256. Seminar in Government and Public Law. A. (3 to 5) Cole.
- 299. Individual Research. A.W.S. (2 to 5) Martin. Cole. Staff. For advanced graduates admitted to candidacy for higher degrees, with the consent of the department.

Seminar in Far Eastern Diplomacy. See Far Eastern 225, 226.

Constitutional Law. See Law 119.

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Administrative Law. See Law 121.

PSYCHOLOGY

- Professors Smith, Guthrie, Wilson, Esper; Associate Professor Gundlach; Assistant Professors Horton, Loucks, Hermans.
 - 1. General Psychology. A,W, S. (5) Wilson and Staff. Survey of the science. Man's original nature, the way in which nature is altered by use; the individual and social behavior that results.
 - 2. Psychology of Adjustment. A,W, S. (5) Loucks, Horton, Wilson. Nature of personality and ways in which personalities are formed in adjusting to the world. Pr., 1.
 - Applied Psychology. W. (5) 21. Gundlach. Psychology of personal efficiency, vocational guidance, scientific management, law, medicine, athletics, business, advertising. Upper division credit for upper division students. Pr., 1.
- 102. The Neural Basis of Behavior. A. (5) Esper. Action, emotion, regulatory functions, learning, thinking. Pr., 1, Zool. 1, 2 or 3-4, and permission of instructor.
- Experimental Psychology. W. (5) Esper. 106. Training in laboratory methods. Pr., 1, 108, 109, and permission of instructor. Two lectures, six hours lab.
- Essentials of Mental Measurement. W. (5) Guthrie. 108. Use of statistical methods in psychology. Pr., Math. 3 or 5, or 31, 32, 33.
- 109. Advanced Mental Measurement. S. (5) Continuation of 108.
- *111. History of Psychology.
- *112. Modern Psychological Theory.
- *116. Animal Behavior.
- *117. Superstition and Belief.

* Not offered in 1943-1944.

Guthrie.

Courses in Psychology, Romanic Languages

- Guthrie. 118. Social Psychology. A. (5) Psychology of social human nature; language, custom, public opinion, morals, war, family, caste, nationalism, religion. Pr. 1.
- *120. Psychology and the Arts.
- 124. Psychology of Learning. S. (5) Esper. How habits are formed. Efficiency in learning, transfer of training, recent experimental findings. Pr., 1 and 2.
- Space Perception. W. (2) 125. Hermans. Coordination of senses in development of perceptual responses to objects and events in space. Pr., 1.
- Psychology of Maladjustment. S. (3) Smith. 126. 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. A. (5) Individual and social development and their causes, from infancy to adult age. Pr., 1.
- Smith. Advanced Child Psychology. S. (2) 133. Study of recent research in child development. Pr., 131.
- Loucks. 140. Conditioning. W. (5) Experimental work on conditioning. Significance for the several fields of psychology. Emphasis on specific research techniques. Pr., 10 credits in psychology.

*141. Sensory Basis of Behavior.

151, 152, 153. Undergraduate Research. A,W, S. (3, 3, 3) Staff. Pr., 15 credits in psychology including 106 and permission of department.

Courses for Graduates Only

Before a student registers for graduate courses, his topic for research must be approved by the department.

201, 202, 203.	Graduate Research.	. A,₩, S.	(†)	Staff.
211, 212, 213.	Seminar. A,W, S.	(2, 2, 2)		Staff.

ROMANIC LANGUAGES AND LITERATURE

Professors Nostrand, Frein, García-Prada, Goggio, Helmlingé, Umphrey; Associate Professors Chessex, W. Wilson; Assistant Professors David, Simpson, Whittlesey, C. Wilson; Instructor ‡Creore.

Students with less than one high-school year of preparation will normally enter course 1; with one or one and one-half years of preparation, course 3R; with two years of preparation, course 4 (or 4 and 7 in French, if the preparation is inade-quate); with three years, courses 101 and 104; with four years, course 104. After a lapse of two years or more since previous instruction in a language, a student may repeat any one quarter with credit. Any other exception involving credit must be determined by the executive office of the department.

In instances where a foreign language must be taken to satisfy an entrance deficiency of two units, the requirement may be satisfied by taking French 5 (or 4 and 7); Spanish 5; or Italian 18 plus 4 or 6 hours of either 111, 112, 113 or 121, 122, 123.

† To be arranged. * Not offered in 1943-1944.

‡ On leave for military service.

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French

- 1-2, 3. Elementary. A,W,S. (5-5, 5)
 - Simpson and staff. No credit for 1 until 2 has been completed. Pr. for 3 is 2 with a grade of not less than "C." Students receiving "D" in 2 are adviced to complete the state of th Students receiving "D" in 2 are advised to proceed to 3R.
- 1-2, 3X. Elementary. A,W,S. (5-5,5)

W. E. Wilson. The first two years of college French in one year. For graduates and specially qualified undergraduates. No auditors.

3R. Grammar Review. A,W, S. (5)

Intensive review of grammar covered in 1, 2, and 3. Open to all students who for any reason are not qualified to meet the prerequisite for 4. Students having had 3, or having presented two years of high-school French (or equivalent) for entrance into the University, 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. A,W,S. (3,3,3) Simpson and staff. Reading of modern texts, composition, functional grammar. Students in need of supple-mentary grammar may combine 4 and 7, making a five-hour course. 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). A,W,S. (2,2,2) Simpson and staff. 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, which form a five-hour course in intermediate French.
 - Conversation. W. (2) 10. Pr., 3.

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- 34, 35, 36, and 134, 135, 136. Comparative Literature of France, Italy and Spain, in English. A,W, S. (3, 3, 3) Goggio. (Lower division students register for 34, 35, 36; upper division students, for 134, 135, 136.) The three principal Romanic literatures, with attention to their influence on one another. Lectures and collateral reading in English. 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.
- 37, 38, 39. Lower Division Scientific French. A,W, S. (3, 3, 3) Whittlesey. Class reading of scientific texts, with emphasis on constructions and scientific terms. For upper division scientific French, see 137, 138, 139. Pr., 4 or equivalent.
- 41. Phonetics. A,S. (3) Nostrand. Analysis of sounds, intonation, rhythm; training in correct and natural pronunciation. Principles of such analysis and training, applicable in the development of skill and per-sonality generally. Pr., 3 or equivalent. Upper division students may earn upper division credit.
- 101, 102, 103. Advanced Composition and Conversation. A.W. S. (2, 2, 2) Helmlingé, Chessex, David.

- 104, 105, 106. Survey of French Literature. A,W, S. (3, 3, 3) Chessex. Detailed study of representative masterpieces from the seventeenth century to the present. Lectures, in French as soon as practicable, on the evolution of French literature and civilization from the beginning. Pr., 6 or equivalent.
- 107, 108. Themes. A,S. (2, 2) Helmlingé, David. Writing of original compositions upon assigned topics. Pr., 102 or equivalent.
- *118, 119, 120. Survey of French Literature and Culture in English. See French 34, 134.
- 121, 122, 123. French Prose Fiction. A,W,S. (3,3,3) C. Wilson. Lectures in French. History of novel and short story with assigned reading from the several types. Pr. 6 or equivalent.

*Not offered in 1943-1944. Qualified students may arrange through the Executive officer to take these courses tutorially.

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- 6

Simpson.

Pr., 6 or equivalent.

- 127, 128, 129. Advanced Conversation. A,W, S. (2,2,2) Helmlingé, David. For majors and others admitted by the instructor. Careful preparation for each day's exercise will be required. Pr., 101 or equivalent.
- 131, 132, 133. Lyric Poetry. A,W,S. (2,2,2) Course 131, mediaeval poetry, and the Renaissance movement toward plastic ideals; 132, commonplace and national themes of the 17th century, descriptive and didactic poetry of the 18th, and the Romantic revolt; 133, the Parnassian reaction, symbolism, and surrealism. Pr., 6 or equivalent.
- 134, 135, 136. Comparative Literature of France, Italy, and Spain, in English. Sec 34, 35, 36.
- 137, 138, 139. Upper Division Scientific French. A,W, S. (2, 2, 2) Whittlesey. Conducted in individual conferences. Students read material in their own fields. Pr., 37 or 38 or 39 with grade "B," or consent of instructor.
- *141, 142, 143. The French Drama.
- 151, 152, 153. French Literature of the Nineteenth Century. A.W.S. (3, 3, 3)Simpson.

Course 151, the revolutionary spirit and the early romanticists; 152, Romanticism; 153, Realism. Lectures in French. Pr., 6 or equivalent.

- *154, 155, 156. Contemporary French Literature.
- 158, 159. Advanced Syntax. W.S. (2,2) Chessex, David. French syntax from the teacher's standpoint. Should precede the teachers' course. Pr., 103 or 107 or 108.
- *161, 162, 163. Eighteenth Century Literature.
- C. Wilson. 171, 172, 173. Seventeenth Century Literature. A,W, S. (3,3,3) Course 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.
- 194, 195, 196. Naval and Military French. A,W, S. (3,3,3) Whittlesey. Vocabulary study, reading, and conversation based on relevant business and social situations. Pr., 6 or permission of instructor.

Teachers' Course in French. See Educ. 75K.

Courses for Graduates Only

201, 202, 203. French Renaissance Literature. A,W,S. (2,2,2) David. Course 201, lyric poetry: Villon; rationalism: Commines; Italian influences on art and literature: Antoine de la Salle, Marguerite de Valois, Rabelais. Course 202, the Pléiade and the humanists. Course 203, philosophical criticism: Montagne; reformation and counter-reformation: Calvin, d'Aubigné, Francois de Sales; the theater. Lectures in French, discussions in English. An essay each quarter. Pr., four years of French.

221, 222, 223. Old French Reading. A,W,S. (2 or 3 each)

Open to all who have studied French at least four years. French majors will ordinarily translate into modern French. All who desire may, without prejudice, translate the old French into English. Helpful to teachers of French and Spanish, and for those studying the English language.

*Not offered in 1943-1944. Qualified students may arrange through the Executive officer to take these courses tutorially.

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David.

Frein.

^{*213.} French Stylistics.

- 231, 232, 233. History of Old French Literature. A,W,S. (2,2,2) Frein. Lectures in French. Assigned reading in French, or in English for those who do not easily read French. Pr., graduate standing and at least four years of French.
- 241, 242, 243. French Historical Grammar. A,W,S. (2 or 3 each) Frein. Lectures in English upon the phonology and morphology of French words. Basic for English as well as French grammar. Pr., four years of French and graduate standing.
- *281, 282. Seminar: Problems and Methods of French Literary History.
- 291, 292, 293. Conferences for Theses and Special Studies. A,W, S. (3, 3, 3) Staff.

Portuguese

1-2, 3. Elementary. A,W, S. (5-5,5)

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4, 5, 6. Intermediate. A,W, S. (2,2,2) Reading of modern texts, composition, functional grammar. Pr., 3 or permission of instructor.

Provençal

234. Old Provençal. S. (3) The language, and representative reading.

Italian

- 1-2. Elementary. W, S. (5-5) No credit for 1 until 2 has been completed.
- 4-5-6. Elementary. A,W, S. (3-3-3) Equivalent to 1-2. No credit for 4 and 5 until 6 has been completed.
- 16, 17, 18. Intermediate. A,W,S. (2 or 3 each) Goggio. Reading, composition, conversation. Pr., 2, or 6, or permission of instructor. U.D. credit for U.D. students.
- 34, 35, 36, and 134, 135, 136. Comparative Literature of France, Italy and Spain, in English. See French 34, 35, 36.
- 111, 112, 113. Modern Italian Literature.
- 121, 122, 123. The Italian Novel. A,W,S. (2 or 3 each) Goggio. The development of the Italian novel. Reading and discussion of selected novels representative of each century.
- 181, 182. Dante in English. A,W. (2, 2) Goggio. The thought and expression of the Divine Comedy, against its background of medieval philosophy and art. May be counted as elective credit in English major.
- 184. Renaissance Literature of Italy in English. S. (2) Goggio. Lectures and collateral reading. May be counted as elective credit in English major.

Whittlesey.

Simpson.

Goggio.

^{*}Not offered in 1943-1944. Qualified students may arrange through the Executive officer to take these courses tutorially.

Courses for Graduates Only

- *221, 222, 223. Italian Literature of the Xllth to the XVth Centuries.
- *231, 232, 233. History of Old Italian Literature.
- 243. Italian Historical Grammar. S. (2 to 5)
- 251, 252, 253. Individual Conference. A,W, S. (2 to 5 each quarter) Staff. Pr., consent of the executive officer.

Spanish

1-2, 3. Elementary. A,W,S. (5-5, 5) No credit for 1 until 2 has been completed. Each course repeated every quarter.

- 3R. Grammar Review. A,W, S. (5) C. Wilson. Intensive review of grammar covered by 1, 2, 3. Open to all students who for any reason are not qualified to meet the prerequisite for 4. Those having had 3, or having presented two years of high-school Spanish, or equivalent, for entrance into the University, 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. A,W, S. (3, 3, 3) Umphrey, García-Prada, W. Wilson. Reading of modern texts, composition, functional grammar. Pr. to 4 is 3, or two highschool years with at least average standing, or equivalent.
- 6R. Review of Intermediate Spanish. W, S. (3) W. Wilson. For students in need of a review of grammar before entering those courses for which 6 or equivalent is prerequisite.
- 10, 11. Spanish Conversation. 10: A,W,S.; 11: W,S. (2,2)
 W. Wilson. Student discussion of items of current interest, systematic vocabulary building. Pr., Spanish 3; for 11, pro., 10, or permission.
- 34, 35, 36. Comparative Literature of France, Italy and Spain, in English. See French 34, 35, 36.
- 101, 102. Advanced Composition and Conversation. 101: A,W; 102: W,S. (3,3) García-Prada, W. Wilson.

Pr., 6 or equivalent.

- 103. Spanish Themes. S. (3) Practice in writing original compositions. Pr., 102, or equivalent.
- 104, 105, 106. Survey of Spanish Literature. A,W, S. (2, 2, 2) Umphrey. Historical outline of Spanish culture from early times to the present. Pr., 6 or equivalent.
- 115, 116, 117. Latin-American Literature and Culture in English. A,W, S. (2,2,2) García-Prada.
 Survey of Latin-American history, literature, and culture from ancient to modern times, Lectures, readings and written reports. 115, the Pre-hispanic and Colonial periods; 116, the 19th century; 117, the contemporary period.
- *118, 119, 120. Survey of Spanish Literature in English.
- 121, 122. Spanish Prose Fiction. W,S. (3,3) Umphrey, García-Prada. Conducted in Spanish. The history of Spanish prose fiction. Lectures, collateral reading, reports. Pr., 6 or equivalent.
- 131. Lyric Poetry. A. (3) Conducted in Spanish. Spanish and Spanish-American poets since the sixteenth century. Pr., 6 or equivalent.
- 134, 135, 136. Comparative Literature of France, Italy and Spain, in English. See French 34, 35, 36.

Goggio.

García-Prada.

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^{*}Not offered in 1943-1944. Qualified students may arrange through the Executive officer to take these courses tutorially.

*141, 142, 143. Spanish Drama.

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- *151, 152, 153. Spanish Literature of the Nineteenth Century.
- 158, 159. Advanced Syntax. A,W; W,S. (2,2) Umphrey. Elementary principles of philology. Application to teaching of Spanish syntax, pronunciation, and orthography. Pr., 102 or equivalent.
- 171, 172, 173. Seventeenth Century Literature. A,W,S. (2,2,2) W. Wilson. Conducted in Spanish. One of the three greatest authors of this period (Lope de Vega, Cervantes, Calderon) will be studied each quarter. Pr., 6 or equivalent.
- *181. Spanish-American Literature. (General Survey, Colonial Period).
- *182. Spanish-American Literature. (General Survey, Nineteenth Century).
- 183. Spanish-American Literature. (General Survey, Twentieth Century). Umphrey. A. (3) Lectures, selected texts, collateral reading and reports. Pr., 6 or equivalent.
- 184. Spanish-American Literature. W. (3) García-Prada. Literature of Mexico, Central America, the Caribbean area. Selected texts, collateral reading, lectures and discussions. Pr., 6 or equivalent.
- *185. Spanish-American Literature.
- 186. Spanish-American Literature. S. (3) Umphrey. Literature of Peru, Ecuador, Chile. Selected texts, collateral reading, lectures and discussions. Pr., 6 or equivalent.
- *187. Spanish-American Literature.
- 194, 195, 196. Naval and Military Spanish. A,W, S. (3,3,3) W. Wilson. Vocabulary study, reading, and conversation based on relevant business and social situations. Pr., 6 or permission of the instructor.

Teachers' Course in Spanish. See Education 75Y.

Courses for Graduates Only

*201. Spanish Renaissance.

- 221. Old Spanish Literature. A. (5) Study of the origins and early development of various types of literature.
- 231. Epic Poetry. W. (5)Umphrey. The epic material in Old Spanish literature and its later treatment in poetry and drama. Special investigations and reports.
- Spanish Historical Grammar. S. (5) 241.
- 252, 253. Graduate Spanish Studies. W,S. (5,5) Umphrey, García-Prada, W. Wilson. Intensive study each quarter of one writer, one problem, or one aspect of literary history of Spain or Spanish America.

291, 292, 293. Conferences for Theses and Special Studies. A,W,S. (3) Staff.

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Umphrey.

Umphrey.

^{*}Not offered in 1943-1944. Qualified students may arrange through the Executive officer to take these courses tutorially.

SCANDINAVIAN LANGUAGES AND LITERATURE

Professor Vickner; Instructor Arestad.

- 1-2, 3. Elementary Swedish. A,W, S. (3-3, 3) Vickner. May be taken with 4-5, 6, making five-hour courses; 1, 2, 3 are hyphenated if 4-5 are not taken. Courses 1, 2 repeated winter and spring quarters respectively.
- 4-5, 6. Swedish Reading Course for Beginners. A,W,S. (2-2, 2) Arestad. Supplementary to courses 1-2, 3, but may also be taken separately. No previous knowledge of Swedish necessary. Courses 4, 5 repeated winter and spring quarters, respectively.
 - 10-11, 12. Elementary Norwegian or Danish. A,W, S. (3-3, 3) Arestad. May be taken with 13-14, 15, making five-hour courses; 10, 11, 12 are hyphenated if 13-14 are not taken. Danish students will do their work in special conference. Courses 10, 11 repeated winter and spring quarters, respectively.
 - 13-14, 15. Norwegian or Danish Reading Course for Beginners. A,W, S. (2-2,2)
 Supplementary to 10-11, 12, but may also be taken separately. No previous knowledge of Norwegian or Danish necessary. Courses 13, 14 repeated winter and spring quarters, respectively.
 - 20, 21, 22. Norwegian or Danish Literature. A,W, S. (2, 2, 2) Arestad. Pr., ability to read easy Norwegian or Danish. Danish students will do their work in special conference.
 - 23, 24, 25. Swedish Literature. A,W, S. (2, 2, 2) Vickner. Pr., ability to read easy Swedish.
- 103, 104, 105. Recent Swedish Writers. A,W, S. (2 or 3 each quarter; 4 by perm.) Vickner. Pr., relatively fluent reading knowledge of Swedish.
- 106, 107, 108. Recent Norwegian or Danish Writers. A,W, S. (2 or 3 each quarter; 4 by perm.) Vickner, Arestad. Pr., relatively fluent reading knowledge of Norwegian or Danish. Danish students will do their work in special conference.

Courses in English

- 98. Early Scandinavian Literature. A,W, S. (1) Vickner. A lecture survey of the early Scandinavian literature. Reading in English translation. No prerequisites. Upper division credit to upper division students.
- 99. Outline of Scandinavian Culture. A,W, S. (1) Vickner, Arestad. Knowledge of the Scandinavian languages not required. Lectures. Upper division credit to upper division students.
- 109, 110, 111. Modern Scandinavian Authors in English Translation.
 A,W, S. (1)
 No knowledge of the Scandinavian languages necessary.
- 180, 181, 182. Recent Scandinavian Literature in English Translation.
 A,W, S. (2) Vickner.
 No knowledge of the Scandinavian languages necessary.

Courses for Graduates Only

*201-202. Old Icelandic.

- 205-206. Scandinavian Literature in the Nineteenth Century. W, S. (2 to 4 each quarter) Vickner.
- *208. Scandinavian Lyric Poetry.

* Not offered in 1943-1944.

Comparative Philology

- 190-191. Introduction to the Science of Language. A.W. (2-2) Vickner. General principles of linguistic development with special reference to English. Pr., some knowledge of one of the classical languages or of one modern foreign language.
- 192. Life of Words. S. (2) Vickner. Etymology and semasiology; growth of vocabulary; word values. Lectures, discussions, exercises. Pr., same as for 190-191.

SLAVIC STUDIES (Russian Language)—See Far Eastern.

SOCIOLOGY

- 1. Survey of Sociology. A,W, S. (5) Cheng in charge. Basic principles for understanding social relationships. Upper division students advised to register for Soc. 150.
- Survey of Contemporary Social Problems. A,W. (5) Schmid. Introduction to the scientific study of suicide, crime, population, unemployment, mental deficiency, mental diseases, family disorganization, etc. Pr., 1.
- 55. Human Ecology. A. (5) Factors and forces which determine the distribution of people and institutions. Pr., 1.
- 66. Group Behavior. W. (5) Analysis of conditioning factors and collective response in typical social groups—crowds, assemblies, parties, sects, etc. Pr., five credits sociology and five credits psychology.
- 102. Social Trends. S. (3) Sociological analysis of current social changes. Pr., 1.
- 112. The Family. A, S. (5) Hayner, Riemer. The changing home; family and marriage customs; family interaction and organization; analysis and treatment of domestic discord. Pr., 1.
- ***116.** Housing the Family.
- 128. Field of Social Work. A, S. (3) Crounse. Historical background and development. Present scope, aims, methods. Typical problems and agencies; field trips. Pr., 1.
- 131. Social Statistics. W, S. (5) Cohen. Quantitative analysis applied to sociological and related materials. Not open to students who have had 31. Pr., 1, and Math. 13.
- 132. Methods of Social Research. S. (5) Schmid. Theory and practice of conducting investigation of communities, institutions, social conditions. Field and lab. work. Pr., 31, 131, or approved equivalent.
- 134. Advanced Social Statistics. W. (5) Cohen. Application of methods of sampling and correlation to selected sociological materials. Pr., 131.

* Not offered in 1943-1944.

Cohen.

Professors Steiner, Hayner, Schmid, Woolston; Assistant Professors Cohen, Guthrie; Associate Cheng; Instructor O'Brien.

Courses in Sociology

- 135. Graphic Methods in Sociology. A. (3) Schmid. Theory and practice of constructing various types of maps and graphs used in sociological research and exhibits. Pr., 131, or approved equivalent.
- *140. Population Problems.
- 141. Human Migration. W. (3) Steiner. Human migrations, factors determining them, and problems arising therefrom. Pr., 5 credits in sociology or economics.
- 142. Race Relations. S. (3) Steiner. General survey of race problems and conditions associated therewith. Special attention to race contacts on the Pacific Rim. Pr., 5 credits in sociology or economics.

*146. Cooperation.

- Guthrie. 150. General Sociology. A,W, S. (5) Major concepts of sociology and the scientific point of view in dealing with social phenomena. Introductory course for upper division students. Students who have taken 1 may not receive credit for 150.
- 152. Social Control. S. (5) Guthrie. Analysis of the technique and process by which changes in individual and collective actions are effected. Pr., 1.
- 153. Problems of Social Insecurity. A. (3) Cohen. Historical trends; standards by which poverty is measured; attitudes and social currents which it engenders; the responses of the community to problems of economic insufficiency. Pr., 1.
- 155. Human Ecology. A. (5) Steiner. Same as 55, with additional work and readings. Pr., 1, junior standing.
- 156. Criminology. W. (5)Hayner. Individual and social factors in delinquency; history and methods of criminal justice. Field trips to local penal institutions. Pr., 1.
- 159. Juvenile Delinquency. S. (5) Havner. Family and community backgrounds; institutional treatment; juvenile court and probation; programs for prevention. Pr., 1, 156.
- *160. Penology.
- 165. The City. A. (5) Woolston. Organization and activities of urban groups. Comparative and analytic study. Pr., 20 credits in social sciences.
- 166. Social Factors in Marriage. W. (3) Study of marital problems and their adjustment. Pr., 1, 112.
- 168. National Traits. W. (5) Woolston. Traditional differences between peoples. Historic backgrounds and prejudice. Problems of assimilation and amalgamation in America. Pr., 5 credits in psychology and 20 credits in other social sciences.
- 169. Western Society. S. (5) Woolston. Description, comparison, analysis, evaluation of institutional and cultural patterns prevalent in Western Europe, America, and their dependencies. Pr., 20 credits in social science.
- *170. Contemporary Social Theory.

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Hayner.

^{*} Not offered in 1943-1944.
Courses in Sociology

*173. Social Classes.

- 176. Rural Community Organizations. S. (3 to 5) Steiner. Organization and activities of rural life. Review of investigations and means of amelioration. Pr., senior standing and 10 credits in sociology.
- 190. Social Attitudes. A. (3) Woolston. How persons develop and manifest dispositions to act in certain ways toward their fellows. Prerequisites, 5 credits psychology and 20 credits in other social sciences. Upper division students may substitute for 66 with consent of instructor.
- Public Opinion. S. (3) 194. Woolston. Character and operation of beliefs formed by general discussion. Problems of propaganda, criticism, education. Advanced students only. Pr., 5 credits in psychology and 20 credits in other social sciences. See also Psych. 117, Superstition and Belief, and Journ. 201, Propaganda, which articulate with and complete the work of this course.

Courses for Graduates Only

202. Schools of Sociological Theory. W. (3) Guthrie. Critical analysis of main approaches to sociological theory from its beginnings. Pr., 170 and 25 credits in social sciences.

- 203, 204, 205. Social Reforms. A,W,S. (3,3,3) Critical survey of programs of amelioration. Pr., 25 credits Soc. Sci.
- 210, 211, 212. Departmental Seminar. A,W, S. (2, 2, 2) Staff. Open to graduate students completing independent investigations and to instructors in the department.
- #220. Population Redistribution.
- #222. Oriental Migration.
- *223. Social Change in Modern Japan.
- 235. Methodology: Quantitative Sociology. W. (3) Cohen. A critical analysis of the most important recent statistical research in sociology. Pr., Soc. 134 and 20 credits in social sciences.
- *236. Methodology: Case Studies and Interviews.
- Schmid. 240. Demography. W. (3) Analysis of contributions in the fields of population and vital statistics. Pr., 25 credits in social sciences.
- Steiner. 242. World Survey of Race Relations. S. (3) Study of race contacts and adjustments in South Africa, Australia, Eastern Asia, Netherlands Indies, South America. Pr., 25 credits in social sciences.
- *247, 248, 249. Social Criticism.
- Advanced Human Ecology. W. (3) Steiner. 255. Critical appraisal of ecological conceptions and processes. Pr., 155, and 20 credits in social sciences.
- *256. Probation and Parole.
- *257. Correctional Institutions.
- *258. Basic Crime Prevention.

Woolston.

^{*} Not offered in 1943-1944.

- 260. Marriage and the Family: Other Cultures. A. (3) ______. Analysis of courtship, marriage and family interaction in other cultures. Pr., 112 or approved equivalent.
- 261, 262. Marriage and the Family: United States. W,S. (3) ______. Analysis of courtship, marriage and family interaction in other cultures. Pr., 112 or approved equivalent.
- 281, 282, 283. Reading in Selected Fields. A,W, S. (2, 2, 2) Staff. Intensive reading in any of the major fields of sociology. Open only to qualified graduate students by consent of instructor.
- 291, 292, 293. Field Studies in Sociology. A,W,S. (2 to 5 each) Staff. Original field projects, carefully planned and adequately reported. Pr., permission.

GRADUATE SCHOOL OF SOCIAL WORK

Professors Witte, Steiner; Assistant Professors Crounse, Dorman, Ferguson, Totten; Instructor Pritchard; Lecturers ‡Hoedemaker, Mikkelsen, Esther Moore, John Moore, ‡Orr; Field Work Supervisor Palmer.

Permission of School of Social Work Required before Registration.

Non-professional Courses

(By members of the Graduate School of Social Work faculty.)

- 175. Social Work and Health. W, Su. (5) Crounse, Ferguson. Point of view and method of social case work. Emphasis on social aspects of health needs of families, cooperative relationships between social and health agencies. Open to School of Nursing Education students. Four hours class and four hours laboratory. Pr., Soc. 1 and 128, or equivalents.
- 176. Rural Community Organization. A. (3 to 5) Steiner. Fundamentals of community organization; emphasis on the special economic and social factors affecting the rural community. May be substituted for 276 upon approval. Pr., seniors with 10 credits in sociology.
- *178. Problems of Inter-Personal Relationships.

Field of Social Work. (See Sociol. 128.)

Professional Courses

1. Social Treatment

A. Family Welfare.

200. Social Case Work I. A,W,Su. (3)

Discussion of case material to develop a social philosophy; application of basic case work principles, understanding of the individual, and an awareness of the case worker's relationship to the client. Case material for this and succeeding courses is drawn from a variety of sources including social agencies (public and private), schools, juvenile courts, correctional institutions, and behavior clinics. Professional students only. See. A. for students with one year or more of experience; sec. B. for students with less than one year of experience.

Pritchard.

[‡] On leave, 1943-1944.

^{*} Not offered in 1943-1944.

Courses in Social Work

- 201. Social Case Work II. W. (3) Totten. Continuation of Social Case Work I, with special attention to the diagnostic and treatment processes. The case worker's role in the agency and community. Pr., 200, or equivalent. Sec. A. for students with one year or more of experience; sec. B. for students with less than one year of experience.
- 202. Advanced Case Work. W. (3) Totten. Critical analysis of causative factors in human behavior as a basis for understanding and treatment. Consideration of principles derived from psychiatry, Pr., 200 and 201, or equivalents, and permission.

- **‡*206a.b.** Case Work Services in Time of War.
- 210. Field Work: Family I. A.W. S. Su. (4) Staff University field work centers are maintained in cooperation with several branch offices of the King County Welfare Department and the Family Society of Seattle. Minimum time requirement for all professional students. 16 hours a week under University supervision. Pr., professional students; 200 concurrently.
- 210. Field Work: Family II. A,W,S, Su. (4) Staff. Continuation of Field Work: Family I, to teach practice in generic case work. Minimum time requirement, 16 hours a week. Pr., 200 and 210 (I), or equivalents; 201 should be taken concurrently.
- 210. Field Work: Family III. A,W,S,Su. (4 or 5) Staff. Advanced field work practice in a family welfare case working agency; 16 or 20 hours a week. Pr., 200, 201, 210 (I and II), and 211, or equivalents; a case work course concurrently.
- 210. Field Work: Family IV. A,W, S, Su. (†) Staff. Advanced field work practice in a family welfare case working agency; 16 or 20 hours a week. Pr., 200, 201, 210 (I, II, and III), or equivalents; a case work course concurrently.
- 210. Field Work: Family V. A,W, S, Su. (†) Staff. Advanced field work practice in a family welfare case working agency; 16 or 20 hours a week. Pr., 200, 201, 210 (I, II, III, and IV), 212, 218, or equivalents; or permission.

Marriage and the Family. (See Sociology 260, 261, 262.)

Cost-of-Living Studies and Family Budgets. (See Home Econ. 109.)

B. Child Welfare.

- Introduction to Child Welfare. S. (3) 211. Pritchard. Discussion of provisions for health, education, recreation, and protection of children. Methods of caring for neglected, dependent, delinquent, and handicapped children. Care of child in his own home, in institution, and in foster homes. Pr., permission.
- 212. Social Case Work With Children. S. (3) Application of case work principles to children without normal parental care. Pr., 200, 201, and 211, or equivalents.
 - * Not offered in 1943-1944.

† To be arranged.

‡ Not offered Summer, 1943.

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Pritchard.

^{1*2056.} Case Work in an Authoritative Setting.

Courses in Social Work

- 213a. The Place of the Institution in the Treatment of Children with Behavior Problems. Su. (2½) Johnson. Use of the institution and the place of specialized institutions for the study, diagnosis, and treatment of children with behavior problems. Pr., 201, 202.
- **213b. Social Aspects in the Treatment of the Behavior Disorders of Children.
- *214. Psychiatric Aspects in the Treatment of the Behavior Disorders of Children.
- 215. Field Work: Child Welfare I. A,W, S, Su. (4 or 5) Staff. Field work practice in a children's case working agency; 16 or 20 hours a week. Pr., 200, 201, 210 (I and II), and 211; and 212 concurrently; or equivalents, or permission.
- 215. Field Work: Child Welfare II. A,W, S, Su. (†) Staff. Field work practice in a children's case working agency; hours to be arranged. Pr., 215 (I) or equivalent; a case work course concurrently.
- 215. Field Work: Child Welfare III. A,W, S, Su. (†) Staff. Field work practice in a children's case working agency; hours to be arranged. Pr., 215 (I and II), or equivalents.
- 215. Field Work: Child Welfare IV. A,W, S, Su. (†) Staff. Field work practice in a children's case working agency; hours to be arranged. Pr., 215 (I, II, and III), or equivalents.

Seminar in Child Welfare. (See S.W. 292.)

Child Guidance. (See Nursery School 101).

Child Development. (See Nursery School 102.)

Nursery School Procedures. (See Nursery School 103.)

C. Psychiatric Social Work.

218. Growth and Development of the Individual I. A. (6)

Ferguson and Lecturers.

Combines the essential subject matter of five other social work courses in the medical and psychiatric fields heretofore presented separately, in addition to new material. Retains the necessary medical and psychiatric information and knowledge of behavior basic to the standard curriculum in education for professional social work. Pr., 200 and consent. (See continuation of description under 219 below.)

219. Growth and Development of the Individual II, (continued) S. (3)

Ferguson and Lecturers.

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The underlying concept of this type of presentation is that the human being is an organism functioning as a unit and hence must be studied as such. Emphasis is placed on the growth and change of the individual, with reference to physical, emotional, mental and social interrelationships. Pr., 218, or equivalent.

- 220. Psychiatric Case Work. A. (3) Totten Discussion of case material illustrating the contribution of the case worker in the study, diagnosis, and treatment of abnormal behavior problems of children and adults in relation to the services of the psychiatrist. Pr., 200, 201, 211, and 216, or equivalents; and 218, or equivalent, past or concurrently.
- *221. Clinical Analysis of Case Material.
- 221b. Clinical Analysis of Case Material. Su. (2½) Clinical demonstration and discussion of problems presented by adults in psychiatric study centers. Pr., 210I, II, or equivalents.
- *222. Psychiatry in Relation to Case Work.
- 222b. Psychiatry in Relation to Case Work. Su. (23/2) ______. The contributions of psychiatry to case work, as illustrated by case presentation. Pr., 200, 201, or equivalents and consent.

^{**} Not offered in summer, 1943.

^{*} Not offered in 1943-1944.

[†] To be arranged.

*223a. Mental Health Aspects of War.

D. Probation and Parole Case Work.

- 230. Field Work: Juvenile Probation and Parole I. A,W, S, Su. (4 or 5) Staff. Supervised field work practice in an agency dealing with problems of juvenile delinquency; 16 or 20 hours a week. Pr., 200, 201, 210 (I and II), and 211, or equivalents; and an advanced case work course concurrently.
- 230. Field Work: Juvenile Probation and Parole II. A,W, S, Su. (3 to 5) Staff. Supervised field work practice in an agency dealing with problems of juvenile delinquency; 12, 16, or 20 hours a week. Pr., 200, 201, 210 (I and II), 211, 230 (I), or equivalents.
- 230. Field Work: Juvenile Probation and Parole III. A,W, S, Su. (3 to 5) Staff. Supervised field work practice in an agency dealing with problems of juvenile delinquency; 12, 16, or 20 hours a week. Pr., 200, 201, 210 (I and II), 211, 230 (I and II), or equivalents.
- Juvenile Delinguency. (See Sociol. 159.)

Probation and Parole. (See Sociol. 256.)

Correctional Institutions. (See Sociol. 257.)

B. Medical Social Work.

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Medical Information for Social Workers. (See S.W. 218, 219.)

- 233b. Health Aspects of Social Work. Su. (2) Ferguson. The role of the social worker in collaborating with physicians and health officials in the study, treatment, and prevention of illness. Emphasis will be given to health and medical needs heightened by the current situation.
- 234. Medical Social Work I. A,S. (3) Ferguson. Social case work with individual patients in the process of their medical care, in collaboration with clinicians and other professional personnel. The social and emotional components in illness and medical care. Pr., completion of basic curriculum.
- 235. Medical Social Work II. W. (3) Ferguson. Determination of eligibility of medical care. The medical setting for medical social work practice—institutional and non-institutional. Organization, administration, and functioning of a department or division of medical social work. Medical social work in public health and public welfare programs. Pr., 234.
- *236. Advanced Medical Information.

******238b. Growth Cycle of the Individual.

- 239a. Seminar in Medical Social Work. Su. (2) Ferguson. History, evolving standards, interrelationships with allied fields, current problems and trends, etc. Pr., 235; consent.
- 240. Field Work: Medical Social Work I. A,W, S, Su. (3-5) Staff. Field work practice in a social service department of a hospital, or a division of an agency offering medical care. Pr., 234 or concurrently.

** Not offered in summer, 1943.

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^{*} Not offered in 1943-1944.

Courses in Social Work

- Field Work: Medical Social Work II. A,W, S, Su. (3-5) 240. Staff. Continuation of 240I. Pr., 240I.
- Staff. 240. Field Work: Medical Social Work III. A,W, S, Su. (3-5) Continuation of 240II. Pr., 240II.
- 240. Field Work: Medical Social Work IV. A,W, S, Su. (3-5) Continuation of 240III. Pr., 240I, 240II, and 240III.
- Nutrition for Non-Majors. (See Home Econ. 104.)
- F. Case Work in the Schools.
- **243a. Social Adjustment of School Children.
- G. Supervision.
- 246. Seminar: Supervision in Social Case Work. S.Su. (2 or 3) Totten. Discussion; consideration of role of supervision in developing worker's insight and skills in dealing with case situations, and in stimulating growth processes in the worker. Pr., 200, 201, 210 (I and II), 212 or 218, and 210 (III) or 215 (I), or equivalents, experience, and permission.
- 247. Field Work: Supervision I. A,W, S, Su. (2 to 5) Staff. Training of student supervisors in methods and practices of supervising case workers. Pr., 210 V, or 215 IV, or equivalents, satisfactory case work experience, and permission; 8 to 20 hours a week.
- 247. Field Work: Supervision II. A.W. S. Su. (2 to 5) Staff. Continuation of 247 (I). Pr., 247 (I).
- *249. Dynamics of Personal Relationships.

2. Social Welfare Administration

- 251. Introduction to Public Welfare. A. (3) Witte. Development of public responsibility for care of dependent, sick, physically and mentally handicapped, and delinquent in England, the Continent, and United States. Special attention to evolution of methods of state care for special groups. Pr., permission.
- 252. Public Welfare Administration: Federal and State. W. (3) Witte. State and federal organization for public welfare, present day policies, division of authority and responsibility, methods of cooperation. Organization and methods of administration of public welfare services and Social Security Act and plans for reorganization. Pr., 251 or equivalent.
- 253. Public Welfare Administration: Local. W. (3) Witte. Possible types of local public welfare organizations. Functions, internal organization, and policies of county welfare units. Relations to other local agencies of government. Statecounty relationships, and financing. Type and character of local rural organization in Washington and other selected states. Pr., 251 and 252, or special permission.

*254. Public Welfare Administration in Rural Areas.

255a. The Child and the State. Su. $(2\frac{1}{2})$ Pritchard. Development of the responsibility of the state for the care of children and consideration of the instruments which have been created for their protection. Attention will be given to the problems of the rural as well as the urban child. Pr., consent.

Witte. 256. Financing the Public Social Services. S. (2 to 3) Analysis and research into the needs, distribution, and sources of funds for financing the public social services. Pr., permission.

* Not offered in 1943-1944.

** Not offered in summer, 1943.

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Staff.

- 257a. Social Aspects of the Law. Su. (5) Discussion and study of case law and statutes relating to those fields of law which are of greatest concern to the social worker, such as familial relations, child dependency, delinquency, contractual relationships. Pr., consent.
- **259b. Planning for the Public Social Services.
- 260. Administration of Social Agencies. W. (3) J. Moore. Administration as it relates to executive, staff and board; policy making; budgeting; public relations; committee management. Pr., permission.
- 264b. Housing Management. Su. (2½) Housing conditions in the United States, social and economic importance of housing, history of attempts to provide low cost housing, emergency housing in defense areas, housing legislation and management. Pr., consent.
- *266. Administration of the Social Insurances.

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- *269. Field Work: Social Insurance Administration I.
- *269. Field Work: Social Insurance Administration II.
- 270. Field Work: Welfare Administration I. A,W, S, Su. (3 to 5) Staff. Supervised field work practice in an administrative capacity in a public or private welfare agency; 12, 16, or 20 hours a week. Pr., major in public welfare administration, 202, 210 II, and permission.
- 270. Field Work: Welfare Administration II. A,W, S, Su. (3 to 5) Staff. Supervised field work practice in an administrative capacity in a public or private welfare agency; 12, 16, or 20 hours a week. Pr., major in public welfare administration, 270 (I), or equivalent, and permission.

Seminar in Indian Administration. (See Anthro. 206.)

Government Accounting. (See E.&B. 152.)

Labor Legislation. (See E.&B. 161.)

Labor Relations. (See E.&B. 164.)

Social Insurance. (See E.&B. 177.)

Domestic Relations. (See Law 113.)

Administrative Law. (See Law 121.)

The Public Service. (See Pol. Sci. 154.)

State Government and Administration. (See Pol. Sci. 163.)

3. Group Work

271. Introduction to Social Group Work. Su. (3)

Principles and procedures in group work as a basic approach and method in social work, and application of these methods to various types of groups with which the social worker has contact. Pr., permission.

* Not offered in 1943-1944.

** Not offered in summer, 1943.

Courses in Social Work

4. Community Planning and Interpretation

- 276. Community Planning. S. (3) Steiner. Community movement. Emphasis upon organization of community forces in interests of social welfare. Pr., permission.
- *278. Seminar in Social Work Interpretation.
- 280. Field Work: Community Planning and Interpretation I. A,W, S, Su. (3 to 5) Staff.

Supervised field work practice in a public or private agency engaged in community organization and interpretation; 12, 16, or 20 hours a week. Pr., 200, 201, 210 (I and II), or equivalents.

280. Field Work: Community Planning and Interpretation II. A,W, S, Su. (3 to 5) Staff.

Supervised field work practice in a public or private agency engaged in community organization and interpretation; 12, 16, or 20 hours a week. Pr., 200, 201, 210 (I and II), and 280 (I), or equivalents.

Public Opinion. (See Sociol. 194.)

Propaganda. (See Journ. 201.)

5. Social Research

- 281. Social Work Research and Statistics. W,Su. (2) E. Moore. Use of statistics in social work, including the meaning and application of statistical measurement, tables and graphs, and the interpretation of statistical material. Professional students only.
- 283. Field Work: Social Research I. A,W, S, Su. (3-5) Staff. Supervised field work practice in a social agency on research problems relating to the fundamental processes of the agency. 12, 16, or 20 hours a week. Pr., major in social research and permission.
- 283. Field Work: Social Research II. A,W, S, Su. (3-5) Staff. Continuation of 283I. Pr., major in social research and 283I.
- 284, 285, 286. Research in Public Welfare. A,W, S, Su. (+,+,+) Staff. A course for students competent to carry on research dealing with special administrative problems. Pr., permission. Hours to be arranged.
- 288, 289, 290. Thesis Research. A,W, S, Su. (†,†,†) Staff. Supervised research for students writing theses for advanced degrees. Regular group discussions are held regarding common problems, in autumn and spring quarters. Pr., permission; 288 pr. to 289, and 289 pr. to 290.

- 292. Seminar in Child Welfare. W. (2-3) Consideration of current problems in work with children. Pr., 212 or equivalents.
- 291, 293, 294. Seminar. A,S,Su (†,†,†) Staff. Open to graduate students capable of conducting independent investigations. Pr., permission. Hours to be arranged.

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Social Statistics. (See Sociol. 131.)

Methods of Social Research. (See Sociol. 132.)

* Not offered in 1943-1944.

† To be arranged.

^{291. (}See below).

Advanced Social Statistics. (See Sociol. 134.)

Field Studies in Criminology. (See Sociol. 230, 231.)

Statistical Analysis. (See E.&B. 60.)

Advanced Statistical Analysis. (See E.&B. 170.)

6. History and Development of Social Work

- 295. Current Topics in Social Work. S. (0) Staff. Consideration of current topics in field of social work, particularly as they are discussed in current literature. Pr., permission of the director.
- 296. Seminar: Historical Backgrounds of Social Work. S. (3) Crounse. Philanthropy and social reform since sixteenth century, with special attention to nineteenth century movements and their influence upon present methods, purposes, and tendencies. Pr., permission.
- 297. Seminar in Professional Ethics. W,Su. (2-3) Witte. Ethical principles and professional practices of related fields of medicine, law, nursing, teaching, the ministry, and business. Developments of interest in the professional nature of social work and its ethical concepts. Pr., permission.
- 298. Readings in Social Work. A,W,S. (†) Staff. Readings in current social work literature in the student's field of major interest. Pr., permission.

*Social Reform. (See Sociology 203, 204, 205.)

SPEECH

- Professor Orr; Associate Professors Rahskopf, Franzke, Carrell; Assistant Professor Bird; Instructors Pellegrini, Baisler; Associates Wenhe, Hill, Pence, Wagner, Stevenson, Enquist.
 - A. Speech Clinic. A,W,S. (No credit) Carrell, Wagner. Individual work for students having speech defects they wish to correct. Sec. A, Articulation Problems; Sec. B, Foreign Dialect; Sec. C, Stuttering; Sec. D, Voice Problems.
 - 19. English Phonetics for Foreign Students. A. (2) Carrell.
 - Essentials of Argumentation. A,W, S. (5) Pellegrini. Bibliographies, briefs, and oral arguments. Upper division credit for upper division students.
 - Essentials of Speaking. A,W,S. (5)
 Elementary course in fundamentals of effective speaking.
 - 41. Advanced Speaking. A,W,S. (5) Wenhe, Bird, Franzke. Continuation of 40, with special emphasis on problems of delivery. Upper division credit for upper division students. Pr., 40.
 - 43. The Speaking Voice. A,W, S. (4) Orr, Rahskopf, Wenhe, Hill, Pence. Fundamental training course with emphasis on mental, emotional, and physical coordinations essential to good voice. Upper division credit for upper division students.
 - 44. Voice and Articulation. W,S. (4) Rahskopf. Continuation of 43; 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.

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[†] To be arranged. * Not offered in 1943-1944.

Elementary Lip Reading. *****50.

- *51. Advanced Problems in Lip Reading.
- 79. Oral Interpretation. A,W, S. (3) Orr. Pellegrini, Wenhe. Required of students seeking a normal diploma in English. Such students are examined for assignment to one of four groups: (a) exempted; (b) required to take 43 and 79; (c) to take 79 only; (d) to take 79 and 179. Upper division credit for upper division students. Pr., 43. unless a literature major.

101. Varsity Debate. W,S. (3) Orr, Bird, Franzke, Hill. Only students chosen for the freshman and varsity debate squad may register for this course. Credits will be allowed upon the recommendation of the instructor in charge, provided that no more than three credits are earned in one year and that the total does not exceed twelve credits.

- 103. Extempore Speaking. S. (3) Franzke. Recommended to students in engineering and law. Not open to College of Arts and Sciences students nor to students who have credit for 40.
- *138. Methods in Debate and Public Discussion.
- 139. Forms of Public Address. S. (5) Rahskopf. Study of the structure and style of the various forms of public address based on modern speeches. Pr., Speech 40.
- 140. Discussion Techniques Applied to Current Problems. A. (3) Pellegrini. Principles and practice of discussion techniques and their application to problems of the the day.
- 141. Advanced Public Address and Forum Leadership. W. (3) Franzke. Training in the preparation and delivery of the longer speech or lecture and in Forum leadership. Pr., permission.
- 161. Radio Speech. A. (3) Bird. Special projects in the technique of speech in radio, viz., announcer's copy, talks, dialogue, interviews, group discussions, etc.
- 162. Radio Production Methods. W. (3) Bird. Manual and recorded sound effects, music in relation to broadcasts, microphone placement, studio set-up, timing, cutting of scripts are among the factors considered. Laboratory experience in the rehearsal studio of the Campus Radio Studios.
- 163. Radio Program Building. S. (3) Bird. Planning of the radio program. Problems of adaptation of literary forms for radio production, presentation of expository, informational, and persuasive material by radio.
- 179. Advanced Interpretation of Literature. S. (5) Orr. Advanced training in the mental and vocal technique essential to artistic oral interprotation of the various forms of literature. Pr., 79.
- 186. Backgrounds in Speech. A. (5) Rahskopf. Speech as a fundamental human activity considered from biological, acoustic, psychological and social aspects. Some attention to the development of speech as a field of study and the correlation of its various phases.
- 187. Voice Science. \mathbf{W} . (5) Carrell. Anatomy, physiology, physics, psychology of voice production. Pr., 43 or consent of instructor.
- 188. Advanced Problems in Speaking. W. (5) Advanced training in effective methods of preparation and delivery. Pr., 40.

* Not offered in 1943-1944.

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Orr.

Courses in Speech, World at War

- 190. Speech Correction. A, S. (5) Nature, etiology, diagnosis of disorders of speech.
- 191. Methods of Speech Correction. W. (3) Carrell. Methods of correcting speech defects. Clinical practice for qualified students. Pr., 190.
- 193, 195, 196. Clinical Training in Speech Correction. A,W,S. (2 to 5 each quarter) Carrell Training course in techniques and problems of speech correction. Involves observation in public schools and actual management of cases in the University Clinic, Traveling Clinic, and at cooperating hospitals. May be repeated for total not to exceed 15 credits. Pr., 190, 191, permission of instructor.
- 194. Basic Methods of Teaching Lip-reading. W. (5) Introduction to theory and methods of diagnosing hearing disabilities and teaching lipreading. Laboratory practice. Pr., normal hearing.

Teachers' Course in Speech. (See Education 75X.)

Courses for Graduates Only

- 201. Introduction to Graduate Study in Speech. A. (2) Rahskopf. Research methods and bibliographical materials. Required of all graduate students in speech.
- 211. Historical Principles of Public Address. W. (5) Rahskopf. Critical evaluation of the principles of public address based on a study of their develop-Aristotle, Cicero, Quintilian, Wilson, Campbell, Whately, and other modern critics.

212. Research in Rhetoric and Public Address. S. (5) Rahskopf.

- 214. Research in Voice. A. (5)
- 215. Research in Theory of Interpretation. W. (5)
- 216. Research in Speech Pathology. S. (5)
- 220. Thesis Research. A,W, S. (†)

THE WORLD AT WAR

W.W. The World at War. A,W,S. (5) Staff. Factual information on the background of the present war, the ideological conflict, the fundamentals of military and naval strategy, economics and war, and the essentials of 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.

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Carrell.

Orr.

Orr.

Staff.

Carrell

Courses in Zoology

ZOOLOGY AND PHYSIOLOGY

Professors Kincaid, Hatch; Associate Professor Svihla; Assistant Professors Martin, Rankin; Associate Elliott.

Zoology

1.	Animal Biology. A, W. (5) Survey of the more general aspects of animal life.	Kincaid, Hatch, assistants.
×2.	General Zoology. W, S. (5) Survey of the animal kingdom, stressing structure, classific Pr., 1 or equivalent.	Kincaid, Hatch, assistants. ation, and economic relations.
3-4.	Pre-Medical Zoology. A,W. (5-5) For students entering a medical course.	Rankin, assistants.
5.	General Embryology. S. (5) Comparative developmental history of animals, with empha 1, 2 or 3-4.	Rankin, assistants. sis on vertebrate forms. Pr.,
8.	Survey of Zoology. S. (5) Elementary facts and principles basic to the field of zoolog pect to continue with zoology should begin with 1, 2 or 3-4.	Svihla. ical science. Students who ex-
16.	Evolution. A. (2) Lectures on the more important biological problems relatevolution.	Kincaid. ted to the general theory of
17.	Eugenics. W, S. (2) Principles of evolution in their relation to human welfare.	Kincaid.
[•] 101.	Cytology. W. (5) Structure and activities of the animal cell with special reference, sex-determination, and heredity. Pr., 1, 2, or 3-4.	Svibla. rence to problems of develop-
106.	Plankton. A. (5) Classification, adaptations and interrelationships of the micro work in Puget Sound. Pr., 1, 2 or 3-4.	Kincaid. scopic fauna of the sea. Field
107.	Parasitology. S. (5) Animal parasites. Pr., 1, 2 or 3-4.	Rankin.
108.	Limnology. S. (5) Classification and interrelationship of organisms found in 1 in neighboring fresh-water bodies. Pr., 1, 2 or 3-4.	Kincaid. akes and streams. Field work
111.	Entomology. S. (5) Structure, classification, and economic relations of insects.	Hatch. Pr., 1, 2 or 3-4 or equivalent.
121.	Microscopic Technique. W. (3) Methods of imbedding, sectioning and staining animal tissue alent.	Rankin. es. Pr., 1, 2 or 3-4 or equiv-
125, 1	26. Invertebrate Zoology. A,W. (5, 5) Structure, classification, and ecology of invertebrate animals	Hatch. 3. Pr., 1, 2 or 3-4.

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Courses in Zoology, Physiology

- 127-128. Comparative Anatomy. A,W. (5-5) Svihla. Comparative morphology of the vertebrate animals. Pr., 1, 2 or 3-4.
- 129, 130. Vertebrate Zoology. S, A. (5, 5) Taxonomy, morphology, and ecology of vertebrates. Pr., 1, 2 or 3-4.
- 131. History of Zoology. A. (2) Hatch. History of zoology during ancient, medieval, and modern times. Pr., 20 credits of zoology.
- 135, 136, 137. Museum Technique. A,W, S. (3, 3, 3) Flahaut, staff. Methods of preparing skins of birds and mammals, and other specimens for museum use. Pr., permission of instructor.
- 155, 156, 157. Elementary Problems. A,W, S. (3, 3, 3) Staff. Students will be assigned minor problems under direction of an instructor. Pr., 30 ŝ credits in zoology and instructor's permission.
- 175. Medical and Sanitary Zoology. A, S. (3,3) The diagnosis and control of parasites of medical and veterinary importance. Practical methods of use in the medical corps of the armed forces will be emphasized. Pr., 107, 121, Bact. 99, or permission.

Teachers' Course in Zoology. (See Educ. 75Z.)

Courses for Graduates Only

- 201, 202, 203. Research. A,W, S. (†) Staff. Students capable of carrying on independent work will be assigned problems under direction of an instructor. Pr., 25 credits in zoology.
- 205, 206, 207. Advanced Problems. †. (†) Staff. Especially for graduate students working for doctor's degree.
- 210, 211, 212. Seminar. A,W, S. (1, 1, 1) Reports and discussions of current zoological literature and other special topics.
- 213, 214, 215. Advanced Embryology. A,W, S. (3,3,3) Rankin. Consideration of the problem of differentiation in the early development of animals, with particular emphasis on the experimental approach. Pr., 5, 121, 127-128.

Physiology

- Elementary Physiology. S. (5) 6. Martin. Human structure and function; designed to meet the needs of students in pharmacy.
- Elementary Physiology. A,W. (5) 7. Introduction to the structure and functions of the human body,
- 11. Survey of Physiology. A.S. (5) Broad outline of the functions of living organisms, with particular stress on the human. Four lectures and one quiz.
- 50. Physiology. W. (6) Martin. Summary of physiological principles with emphasis on the mechanisms of adjustment in the human. Required of students majoring in physical education. Pr., Anat. 100.
- 53, 54. Intermediate Physiology. A,W,S. (5,5) Martin. Adapted for students expecting to teach the subject in high school. Required of nursing majors. Recommended for students in dietetics and sanitary science.

† To be arranged.

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- §115. General Physiology. A. (†) Qualitative and quantitative study of fundamental principles. Pr., Chem. 2 or 22.
- §139. Comparative Physiology. W. (†) Physiological principles illustrated by the study of invertebrate material. Designed particularly to meet the needs of zoology majors. Pr., 7, or Zool. 126 and 128.
- 151-152-153. Advanced Physiology. A,W,S. (5-5-5) Martin. Extensive study of human physiology for physiology majors and advanced students in related fields. Pr., Zool. 2 or 4, Chem. 2 or 22.
- *155, 156, 157. Elementary Problems.
- §163. Physiology of Metabolism. S. (†) Advanced studies in digestion, absorption, and metabolism. Pr., 10 credits in human physiology; Chem. 2 or 22.
- 173. Physiology of Endocrine Organs. A. (†) Martin. Functions and interrelationships of the endocrine glands. Pr., ten credits in human physiology and instructor's permission.

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Staff.

Courses for Graduates Only

201, 202, 203. Research. A,W, S. (†) Staff. Students capable of carrying on independent work may be assigned problems under the direction of an instructor. Pr., 20 credits in physiology.

210, 211, 212. Seminar. A,W, S. (1, 1, 1)

* Not offered in 1943-1944.

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

t To be arranged.

University of Washington

DEGREES, DIPLOMAS AND CERTIFICATES GRANTED 1941-1942

BACHELOR'S DEGREES

Bachelor of Arts (College of Arts and Sciences)	540
Bachelor of Arts (College of Education)	23
Bachelor of Arts in Economics and Business 1	147
Bachelor of Arts in Education	12
Bachelor of Arts in Home Economics	3
Bachelor of Arts in Journalism	Ĩ
Bachelor of Arts in Librarianship	20
Bachelor of Arts in Music	13
Bachelor of Architecture	-9
Bachelor of Laws	34
Bachelor of Science (College of Arts and Sciences)	155
Bachelor of Science (College of Education)	6
Bachelor of Science in Aeronautical Engineering	34
Bachelor of Science in Bacteriology	2
Bachelor of Science in Botany	3
Bachelor of Science in Ceramic Engineering	- 4
Bachelor of Science in Chemical Engineering	40
Bachelor of Science in Chemistry	21
Bachelor of Science in Civil Engineering	28
Bachelor of Science in Commercial Engineering	6
Bachelor of Science in Electrical Engineering	35
Bachelor of Science in Fisheries	12
Bachelor of Science in Food Technology	1
Bachelor of Science in Forestry	26
Bachelor of Science in Geology	1
Bachelor of Science in Home Economics	14
Bachelor of Science in Law	1
Bachelor of Science in Mathematics	2
Bachelor of Science in Mechanical Engineering	23
Bachelor of Science in Metallurgical Engineering	6
Bachelor of Science in Mining Engineering	7
Bachelor of Science in Nursing	46
Bachelor of Science in Pharmacy	43
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ADVANCED AND PROPESSIONAL DEGREES

Master of Arts	69
Master of Arts in Music Education	3
Master of Business Administration	3
Master of Education	3
Master of Fine Arts	1
Master of Forestry	2
Master of Music	1
Master of Nursing	-4
Master of Science	16
Master of Science in Chemical Engineering	5
Master of Science in Metallurgy	1
Master of Science in Pharmacy	1
Master of Science in Physical Education	5
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SUMMARY OF ENROLLMENT, 1941-1942

	SUMMER QUARTER						Arr	TIDOX	WINTER		SPRING		TOTAL	
SCHOOLS AND	1st Term		2nd Term		Entire Summer		QUARTER		QUARTER		QUARTER		IND ACAI	IVID. D. YR.
COLLEGES	1		2		3		4		5		6		7	
Arts and Sciences Men Women	356 957	1313	322 775	1097	389 1035	1424	2635 3207	5842	2210 2924	5134	1933 2567	4500	3010 3659	6669
Econ. & Business Men Women	117 27	144	112 19	131	121 28	149	967 156	1123	801 125	926	660 111	771	1086 169	1255
Education Men Women	60 247	307	38 173	211	69 301	370	21 36	57	26 30	56	20 27	47	27 43	70
Engineering Men Women	81 	81	52 	52	86 	86	1282 7	1289	1098	1102 4	930	935 5	1392 8	1400
Forestry Men Women	12 	12	11 	11	12 	12	ານວ 139 1	140	124 1	125	105 1	106	149 1	150
Graduate Men Women	543 568	1111	439 431	870	575 634	1209	484 299	783	424 292	716	369 280	649	590 423	1013
Law Men Women	15 	15	15 	15	15 	15	81 3	84	69 3	72	52 2	54	81 3	84
Mines Men Women	5 	5	4	4	6	6	68 	68	52 	52	47	47	74 	74
Pharmacy , Men Women	13 6	19	13 6	19	13 6	19	156 44	200	147 45	192	122 44	166	168 47	215
Totals. Men. Women	1202 1805	3007	1006 1404	2410	1286 2004	3290	5833 3753	9586	4951 3424	8375	4238 3037	7275	10 6577 4353),930

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I. BY SCHOOLS AND COLLEGES

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

(340)

	Summer Quarter						Aurinos		WINTER		Sparse		Torus	
CLASSES	1st Term 1		2nd Term 2		Total Individuals 3		QUARTER		QUARTER		QUARTER 6		INDIVID. ACAD. YR. 7	
Freshmen Men Women	71 72	143	52 62	114	74 77	151	2023 1204	3227	1567 1019	2586	1260 885	2145	2296 1382	3678
Sophomores Men Women	110 116	226	100 110	210	119 122	241	1243 803	2046	1101 731	1832	938 624	1562	1404 896	2300
Juniors. Men. Women	138 226	364	125 195	320	145 236	381	1017 713	1730	933 654	1587	821 587	1408	1125 781	1906
Seniors Men Women	207 362	569	188 301	489	223 387	610	1038 670	1708	905 679	1584	830 604	1434	1115 738	1853
Graduates Men Women	543 568	1111	439 431	870	575 634	1209	484 299	783	424 292	716	369 280	649	590 423	1013
Specials Men Women	19 25	44	13 25	38	20 29	49	28 64	92	21 49	70	20 57	77	47 133	180
Transients Men Women	114 436	550	89 280	369	575 634	1209		••			::			••
Totals. Men Women	1202 1805	3007	1006 1404	2410	1286 2004	3290	5833 3753	9586	4951 3424	8375	4238 3037	7275	10 6577 4353),930

SUMMARY BY COLLEGES, YEAR 1941-42

II. BY CLASSES

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

TOTAL STUDENTS IN RESIDENCE

During regular academic year During summer quarter	10,930 3,290
Тотаl	14,220
Deduct summer duplicates	764
Individuals (Academic year and summer)	13,456
EXTENSION STUDENTS	
Classes	1,791
Home Study	1,235
TOTAL	3,026

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