

SUPPLEMENT TO 1948-1949 CATALOGUE

*Announcements of the*  
**COLLEGE OF BUSINESS  
ADMINISTRATION**  
*and the*  
**DEPARTMENT OF ECONOMICS**  
*of the College of Arts and Sciences*



**UNIVERSITY OF WASHINGTON**  
**SEATTLE**

Effective September 1, 1948, the College of Economics and Business becomes (1) the College of Business Administration and (2) the Department of Economics in the College of Arts and Sciences. The material in this Supplement should be substituted for pages 100, 125-129, and 185-189 of the 1948-1949 Catalogue.

## NOTICE

Students in the former College of Economics and Business, majoring or planning to major in business subjects, should continue their registration in the College of Business Administration. They can thus complete their course as planned without loss of time or credits.

### COLLEGE OF BUSINESS ADMINISTRATION

HENRY A. BURD, *Acting Dean*, 210 Commerce Hall

For detailed information concerning University fees, expenses, and admission requirements, see *University Catalogue*, pages 67-77. In addition to the all-University entrance requirements, the College of Business Administration requires one unit\* each of U.S. history and civics, elementary algebra, plane geometry or advanced algebra.

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

Fellowships, Scholarships, Prizes. See *University Catalogue*, pages 87-88.

### Requirements for Graduation

Graduates of the College of Business Administration receive the degree of bachelor of arts in business administration. The following summarizes the requirements for this degree:

1. Students must satisfy the entrance requirements of the University and the College of Business Administration. Students entering from other colleges, either from this University or other institutions, with junior standing, who have met the lower-division requirements of their former college must present or make up the following courses to meet the minimum lower-division requirements of this college: B.A. 1, 54, 55, 60, 62, 63, plus English 1, 2, 3, and Econ. 10.

2. The student must earn 180 credits in subjects required by the University and required or approved by the faculty of the college. In addition, men must meet the general University requirements of Physical Education 15 and six quarters of physical education activities; women must have six quarters of physical education activities, plus Physical Education 10.

3. A minimum of sixty credits in upper-division courses, exclusive of those earned in Army and Navy R.O.T.C. subjects, shall be required for graduation.

4. No more than 18 quarter credits in advanced Army and Navy subjects may be applied toward graduation, except in the case of students in the Supply Corps.

5. For the purpose of computing grade-point averages for high and low scholarship and for graduation, the first two years of Army and Navy subjects shall be excluded.

6. Continuation in the College of Business Administration will depend upon the student's demonstration of general fitness for work in that college, including the maintenance of satisfactory academic performance. See Scholarship Rules, *University Catalogue*, page 82.

Students who are admitted upon petition with high school deficiency must register for such courses during their first quarter of residence and complete the work during the first year.

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\* A "unit" is applied to work taken in high school. To count as a unit a subject must be taught five times a week, in periods of not less than 45 minutes for a school year of 36 weeks.

## Lower-Division Requirements

First Year	Credits	Second Year	
B.A. 1. Business Organization .....	5	B.A. 62. Principles of Accounting .....	5
Econ. 10. Introduction to Economics .....	5	B.A. 63. Principles of Accounting .....	5
Engl. 1. Composition .....	3	B.A. 54. Business Law .....	5
Engl. 2. Composition .....	3	†B.A. 55. Business Law .....	5
Engl. 3. Composition .....	3	B.A. 60. Statistical Analysis .....	5
Geog. 7. Economic Geography .....	5	History 7. Survey of U.S. History .....	5
P.E. 10 or 15. Personal Health .....	2	Psychology .....	
Mathematics .....		Political Science .....	
Laboratory Science .....	10	Sociology .....	10
Foreign Language .....		Philosophy .....	
Approved Electives .....	9	Anthropology .....	
	45	Approved Electives .....	5
			45

## Upper-Division Requirements

Third and Fourth Years	Credits
B.A. 101. Industrial Management .....	5
B.A. 102. Business Finance .....	5
B.A. 106. Marketing .....	5
B.A. 165. Human Relations .....	5
B.A. 175. Business Fluctuations .....	5
Approved credits in Social Sciences .....	10†
Major Requirements & Approved Electives .....	55
	90

Each student in the college must also complete an approved sequence of at least 15 credits in upper-division courses in business administration. In certain fields more credits are required.

### Suggestions for Planning Courses

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

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

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

1. Accounting: § B.A. 110, 111, 112, 154, 156, 157, 158.
2. Banking and Finance: B.A. 102 and 18 more credits approved by adviser from B.A. 120, 121, 122, 123, 124, 125, 126, 127.
3. Industrial Geography: Geog. 102, 103, 104, 105 or 109, 106 or 107.
4. Foreign Trade: Econ. 170, and B.A. 127, 182.
5. General Business: 20 credits of approved upper-division courses in business, no more than 10 of which may be in any one of the fields of specialization.
6. Insurance: B.A. 108, 128, 129, 177.
7. Management:
  - Industrial: B.A. 101, 110, 150, 151, 154, 165.
  - Personnel: B.A. 101, 165, 167, Psychology 2 and 123, Econ. 94.
8. Marketing: ||
  - General Marketing: B.A. 130, 133, 134, 138, 139, 193A, 193B, 193C.
  - Retailing: B.A. 130, 133, 134, 135, 138, 139, 193A, 193B, 193C, Home Ec. 25.
  - Advertising: B.A. 130, 133, 134, 136, 138, 139, 193A, 193B, 193C.
9. Real Estate: B.A. 109, 169, 199B, 199C.
10. Secretarial Training: B.A. 115, 116, 117, 118, 119, 165.
11. Transportation: B.A. 104 and four of the following courses: B.A. 140, 143, 144, 145, 146, 148, 149, 194A, 194B.

† B.A. 55 is required for Accounting and Transportation majors only.

‡ These credits should be a continuation of subjects taken in lower division.

§ Professional accounting majors are also required to take B.A. 178. The professional accounting course, with the addition of B.A. 101, is recommended for the position of controller in business.

|| Marketing majors should take B.A. 106 in third quarter of the sophomore year.



12. Commercial Teaching:¶ Required:

- (a) Satisfaction of all the general requirements of the College of Business Administration.
- (b) B.A. 12, 13, and 14, Typewriting, and B.A. 16, 17, and 18, Shorthand, a total of 12 credits. This requirement may be satisfied in either lower- or upper-division, or by passing a satisfactory examination. In case of exemption by examination, University credit is not given.
- (c) The special requirements in the upper division must include B.A. 115, Business Correspondence, 116 and 117, Advanced Secretarial Training, and 118, Secretarial Practice.
- (d) Thirty-three credits of Education courses, including Educ. 75E and 75F. See College of Education section, page 131.

13. Prelaw and Combined Law and Business Curriculum:

General: The minimum requirements for admission to the School of Law appear on page 148. A student planning to meet these requirements in the College of Business Administration will register under the supervision of the prelaw adviser.

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

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

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

2-Year Prelaw Requirements		Additional Lower-division Requirements of the College of Business Administration	
	Credits		Credits
English 1, 2, 3 .....	9	Business Administration 62, 63 .....	10
Philosophy 1, 5 .....	10	Business Administration 60 .....	5
Political Science 1, 52 .....	10	Geography 7 .....	5
History 5, 6, 106 .....	15	Mathematics, Approved Laboratory	
Business Administration I .....	5	Science, or Foreign Language .....	10
Economics 10 .....	5	Electives .....	6
	54		36

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

### Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 158.

### Announcement of Courses

For announcement of courses offered by the College of Business Administration, see page 185.

¶ A teaching major and two teaching minors in commercial education have been provided also in the College of Education. See page 131.

## Courses in COLLEGE OF BUSINESS ADMINISTRATION

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 Business Administration, except by permission of the Dean of the College and the instructor concerned: 123, 126, 127, 135, 136, 137, 138, 139, 140, 143, 144, 145, 146, 148, 149, 150, 151, 152, 153, 154, 156, 157, 158, 159, 167, 169, 170, 178, 182, 191, 193, 194, 195, 199.

### Lower-Division Courses

*Professors Cox, Mackenzie; Associate Professors Brown, Butterbaugh, Cannon; Assistant Professors Goldberg, Hanson, Roller, Walker; Lecturers Botzer, Burrus, Espedol, Fordon, Hamack, Happ, Murphy, Purdue; Associate Works*

1. **Business Organization.** (5) The nature of business problems; various types of ownership; physical factors involved in location of business; personnel aspects; marketing problems, devices and institutions; devices for long and short term financing; managerial controls such as accounting, statistics, and budgets; and the relation of business to government. Cox
- 12, 13, 14. **Typewriting.** (1, 1, 1) Students who present one or more units of typewriting as entrance credit may not receive credit for B.A. 12. Hamack, Works
- 16-17, 18. **Shorthand.** (3-3, 3) Students who present one or more units of shorthand as entrance credit may not receive credit for B.A. 16. Happ, Murphy
19. **Office Machines.** (3) Laboratory instruction and practice in the operation of selected office machines, calculators, duplicating machines, filing equipment, and devices. No prerequisite. Works
54. **Business Law.** (5) Introduction to the study of law, its origin and development; formation and performance of contracts; fraud, mistake, duress and undue influence; rights of third parties and remedies available at law and equity; the law of agency as affecting the rights and duties of the principal, the agent, and third parties in their interrelationship. Pr., sophomore standing. Brown, Goldberg, Botzer, Purdue
55. **Business Law.** (5) Real and personal property, security transactions, sales, and negotiable instruments. Pr., 54. Brown, Goldberg, Purdue
57. **Business Law.** (3) For engineering students or others unable to devote more than three credits to study of business law. May not be substituted for 54. Does not carry credit for students in business administration. Pr., sophomore standing and English requirement of respective college. Burrus, Espedol
60. **Statistical Analysis.** (5) Statistical methods and their application to practical economic and business problems. Pr., 1. Butterbaugh, Hanson
62. **Principles of Accounting.** (5) The fundamental theory of accounts. Three lectures, four hours a week in laboratory. Pr., sophomore standing. Staff
63. **Principles of Accounting.** (5) Covering partnerships, corporations, and manufacturing. Three lectures, four hours a week in laboratory. Pr., 62. Staff

### Intermediate Courses

*Professors Burd, Demmery, Farwell, Miller; Associate Professors Cannon, Lorig, Tidwell; Assistant Professors Robinson, Walker, Woodward; Acting Assistant Professors Bickley, Brewer; Lecturers Draper, Fordon, Hamack, Happ, Murphy; Instructor Kolb; Associate Richins*

101. **Industrial Management.** (5) The internal organization of the business enterprise and topics related thereto; standards, incentives, labor-management cooperation, planning, etc. Pr., 1. Robinson, Woodward
102. **Business Finance.** (5) A course dealing with the short term and long term financial problems of business enterprise. Pr., 1, 63. Kolb
104. **Principles of Transportation.** (5) General survey of the elements of transportation and communication. Pr., 1. Farwell, Brewer
106. **Principles of Marketing.** (5) Principles, processes, systems; middlemen and their functions; legislation. Pr., 1. Burd, Miller, and Staff
108. **Principles of Insurance.** (5) Nature and business uses of the more important types of life, fire, marine, and casualty insurance and surety bonding. State regulation of insurance. Pr., 1. Bickley
109. **Principles of Real Estate.** (5) Economic principles underlying the utilization of land; determining factors for the location and development of residential, commercial, industrial, and financial districts; public control. Pr., 1. Demmery
110. **Accounting Analysis and Control.** (5) Analysis and interpretation of accounting statements, with principles of valuation. Pr., 63. Lorig, Walker, Fordon
111. **Advanced Theory of Accounts I.** (5) Application of accounting theory to business problems. Pr., 110. Draper
112. **Advanced Theory of Accounts II.** (5) Insolvency and receiverships; branch offices; parent and subsidiary accounting: mergers, consolidations, consolidated statements; estates and trusts. Pr., 111. Cannon
115. **Business Correspondence.** (5) Analysis of principles, including psychological factors; study of actual business letters in terms of their fundamentals. Pr., 1; Engl. 1, 2, 3. Murphy
- 116, 117. **Secretarial Training.** (5, 5). Advanced shorthand and typewriting. Speed studies in taking dictation, and in transcription. General office practice and procedures. Hamack
118. **Secretarial Practice.** (5) Application of skills acquired in shorthand, typewriting, office machines, business letter writing, etc., to an integrated model office. One 1-hour recitation, one 1-hour laboratory daily. Pr., 117. Happ
119. **Office Management.** (5) Office organization; supervision of office functions; office personnel problems. Pr., junior standing. Hamack

*Advanced Courses*  
**Banking and Finance**

*Professors Dakan, Preston; Acting Assistant Professor Bickley*

120. **Money and Banking.** (5) Nature and functions of money; the banking system, other credit granting institutions, and the relationship of money and bank deposits to the economy. Pr., 1 or Econ. 10. B.A. 120 and Econ. 120 are interchangeable and either may be offered to meet Business Administration or Economics requirements. No credit to students who have had E.&B. 103. Preston
121. **Corporation Finance.** (5) General and specific principles and practices in the administration of capital of corporate enterprises. Pr., 63, 102. Dakan
122. **Principles of Investment.** (5) General principles of selection and protection of security holdings. Pr., 121 or permission. Dakan
123. **Investment Analysis.** (5) Analytical study of typical industrial, public utility, and railroad securities; current corporation reports and prospectuses as a basis of determining investment values. Pr., 122. Dakan
124. **Credit Administration.** (3) Current capital management. Current capital needs, sources of current capital, credit as a factor in the production and distribution of commodities. Commercial credit as a basis for bank credit. Installment credit as a selling device. Sources of credit information. Work of the credit department. Pr., 120. Dakan
125. **Banking Policy and Administration.** (5) An analysis of the functions and administration of commercial banks in serving the credit needs of business. Emphasis is given to the relation of the Federal Reserve System to commercial bank policy. Pr., 120. Preston
126. **Bank Credit Administration.** (3) Based upon selected cases of loans to Pacific Northwest industries and agriculture. Pr., 63, 120, and permission. Dakan
127. **Foreign Exchange.** (5) Principles of international exchange; financing imports and exports; foreign exchange markets; foreign banking by American institutions; current status of foreign exchange. Pr., 120. Preston
128. **Personal Insurance.** (5) Scientific basis of life insurance; types of policies; premium rates and reserves. Pr., 108. Bickley
129. **Property Insurance.** (5) Coverage of risks; types of companies; standard fire insurance contract. Pr., 108. Bickley

**Foreign and Domestic Commerce**

*Professor Miller; Associate Professor Wagner; Assistant Professor Stanton*

130. **Sales Management.** (5) Modern sales organization; management analysis in the selling problems of manufacturers, wholesalers, and retailers. Pr., 106. Stanton
131. **Cooperative Marketing.** (5) History, organization and methods of operation of both producer and consumer cooperatives. Pr., 106. Stanton
133. **Retailing.** (5) Profit planning; markup; turnover; inventories; expense, stock, markup, and buying control; operating activities. Pr., 106. Miller
134. **Advertising.** (5) Relation to demand, cost, price, consumer choice, marketing; who pays; research; organizations; techniques; social controls. Pr., 106. Wagner
135. **Advanced Retailing.** (2) Analysis of retail problems from the point of view of management. Pr., 133 and marketing major. Miller
136. **Advanced Advertising.** (2) Analysis of advertising problems from the point of view of management. Pr., 134 and marketing major. Wagner
137. **Retailing Field Work.** (1) Pr., permission. Open to retail scholarship students only. Miller
138. **Marketing Analysis.** (5) Its uses, methods, and techniques. A class research project will provide practical application of methods studied. Pr., 133, 134, and marketing major. Miller
139. **Marketing Problems.** (3) Analysis of marketing problems from the viewpoint of management. Pr., 138 and permission. Miller

**Transportation**

*Professor Farwell; Acting Assistant Professor Brewer*

140. **Airport Management.** (3) Economic aspects of airport planning. Financing airports. Airport operation and management. Pr., 146. Brewer
143. **Railway Transportation.** (5) Critical evaluation of problems of finance, operation, competition, combination, and regulation. Pr., 104. Brewer
144. **Water Transportation.** (5) Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104. Farwell
145. **Highway Transportation.** (3) Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104. Brewer
146. **Air Transportation.** (5) Economic principles, with particular reference to operating methods and costs; traffic promotion; schedule maintenance; safety; governmental regulation. Pr., 104. Brewer
148. **Traffic Management.** (5) Problems of routing, expediting, auditing, demurrage, reconsignment, port and terminal facilities. Pr., 104 and transportation major. Brewer
149. **Marine Insurance and Carrier's Risks.** (5) Liabilities of rail and water carriers; plans of marine underwriters; insurable interests; warranties. Pr., 143 or 144 or 145, or 146. Farwell

## Management and Accounting

*Professors Cox, Gregory, Mackenzie; Professor Emeritus McConabey; Associate Professor Lorig;  
Assistant Professors Robinson, Roller*

150. **Advanced Industrial Management.** (5) Case studies of companies from the viewpoint of the chief executive. Pr., 101. Seniors in management only or permission. Robinson
151. **Production Control.** (5) The organization of the production planning and control department, standards for planning and control, control of inventories of raw materials, goods in process and finished goods. Pr., 101. Robinson
152. **Government Accounting.** (5) A study of accounting and financial reporting for municipal, county, state, and federal governments. Pr., 112 or permission. Lorig
153. **Accounting Systems.** (5) A thorough study of accounting and personnel problems to be considered in developing and installing accounting systems. Pr., 112 or permission. Lorig
154. **Cost Accounting I.** (5) Economics of cost accounting; industrial analysis; production control through costs; types of cost systems, burden application. Pr., 110. Gregory
156. **Income Tax Accounting.** (5) A study of Federal Revenue Acts and their application to individuals and different types of business organization. Pr., 112. Roller
157. **Auditing.** (5) A study of the theory, principles, procedures, and practices of auditing. Pr., 112. Cox
158. **C. P. A. Problems.** (5) Selected problems taken from American Institute of Accountants and state C. P. A. examinations. Pr., 154, 157. Mackenzie
159. **Field Work in Accounting.** (2) Full-time employment in the field of accounting for one quarter. Reports required. Pr., 157.

## Advanced Business Administration

*Professor Demmery; Associate Professors Brown, Butterbaugh, Wheeler; Assistant Professors Barnowe, Goldberg; Acting Assistant Professor Bickley; Instructor Klima*

161. **Labor Legislation.** (5) Consideration of legislative and judicial actions bearing directly on labor problems and the labor movement in their relation to social, political, and economic theories. Pr., junior standing. Goldberg
165. **Human Relations in Industry and Business.** (5) Through class discussion of actual cases, this course develops a useful way of thinking about and securing understanding of human situations in industry and business. Useful concepts and methods used in dealing with human situations are developed as aids in diagnosing as well as in taking action. Pr., junior or senior standing. Barnowe
166. **Industrial Relations for Engineers.** (3) This is a summary course dealing with the principles and practices of the management of personnel in industry. Pr., B.A. 1, or equivalent, and junior standing. Should be taken with or preceded by Psych. 4. Barnowe
167. **Personnel Management.** (5) Surveying the practices and techniques of personnel activities of business and industrial concerns with emphasis on employment, training, employee relations, counseling, employee services, safety, wages and salary administration, and personnel research. Pr., 165. Barnowe
169. **Real Estate II.** (5) Types of real estate uses and their characteristics; appraisals of farm and urban land and improvements; property rights, real estate finance; management of property; leases. Pr., 109. Demmery
170. **Advanced Statistical Analysis.** (5) Analysis of problems and cases to develop ability in applying statistical techniques to practical problems in economics and business. Pr., 60. Butterbaugh
175. **Business Fluctuations.** (5) Survey of business fluctuations-trends, seasonal variations, irregular fluctuations, and business cycles; proposals for controlling them; analysis of current economic conditions; business forecasting. Pr., senior standing. B.A. 175 or Econ. 122 are interchangeable and may be offered to meet business administration or economics requirements. No credit to students who have had E.B. 175. Demmery, Wheeler
177. **Casualty Insurance.** (5) Meaning and development of casualty insurance, types of companies underwriting casualty risks, basis of legal liability which is the source of much casualty insurance. The types of coverage include workmen's compensation, various kinds of automobile hazards, miscellaneous public utility risks, burglary and theft, plate glass, power plant, credit, health, and accident insurance. Premium rates and regulation of casualty insurance business. Pr., 108. Bickley
178. **Law in Accounting Practice.** (3) Business associations and bankruptcy. Pr., 54, 55. Brown
180. **A, B, C, D. Professional Practice in the Apparel Industry.** (2) A practical in-training course in manufacturing and merchandising apparel. The student will actually work in the industry as in a laboratory gaining first hand experience in applying the techniques learned in the University. Reports must be made regularly to the course instructor. The credit will be for the reports, not for the work. Pr., permission. Klima
182. **Problems in Foreign Trade.** (5) Export and import operations; foreign market analysis; credits; trade channels; trade instruments; customs procedure. Economic analysis of specific problems in foreign trade. Pr., Econ. 170. Not open to students who have had E.B. 132.

*Research Courses for Undergraduates and Graduates*

*Professors Burd, Farwell, Demmery, Gregory; Associate Professor Butterbaugh*

191. **Statistical Problems.** (3) An advanced course dealing with sampling theory; statistical quality control; techniques of forecasting through use of multiple correlation, time series analysis, and business index-numbers; and analysis of variations in statistical results. Pr., 170. **Butterbaugh**
- 193A, **B. C. Problems in Wholesaling, Retailing, and Advertising.** (3, 3, 3) Individual and group study. Required business contacts. Compiling, organizing, and interpreting data from original and library sources. Each student will specialize in one of the three fields. Pr., 133, 134, and permission. **Burd**
- 194A, **B. Research in Transportation.** (3, 3) Open only to qualified students in transportation who will be placed in part-time contact with transportation agencies. Pr., permission. **Farwell**
- 195A, **B. C. Research in Management and Accounting.** (3, 3, 3) Open to qualified undergraduates and graduate students. Pr., permission. **Gregory**
- 199B, **C. Research in Real Estate and Business Fluctuations.** (3, 3) Open to qualified undergraduates and graduate students. Pr., permission. **Demmery**

*Courses for Graduates Only*

*Professors Burd, Engle, Farwell, Mackenzie, Preston; Associate Professor Lorig*

- 202B. **Graduate Seminar in Finance.** (5 to 7) Pr., permission. **Preston**
- 204C. **Graduate Seminar in Transportation.** (5 to 7) Economic aspects of current transportation problems. Pr., permission. **Farwell**
235. **Graduate Seminar in Marketing.** (5 to 7) Social, economic, and business implications of current problems in marketing. Pr., one marketing course and permission. **Burd, Engle**
251. **Graduate Seminar in Administration.** (5 to 7) A study of the administrative functions with emphasis upon organization, leadership, and control within the business unit. Pr., one advanced course in management and permission. **Mackenzie**
258. **Graduate Seminar in Accounting.** (5) Discussion and research in controversial topics in accounting theory. Pr., permission. **Lorig**

Teachers' courses in Business Administration. (See Educ. 75E, 75F.)

Not offered in 1948-1949: 155, Cost Accounting II.

## COLLEGE OF ARTS AND SCIENCES

### ECONOMICS DEPARTMENT

#### A. Entrance Requirements

(See also, pp. 89-91 of the 1948-49 University Catalogue)

1. Regular high school minima set by the whole University.
2. Special Requirements: \*
  - (a) 15 credits in foreign language (if none in high school).
  - (b) 10 credits in laboratory science (if none in high school).
  - (c) 5 credits in social science (if none in high school).
  - (d) Deficiencies are to be made up during freshman and sophomore years; credit granted toward graduation for these courses.

#### B. College Requirements for Graduation

(See also above pp. 89-91)

1. Total of 180 credits of which one-third must be in upper-division courses.
2. 9 credits of English composition (English 1, 2, 3)
3. P.E. 10 or 15 (2 credits).
4. Group Requirements:  
20 credits in either group I (Humanities) or III (Science) and 10 credits in the other group to be taken during freshman and sophomore years. English (9 credits in composition, B-2 above) and courses taken to remove deficiencies in A-2 above cannot be counted toward group requirements.

#### C. Departmental Requirements for Graduation

1. Economics 10, B.A. 62, 5 credits of statistics (B.A. 60, Sociology 31, Math. 13 or Psych. 108), 15 additional credits of social sciences (Group II), which may include Econ. 16 and Econ. 94, to be taken in first two years.
2. Economics 100 plus a total of 30 additional credits to be selected from a minimum of 4 fields (listed below) other than the field of economic theory.
3. One field of specialization from those listed below must be chosen in which 10 credits (of the 30 credits required) shall be taken. A faculty adviser from this field will advise the student and must approve the student's program of courses.

#### D. (Curriculum for Government Service)

For revised requirements of this major, see Professor James K. Hall  
(See also, pp. 128-29 of the 1948-49 University Catalogue)

#### E. Requirements for Advanced Degrees

1. The following requirements for the M.A. degree are in addition to the general requirements of the Graduate School.
2. A beginning graduate student shall consult with the executive officer or the student's advisory committee regarding possible deficiencies in his undergraduate preparation. Deficiencies will be made up by taking appropriate undergraduate courses.
3. The student will complete a course of study in three fields arranged in consultation with his advisory committee. One of the fields shall be economic theory. If a field is selected outside of economics, 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, a minimum of 15 credits of economics work must be in courses listed for graduates only.
4. If all 45 credits are taken in economics, 20 of the credits (exclusive of thesis) shall be in courses listed for graduates only.
5. For a minor in economics 12 credits are required in approved advance courses in economics.

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\* Students registered in the College of Economics and Business before August 1, 1948, will not be required to make up these deficiencies.

### *Fields of Specialization:*

- I. Economic Theory—Econ. 100, 102, 103, 104, 105, 106, 199
- II. Money, Banking, and Cycles—Econ. 120 (B.A. 120) 121, 122 (B.A. 175), 123, 199
- III. Government Regulation, Public Utilities and Transportation—Econ. 130, 132, 133, 134, 135, 199
- IV. Labor Economics—Econ. 94, 141, 143, 144, 199
- V. Public Finance and Taxation—Econ. 150, 151, 199
- VI. Economic History—Econ. 160, 161, 199
- VII. International Trade—Econ. 170, 171, 172, 173, 199
- VIII. Economic Statistics and Mathematical Economics—(No courses at present)
- IX. National Economics—Econ. 190, 192, 193, 199

### *A. Lower-Division Courses*

- 10. Introduction to Economics. (5) A study of the organization of the American economy and the way it operates. Economic principles of prices, costs, output, income and its distribution. Contemporary economic problems of money, banking, labor, and international trade. Proposals for promoting social welfare. Open to freshmen. Prerequisite to all upper-division economics courses. No credit to students who have had E.B. 1 or 4. Boggs, Buechel, Lampman, Worcester
- 13. General Economics. (3) Condensation of Econ. 10; primarily for students in Colleges of Engineering and Forestry. Open to other students by permission. Pr., sophomore standing.
- 16. Development of Economic Institutions. (5) The European background and American development of the principal institutions of modern society. No credit to students who have had E.B. 6. Mathy, Williams
- 94. Labor in the Economy. (5) See course description under labor field below.

### *B. Upper-Division Courses*

#### *I. Economic Theory*

- 100. Intermediate Economics. (5) A study of the fundamental concepts and principles of economics. Markets, market price, and the determination of price under monopolistic conditions. The relations of prices and cost, income and its functional distribution in capitalistic society. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 185. Mund, Worcester
- 102. National Income Analysis. (5) Analysis of the determinants of the aggregate level of employment, output, and income of an economy. Pr., Econ. 100, or E.B. 2. Cartwright
- 103. Economics of the Individual Firm. (5) Analysis of the price and output behavior of the individual business firm, the allocation of resources under conditions of pure competition, imperfect competition, monopoly, and oligopoly. Pr., Econ. 100, or E.B. 2. Simpson
- 104. Institutional Economics. (5) The economy theory of the "institutionalists." Special attention to the points of contrast between institutional theory and marginal theory. Pr., Econ. 100, or E.B. 2. Williams
- 105. Economics of Consumption. (5) The effect of consumer action on production, distribution, and size of the national income in the American economy. National and state legislation affecting consumers. Consumer aids with some emphasis on cooperatives. Pr., Econ. 100, or E.B. 2. Not open to students who have had E.B. 163. Worcester
- 106. History of Economic Thought. (5) The development of economic doctrine under changing economic conditions, with special reference to the rise of modern capitalism and the formation of classical political economy. Pr., Econ. 100, or E.B. 2. No credit to students who have had E.B. 187. Williams

#### *II. Money, Banking, and Cycles*

- 120. Money and Banking. (5) Nature and functions of money; the banking system, other credit granting institutions, and the relationship of money and bank deposits to the economy. Pr., Econ. 10, or E.B. 1 or 4. Econ. 120 and B.A. 120 are interchangeable and either may be offered to meet Econ. or B.A. requirements. No credit to students who have had E.B. 103. Hald, Simpson, Pettibone
- 121. Money, Credit, and the Economy. (5) Supply and use of money, bank deposits, and bank reserves. Relationship of Treasury, Federal Reserve, and commercial bank policies, and the value of money. Factors relating to the generation of money income flows. Pr., Econ. 100 (or E.B. 2) and Econ. 120. No credit to students who have had E.B. 125. Simpson
- 122. Economic Cycles. (5) A study of the characteristics of prosperity-depression cycles. Analysis of leading cycle explanations and proposed cycle remedies; discussion of current problems. Pr., Econ. 120. No credit to students who have had E.B. 175. Econ. 122 and B.A. 175 are interchangeable and either may be offered to meet economics or business administration requirements. Hald
- 123. Monetary, Banking, and Cycles Policies. (5) A critical review of past and current proposals to stabilize the value of the dollar and mitigate economic fluctuations. Pr., Econ. 100 (or E.B. 2) and 121 or 122. Hald

### III. Government Regulation, Public Utilities, and Transportation

130. **Government Control of Competitive Enterprise.** (5) The development of public policy in the United States on the regulation of business activity. Federal anti-trust legislation and its judicial interpretation. Basing point and zone delivered pricing systems. The policy of preserving competition as a means of regulating private business. Pr., Econ. 10, or E.B. 1 or 4. Mund
132. **Economics of Public Utilities I.** (5) Economic, legislative, and administrative problems in the regulation of public utility rates and service standards. The holding company and its control. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 141. Hall
133. **Economics of Public Utilities II.** (5) Study of public utility costs, pricing policies, rates, plant utilization, and competition. Pr., Econ. 132. No credit to students who have had E.B. 142. Hall
134. **Economics of Transportation I.** (5) Domestic and international transport: economic principles and development; public policy and special problems. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 104. Pettibone
135. **Economics of Transportation II.** (5) Advanced treatment of economic problems and trends in domestic and international transport, including effects on regional development. Pr., Econ. 134. Pettibone

### IV. Labor Economics

94. **Labor in the Economy.** (5) Employment, unemployment, wages, working conditions, trade-unionism, collective bargaining, labor-management relations, and public policy. Pr., Econ. 10, or E.B. 1 or 4, sophomore standing. No credit to students who have had E.B. 105. Buechel, Gillingham, Hopkins, Lampman
141. **Union-Management Relations.** (5) Negotiation and administration of the collective bargaining agreement; industrial jurisprudence; union and management attitudes. Pr., Econ. 94. No credit to students who have had E.B. 164. Gillingham, Hopkins
143. **American Labor History.** (5) Analysis in historical perspective of American labor movement; its organizational structure, ideology, policies, and practices. Pr., Econ. 94. No credit to students who have had E.B. 162. Gillingham
144. **Advanced Labor Economics.** (5) Economic analysis of the factors determining wage rates and employment levels. Will examine ability-to-pay, cost-of-living, productivity, and the labor market. Pr., Econ. 100 (or E.B. 2) and Econ. 94. No credit to students who have had E.B. 164. Cartwright
145. **Social Security.** (5) Unemployment compensation, old age benefits, public insurance, relief. Pr., Econ. 94.
146. **Labor Problems Abroad.** (5) History and analysis of labor problems in foreign countries. Pr., Econ. 94.

### V. Public Finance and Taxation

150. **Public Finance and Taxation I.** (5) Principles of taxation, tax forms and practices, public expenditures, public credit, and public budgetary policy. Pr., Econ. 10 (or E.B. 1 or 4). No credit to students who have had E.B. 171. Hall, Lampman
151. **Public Finance and Taxation II.** (5) Study of the elements of fiscal policy; tax systems; incidence and effects of taxation; and management of the public credit. Pr., Econ. 100 (or E.B. 2) and 150. No credit to students who have had E.B. 172. Hall
153. **Introduction of Public Finance.** (3) A survey of public finance and taxation designed especially for journalism majors. Pr., Econ. 10, or E.B. 1 or 4. Hall

### VI. Economic History

160. **American Economic History to 1860.** (5) Analysis of the origins and significance of the American economic structure before the Civil War. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 181. Williams
161. **American Economic History Since 1860.** Structural changes and trends in the American economy since the Civil War. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 181. Williams

### VII. International Trade

170. **Economic Principles of Foreign Trade.** (5) Role of trade in world economic development, incomes, and employment. Relationship between production and trade; problems of foreign exchange. Commercial policies of nations; organizations for international cooperation. Pr., Econ. 10, or E.B. 1 or 4. No credit to students who have had E.B. 107. Boggs, Mathy
171. **International Economic Policies.** (5) Foreign trade controls, including tariffs, exchange controls, state trading, commodity agreements, cartels. Foreign investment policies; international organizations. Pr., Econ. 100, or E.B. 2, and 170. No credit to students who have had E.B. 131. Huber
172. **International Monetary Standards.** (5) Exchange rates and international payments; monetary standards and international monetary cooperation. International Monetary Fund, and the World Bank. Pr., Econ. 120 and 170. No credit to students who have had E.B. 127. Huber
173. **Foreign Trade of Latin America.** (5) Problems of foreign trade, foreign exchange, and investments; programs for industrial development; role in the world economy. Pr., Econ. 170. No credit to students who have had E.B. 130. Mathy



### VIII. Economic Statistics and Mathematical Economics

(No courses at present.)

#### IX. National Economics

190. **Comparative Economic Systems.** (5) The American, British, Scandinavian, and Russian economies in practice. How these economic systems deal with the basic economic problems facing all societies. Pr., Econ. 10, or E.B. 1 or 4, and 15 additional credits in social sciences. No credit to students who have had E.B. 188. Worcester
- 192, 193. **Economic Problems of the Far East.** (5, 5) Reconstruction problems, industrialization, commercial policies, exchange and finance, transportation, agriculture, and labor. National incomes and distribution; government and economic planning. Pr., Econ. 10, or E.B. 1 or 4, or permission; 15 additional credits in social sciences or Far Eastern. Econ. 192 deals with Far Eastern countries exclusive of China. No credit to students who have had E.B. 182. Econ. 193 deals with China. No credit to students who have had E.B. 183. Either course may be taken independently. Huber, Wu

#### C. Independent Study

199. **Independent Study.** (3; may be repeated once for credit) This work is available in the various specialized fields of economics. Pr., permission of the faculty adviser in the specialized field. Staff

#### Graduate Courses

##### I. Economic Theory

200. **Value and Distribution Theory.** (5) Systematic review of the theories of value, price, costs, and supply. The capital concept. Income and its functional distribution. Pr., Econ. 102. No credit to students who have had E.B. 208A. Mund
201. **National Income Analysis.** (5) Analysis of the theory of employment, output, and income of the Keynesian and Neo-Keynesian groups. Pr., Econ. 102. Cartwright
203. **Modern Developments in General Theory.** (5) A study of recent developments in the theory of price, interest, rent, and wages. Statics, dynamics, and the theory of profits. Pr., Econ. 100, or E.B. 2 and 102.

##### II. Money, Banking, and Cycles

220. **Monetary Theory.** (5) A critical analysis of recent developments in money theory. Pr., permission. Simpson
221. **Cycle Theory.** (5) A review of leading theories of economic cycles, with emphasis upon recent developments. Pr., permission. Hald

##### III. Government Regulation, Public Utilities, and Transportation

230. **Public Control of Industry.** (5) Public policy in the United States on industrial combinations, pricing practices, and monopoly control. Recent issues in the public control of business. Pr., Econ. 130, and 100 or E.B. 2. Mund

##### IV. Labor Economics

240. **Wage Theory.** (5) Pr., permission.
241. **Labor Relations.** (5) Pr., permission. Gillingham
242. **Labor Economics.** (5) Pr., permission. Hopkins

##### V. Public Finance and Taxation

250. **Public Finance I.** (5) Study of the implemental aspects of fiscal policy as to income and employment; limitations of fiscal policy; review of current literature. Pr., permission. Hall

##### VI. Economic History

(No courses at present.)

##### VII. International Trade

270. **International Trade Theory.** (5) Theories of international trade, prices, and payments. Modern developments in theory of national income and international trade. Theory of international capital movements. Pr., permission. Boggs
271. **International Economic Policies.** (5) Problems of foreign trade and exchange controls, and international monetary policies. Pr., permission. Huber

##### VIII. Economic Statistics

(No courses at present.)

##### IX. Mathematical Economics

(No courses at present.)

# FOR INFORMATION ON

*Employment*, see page 85

*Food Technology*, see page 256

*Housing*, see page 84

*Oceanography Courses*, see page 256

*Prospector's Course*, see page 143

*Required Military Science*, see page 264

*School of Medicine*, see page 152

## NOTICE

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

### *Preserve This Catalogue for Future Use*

The attention of all students is called to the following regulation (see paragraph 1, "Degrees—Additional Regulations," page 79 of this catalogue): "A student shall have the option of being held to the graduation requirements of the catalogue under which he enters, or those of the catalogue under which he expects to be graduated. All responsibility for fulfilling the requirements for graduation rests upon the student concerned." For your own guidance, therefore, you should retain this catalogue and familiarize yourself with all the provisions that apply to you.

# **BULLETIN UNIVERSITY OF WASHINGTON**

## **CATALOGUE ISSUE 1948-1949**

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**GENERAL SERIES**

**JUNE, 1948**

**No. 822**

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# UNIVERSITY OF WASHINGTON CALENDAR—1948-1949

## SUMMER QUARTER, 1948

General registration in person (by appointment only).....June 1 to June 19, 12 m.

*All fees must be paid at time of registration*

### Instruction begins:

University courses.....June 21, 7:30 a.m.

Nursing: Hospital Division and Public Health Field Work only.....June 14, 8:00 a.m.

Independence Day (holiday).....Monday, July 5

First term ends.....July 21, 6:00 p.m.

Second term begins.....July 22, 7:30 a.m.

### Last day to add a University course:

First term.....June 23, 4:30 p.m.

Full quarter.....June 26, 12 m.

Second term.....July 24, 12 m.

### Instruction ends:

University courses.....August 20, 6:00 p.m.

Nursing: Hospital Division and Public Health Field Work only.....September 5, 6:00 p.m.

## AUTUMN QUARTER, 1948

### Registration dates:

For students in residence, Spring, 1948.....September 1 to September 28, 4:30 p.m.

Appointments may be obtained at Registrar's Office upon presentation of A.S.U.W. card.

For former students not in residence, Spring, 1948.....September 10 to September 28, 4:30 p.m.

Appointments may be obtained by writing or calling at the Registrar's Office.

For new students.....September 13 to September 28, 4:30 p.m.

Appointments will be mailed with the Notification of Admission blank.

*All fees must be paid at time of registration*

Last registration day before beginning of instruction.....Tuesday, September 28

Instruction begins.....Wednesday, September 29, 8 a.m.

The President's Convocation.....Friday, October 1, 10:50 a.m.

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

Armistice and Admission Day (Holiday).....Thursday, November 11

Thanksgiving recess begins.....Wednesday, November 24, 6 p.m.

Thanksgiving recess ends.....Monday, November 29, 8 a.m.

Instruction ends.....Friday, December 17, 6 p.m.

## WINTER QUARTER, 1949

### Registration dates:

For students in residence, Autumn Quarter, 1948.....November 15 to December 10

Appointments will be issued, by classes only, on presentation of A.S.U.W. card, beginning October 22, 8 a.m.

For former students not in residence, Autumn Quarter, 1948.....December 27 to December 31, 4:30 p.m.

Appointments will be issued beginning October 13.

For new students.....December 27 to December 31, 4:30 p.m.

Appointments will be mailed with the Notification of Admission blank.

*All fees must be paid at time of registration*

Last registration day before beginning of instruction.....Friday, December 31, 4:30 p.m.

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

Last day to register with a late fee and to add a course.....Saturday, January 8, 12 m.

Washington's Birthday (Founder's Day and Legal Holiday).....Tuesday, February 22

Instruction ends.....Friday, March 18, 6 p.m.

*Febr 1 Last day to (8) W. and receive a W.  
ACG Tests given Dec. 27, 28, 29 and 30*



## SPRING QUARTER, 1949

### Registration dates:

- For students in residence, Winter Quarter, 1949.....February 14 to March 11  
 Appointments will be issued, by classes only, on presentation of A.S.U.W. card, beginning January 21, 8 a.m.
- For former students not in residence, Winter Quarter, 1949.....March 21 to March 26, 12 m.  
 Appointments will be issued beginning January 14.
- For new students.....March 21 to March 26, 12 m.  
 Appointments will be mailed with the Notification of Admission blank.

*All fees must be paid at time of registration*

- Last registration day before beginning of instruction.....Saturday, March 26, 12 m.  
 Instruction begins.....Monday, March 28, 8 a.m.  
 Last day to register with late fee and to add a course.....Saturday, April 2, 12 m.  
 Governor's Day.....Thursday, May 19  
 Honors Convocation.....Wednesday, May 25, 10 a.m.  
 Memorial Day (Holiday).....Monday, May 30  
 Baccalaureate Sunday.....Sunday, June 5  
 Instruction ends.....Friday, June 10, 6 p.m.  
 Commencement.....Saturday, June 11

*A.C.E. tests Mar 21-2-3-4-and 25 at 1:30 only*

### SCHEDULE OF UNIVERSITY SENATE AND EXECUTIVE COMMITTEE MEETINGS FOR THE YEAR 1948-1949

#### Autumn Quarter 1948

- Senate (Election of Executive Committee).....Thursday, September 30  
 Executive Committee.....Monday, October 11  
 Senate.....Thursday, October 21  
 Executive Committee.....Monday, November 22  
 Senate.....Thursday, December 2

#### Winter Quarter 1949

- Executive Committee.....Tuesday, January 4  
 Senate.....Thursday, January 13  
 Executive Committee.....Monday, February 21  
 Senate.....Thursday, March 3

#### Spring Quarter 1949

- Executive Committee.....Monday, April 4  
 Senate.....Thursday, April 14  
 Senate Elections Begin.....Monday, April 18  
 Executive Committee.....Monday, May 16  
 Senate.....Thursday, May 26

*Autumn 1949*

*Law Registration - Sept 20 to 23 incl*

*A.C.E. late tests given March 29 & 30 at 3:00  
 in 310 Pitt Hall*

*3 brief days*

*25-29 + 30 - 120*

## BOARD OF REGENTS

1948-1949

JOSEPH DRUMHELLER, President.....	Spokane
Term ends March, 1950	
DAVE BECK, Vice-President.....	Seattle
Term ends March, 1952	
THOMAS BALMER.....	Seattle
Term ends March, 1953	
CLARENCE J. COLEMAN.....	Everett
Term ends March, 1950	
JOHN L. KING.....	Seattle
Term ends March, 1952	
WINLOCK W. MILLER.....	Seattle
Term ends March, 1953	
GEORGE R. STUNTZ.....	Seattle
Term ends March, 1951	

HERBERT T. CONDON, Secretary

### Committees of the Board of Regents

EXECUTIVE.....	Drumbeller, Beck, Balmer, Coleman, King, Miller, Stuntz
FINANCE.....	Beck, Coleman, King
UNIVERSITY LANDS.....	Coleman, King, Miller
BUILDINGS AND GROUNDS.....	Miller, Beck, Stuntz
UNIVERSITY WELFARE.....	King, Balmer, Coleman
STUDENT ACTIVITIES.....	Stuntz, Beck, King
METROPOLITAN BUILDING LEASE.....	Balmer, Beck, Stuntz

### University of Washington Alumni Association

PRESIDENT.....	Frank Preston, LL.B., 1920
VICE-PRESIDENT.....	Mrs. H. M. Goodfellow, B.A., 1922
VICE-PRESIDENT.....	Warren Gilbert, LL.B., 1920
TREASURER.....	F. Theodore Isaacson, 1934
EXECUTIVE SECRETARY.....	R. Bronsdon Harris, B.S.F., 1931
EDITH KORRES, A.B.....	Associate Director, Alumni Office

## OFFICERS OF ADMINISTRATION

RAYMOND BERNARD ALLEN, M.D., Ph.D., LL.D., D.Sc. .... President of the University  
EDWIN RAY GUTHRIE, Ph.D., LL.D. .... Executive Officer in Charge of Academic Personnel  
NELSON A. WAHLSTROM, B.B.A. .... Comptroller and Business Manager

## The College of Arts and Sciences

EDWARD HENRY LAUER, Ph.D.	Dean of the College of Arts and Sciences
MABEL S. DAVIES, B.A.	Assistant to the Dean, College of Arts and Sciences
HAROLD M. HINES, B.A.	Assistant to the Dean, College of Arts and Sciences
E. J. LISTON, A.B., Ph.D.	Assistant to the Dean, College of Arts and Sciences
WILBERT M. CHAPMAN, Ph.D.	Director of the School of Fisheries
STANLEY CHAPPLE	Director of the School of Music
HARVEY B. DENSMORE, B.A.	Chairman, General Studies
HAROLD P. EVEREST, B.A.	Director of the School of Journalism
ARTHUR P. HERRMAN, B.A.	Director of the School of Architecture
GLENN HUGHES, M.A.	Director of the School of Drama
WALTER F. ISAACS, B.F.A.	Director of the School of Art
JENNIE I. ROWNTREE, Ph.D.	Director of the School of Home Economics

### The Professional and Graduate Schools, Colleges, and Institutes

JUDSON F. FALKNOR, B.S., LL.B.	Dean of the School of Law
GRACE B. FERGUSON, M.A.	Director of the Graduate School of Social Work
ROBERT L. GITLER, M.S.	Director of the School of Librarianship
FOREST J. GOODRICH, Ph.C., Ph.D.	Dean of the College of Pharmacy
EDWIN RAY GUTHRIE, Ph.D., LL.D.	Dean of the Graduate School
LOIS WENTWORTH FELDHAUSEN, B.A.	Assistant to the Dean of the Graduate School
WILLIAM S. HOPKINS, Ph.D.	Director of the Institute of Labor Economics
ERNEST M. JONES, D.D.S.	Dean of the School of Dentistry
EDGAR A. LOEW, E.E.	Dean of the College of Engineering
GORDON D. MARCKWORTH, M.F.	Dean of the College of Forestry
DRURY A. PIFER, M.S.	Acting Director of the School of Mineral Engineering
FRANCIS F. POWERS, Ph.D.	Dean of the College of Education
HOWARD H. PRESTON, Ph.D., LL.D.	Dean of the College of Economics and Business
VERNE F. RAY, Ph.D.	Associate Dean of the Graduate School
ELIZABETH STERLING SOULE, M.A., D.Sc.	Dean of the School of Nursing
GEORGE EDWARD TAYLOR, M.A.	Director of the Far Eastern Institute
WILLIAM F. THOMPSON, Ph.D.	Director of the Fisheries Institute
EDWARD L. TURNER, M.D.	Dean of the School of Medicine

### Other Administrative Officers

HAROLD ADAMS, M.S.	Director of the Office of High School Student Relations and Orientation
DONALD K. ANDERSON, A.B.	Director of the Office of Public Information and University Relations
IRWIN S. BLUMENFELD, A.B.	Assistant Director, Office of Public Information
ERIC L. BARR, Ph.D.	Director of the Summer Quarter
HARRY C. BAUER, M.S.	Director of Libraries
C. HARVEY CASSILL	Director of Intercollegiate Athletics
WENDELL H. BROYLES	Director, Athletic News Service
HERBERT T. CONDON, LL.B.	Dean of Students
HELEN HOAGLAND	Executive Assistant to the President
B. O. MULLIGAN	Director of the Arboretum
DEAN S. NEWHOUSE, B.A.	Director of Student Affairs
LELAND E. POWERS, M.D.	University Health Officer
WILLIAM M. READ, Ph.D.	University Editor
LLOYD W. SCHRAM, B.A., LL.B., LL.M.	Director of the Division of Adult Education and Extension Services
ETHELYN TONER, B.A.	Registrar

## ADMINISTRATIVE UNITS\*

### Adult Education and Extension Services

LLOYD W. SCHRAM, B.A., LL.B., LL.M.	Director
HAROLD J. ALFORD, B.A.	Assistant Director
MARTIN N. CHAMBERLAIN, B.S.	Executive Officer of the Department of Extension Classes
EDGAR M. DRAPER, Ph.D.	Executive Officer of the Department of In-Service Teacher Training
GEORGE P. HORTON, Ph.D.	Executive Officer of the Department of Correspondence Study

### Office of the Comptroller

NELSON A. WAHLSTROM, B.B.A.	Comptroller and Business Manager
ERNEST M. CONRAD, B.A.	Assistant Comptroller
BYRON F. FIELD, M.A.	Adviser to Comptroller, Nonacademic Personnel
MAX HIPKOE	Purchasing Agent
LEO M. JACOBSON, B.A.	Veterans Administration Coordinator
CHARLES C. MAY, B.S. in C.E.	Superintendent, Buildings and Grounds
J. ARTHUR PRINGLE, B.S.	Director, Campus Housing

### Library

HARRY C. BAUER, B.A., M.S.	Director of Libraries
CHARLES WESLEY SMITH, B.A., B.L.S.	Librarian Emeritus
ETHEL MARGARET CHRISTOFFERS, Ph.B., B.S. (L.S.)	Reference Librarian
HELEN JOHNS, B.A., Cert. (L.S.)	Circulation Librarian
MAUD MOSELEY, B.A., B.S. (L.S.)	Catalog Librarian
MARGUERITE ELEANOR PUTNAM, B.A., B.S. (L.S.)	Acquisitions Librarian
FREDA CAMPBELL, B.A., B.S. (L.S.)	Senior Librarian, Catalog Division
DOROTHY MARGARET COOPER, B.A., B.S. (L.S.)	Senior Librarian, Circulation Division
EVELYN ELLIOTT, B.A., B.S. in L.S., M.S.	Senior Librarian, Reference Division
ALDERSON FRY, M.A., B.S. in L.S.	Librarian, Medical Branch
RUTH ELINOR GERSHEVSKY, B.A., B.S. (L.S.)	Senior Librarian, Acquisitions Division
MADELINE GILCHRIST, B.A., B.S. (L.S.)	Librarian, Farrington Branch
B. RUTH JEFFRIES, B.A., B.S. in L.S.	Librarian, Political Science Branch
WINNIFRED JONES, B.S., B.S. (L.S.)	Librarian, Bagley Branch
CLARA KELLY, M.S., B.S. (L.S.)	Senior Librarian, Reference Division
CHLOE THOMPSON SIVERTZ, B.S., B.S. (L.S.)	Senior Librarian, Circulation Division
BERNICE FERRIER SMITH, B.A., B.A. in Libr.	Senior Librarian, Reference Division
J. RONALD TODD, B.A., B.S. (L.S.)	Senior Librarian, Reference Division
LENA LUCILE TUCKER, M.A., B.S. (L.S.)	Senior Librarian, Catalog Division
MARJORIE Z. WRIGHT, B.A., M.A. in L.S.	Senior Librarian, Catalog Division

### Law Library

MARIAN GOULD GALLAGHER, B.A., LL.B., B.A. in L.S.	Law Librarian
MARY HOARD, B.A., LL.B., LL.M., B.S. (L.S.)	Catalog Division

### Office of the Registrar

ETHELYN TONER, B.A.	Registrar
LUCILLE KENDALL, M.A.	Assistant to the Registrar
FRANCES WILLARD, B.A.	Admissions
MINNIE KRAUS BRUGGER, B.A.	Graduation
VIRGINIA SAUNDERS, B.A.	Recording
EVA GENE PAPE	Registration
RUTH LARSON, B.A.	Statistics
FRANCES E. TATE	Transcripts

### Office of Student Affairs

DEAN S. NEWHOUSE, A.B.	Director, Office of Student Affairs
LEONA SAUNDERS, B.A.	Associate Director, Office of Student Affairs
ARTHUR ABRAHAMSON, B.A., M.A.	Associate Counselor for Students
MARGARET FARWELL, B.A.	Associate Counselor for Students

\* Other than colleges and schools.

PATRICIA McCLURE, B.S.....Head Counselor, Women's Residence Halls  
 GLEN T. NYGREEN, B.S.....Assistant Director, Office of Student Affairs  
 NORMAN D. HILLIS, B.S.....Manager, University Employment Office  
 CHARLES D. OWENS.....Financial Counselor, A.S.U.W.

#### U.S. Army Reserve Officers' Training Corps

WILLIAM H. JONES, JR., B.A., B.S.....Colonel, Infantry  
 JAMES D. DONLON, JR., M.B.A.....Major, Transportation Corps  
 BERT H. BACKSTROM.....Major, Artillery  
 GEORGE L. D'AMELIO, M.A.....Major, Quartermaster Corps  
 STANLEY M. MIX, B.S.....Major, Infantry  
 JACK M. BRYANT, B.A.....Captain, Air Corps  
 HAMLET R. CARTER, B.S.....Captain, Artillery  
 FRANK W. RHEA, B.S.....Captain, Corps of Engineers  
 NEELY M. SWOMLEY, B.A.....Captain, Signal Corps  
 FREEMAN B. WADDELL.....Captain, Air Corps

#### U.S. Naval Reserve Officers' Training Corps

CAMPBELL D. EMORY, B.S.....Captain, U.S. Navy  
 CHARLES T. FRITTER, B.S.....Commander, U.S. Navy  
 HERBERT E. HANSET, B.A.....Lt. Commander, U.S. Navy  
 IRA DYE.....Lt. Commander, U.S. Navy  
 DAN C. McNEILL, A.B.....Lt. Commander, SC, U.S. Navy  
 CHARLES A. BAILEY, B.S.....Lt. Commander, U.S.N.R.  
 HARRY T. MILNE, B.S.....Major, U.S.M.C.

#### University Health Service

LELAND E. POWERS, M.D.....University Health Officer  
 CHARLES LESTER, M.D.....Assistant University Health Officer  
 CHARLES BENDER, M.D.....Clinic Physician  
 HAL B. STEWART, M.D.....Clinic Physician  
 DAVID C. HALL, M.D.....Clinic Physician  
 ELIZABETH GUNN, M.D.....Clinic Physician  
 M. C. SHURTLEFF, M.D.....Clinic Physician  
 V. C. NORINE, M.D.....Clinic Physician  
 ROLLIN E. CUTTS, M.D.....Director, Child Health Clinic

### VARIOUS EDUCATIONAL, RESEARCH, AND SERVICE DIVISIONS

#### Applied Fisheries Laboratory

LAUREN R. DONALDSON, Ph.D.....Director

#### Audio-Visual Studios

PHILIP A. JACOBSEN, B.S.....Director  
 DOROTHY MARTHA FROST, B.A., M.A.....Director of Radio Forum Series

#### Bureau of Testing

LLOYD G. HUMPHREYS, Ph.D.....Director

#### Engineering Experiment Station

F. BURT FARQUHARSON, B.S., M.E.....Director

#### Henry Art Gallery

WALTER F. ISAACS, B.F.S.....Director

#### The Northwest Experiment Station, United States Bureau of Mines

HARRY F. YANCEY, Ph.D.....Supervising Engineer  
 KENNETH A. JOHNSON, B.S.....Assistant Chemist  
 A. D. CENTENERO, B.S. in Chem. Engr.....Analytical Chemist  
 M. R. GEER, M.S.....Mining Engineer  
 HAL J. KELLY, B.S.....Metallurgical Engineer

## Nursery School

ELEANOR EVANS, B.S., M.E. . . . . Acting Director

## Oceanographic Laboratory

THOMAS G. THOMPSON, Ph.D. . . . . Director

## Physics Laboratories

CLINTON L. UTTERBACK, Ph.D. . . . . Director

## Washington State Museum

ERNA GUNTHER, Ph.D. . . . . Director

HARRY W. HIGMAN, B.S. . . . . Honorary Curator of Birds

MARTHA REEKIE FLAHAUT, B.S., B.S. in L.S. . . . . Curator of Biology

## Washington Public Opinion Laboratory

STUART C. DODD, Ph.D. . . . . Co-Director, University of Washington

J. E. BACHELDER, Ph.D. . . . . Co-Director, Washington State College

## BUREAUS AND DEPARTMENTAL INSTITUTES

### Bureau of Business Research

NATHANAEL H. ENGLE, Ph.D. . . . . Director

CHARLES J. MILLER, M.B.A. . . . . Editor, *Pacific Northwest Industry*

### Bureau of Governmental Research and Services

DONALD H. WEBSTER, LL.B., Ph.D. . . . . Director

JOSHUA H. VOGEL, M.Arch. . . . . Planning and Public Works Consultant

ERNEST H. CAMPBELL, LL.B., Ph.D. . . . . Assistant Director

### Teacher Service and Placement

EDWARD BECHTHOLT, M.A. . . . . Director

ROBERTA W. LIMBACH . . . . . Appointments Secretary

### Institute of International Affairs

LINDEN A. MANDER, M.A. . . . . Co-Director

CHARLES E. MARTIN, Ph.D., LL.D. . . . . Co-Director

### Institute of Public Affairs

KENNETH C. COLE, LL.B., Ph.D. . . . . Co-Director

GEORGE A. SHIPMAN, Ph.D. . . . . Co-Director

## BOARDS AND COMMITTEES, 1947-1948\*

### Administrative

*Agnes Anderson Research Fund*—Chairman, C. E. Weaver; Hitchcock, Grondal, Holt, Utterback, Associate Dean of the Graduate School.

*Audio-Visual Activities Board*—Chairman, Loew; Edwin Adams, Cochran, Hayden, Pauline Johnson, Normann, Schram, F. F. Powers, ex-officio and secretary.

*Board of Admissions*—Chairman, Burd; A. V. Eastman, Steiner; Registrar, secretary.

*Board of Deans*—Falknor, Goodrich, Guthrie, Jones, Lauer, Loew, Marckworth, F. F. Powers, Preston, Soule, Turner.

*Board of Health Sciences*—Chairman, Turner; L. Carlson, Goodrich, Guthrie, Jones, Lauer, L. E. Powers, Soule, Tartar, Wahlstrom.

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

*Campus Residences for Students*—Chairman, Conrad; Kidwell, Newhouse, Pringle, Leona Saunders, Terrell, Wahlstrom.

*Engineering Experiment Station Board*—Chairman, Loew; A. V. Eastman, F. S. Eastman, Farquharson, Goodspeed, Grondal, C. W. Harris, McMinn, Moulton, Pifer, Utterback.

*Exchange Scholarship Committee*—Chairman, C. E. Martin; Executive Secretary, Riley; Garcia-Prada, A. W. Martin, H. C. Meyer, Michael, Preston, Wilcox; Counselor, Foreign Students, ex officio.

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

*Far Eastern Institute Advisory Board*—Chairman, G. E. Taylor; Gunther, Guthrie, Holt, Lauer, Lundberg, C. E. Martin, H. H. Martin, Preston.

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

*Graduate Council*—Chairman, Guthrie; Fred Eastman, Eby, Harrison, Hitchcock, Lundberg, Mander, Marckworth, A. W. Martin, F. F. Powers, Verne Ray, Rex Robinson, Vail, Van Horn.

*Sub-Committee—Walker-Ames*—Chairman, Verne Ray; Eby, Hitchcock.

*Graduate School Publications Committee*—Chairman, Verne Ray; Bauer, Carpenter, K. Cole, Goodspeed, Griffith, Mund, Gunther, Hitchcock, Ordal, Savage; W. M. Read, University Editor, ex officio.

*High School Student Relations and Orientation Advisory Board*—Chairman, Toner; Secretary, Harold Adams; Donald Anderson, Barr, Bechtolt, Cassill, Cole, Emery, Hamack, Harris, Newhouse, F. F. Powers, Rahskopf, Schram, Tyler, Warner.

*Labor Economics Institute Advisory Council*—Chairman, Preston; Cole, Guthrie, Hopkins, Mackenzie, McMan, Mund, Steiner.

*Nursery School Board*—Chairman, Powers; Grace Ferguson, Lauer, Rowntree, S. Smith, Soule.

*Room Assignments Committee*—Chairman, Wahlstrom; Guthrie, May, and Dean of College concerned.

*Special Board on Retirement for Health*—Chairman, D. Mackenzie; Dean of the Medical School, executive officer in charge of academic personnel and/or the advisor for nonacademic personnel, Pullen, Birnbaum.

*University Research Committee*—Chairman, Carpenter; Verne Ray, Lauer, Preston, G. S. Smith, Tartar, Weaver.

*Washington Public Opinion Advisory Council*—Chairman, Dodd; Birnbaum, Edwards, Hopkins, Lundberg, F. F. Powers, Verne Ray, Webster.

#### OFFICERS OF THE FACULTY 1947-1948

Chairman of the Senate.....Joseph B. Harrison  
 Chairman of the Executive Committee.....Raymond B. Allen  
 Vice-Chairman of the Senate and the Executive Committee.....Bror Grondal  
 Secretary.....Ethelyn Toner  
 Executive Committee: Group I, Joseph B. Harrison; Group II, Kathleen Munro; Group III, Donald Loughridge; Group IV, Bror Grondal; Group V, W. Stull Holt; Group VI, Robert L. Taylor; Group VII, James M. Dille.

#### COMMITTEES OF THE FACULTY 1947-1948

*Admissions and Scholastic Standards Committee*—Chairman, Hayden; Church, Irvine, Jerbert, Sergev, Stirling, Youngken.

*Adult Education and Extension Services*—Chairman, Arestad; Blankenship, Chessex, Edgar Draper, Franzke, Gundlach, Kinsella, Lauer, Mander, Arthur Martin, Soule, Vail; Director of Division of Adult Education and Extension Services, ex officio; Comptroller, ex officio.

*Athletics*—Chairman, Everest; Barksdale, Corbally, Donaldson, Harsch, D. H. Mackenzie, Schrader; Manager of Athletics, ex officio.

*Budget*—Chairman, Farquharson; Cornu, H. M. Cross, C. J. Miller, Schmid, Shipman, Tymstra; Comptroller, ex officio.

*Building Needs*—Chairman, McMinn; Dille, Isaacs, MacLaurin, Rhodes, Schaller, W. C. E. Wilson; Superintendent of Buildings and Grounds, ex officio.

*Committee on Committees*—Chairman, Loughridge; Beaumont, Cornu, H. M. Cross, Dille, Grondal, Harrison, Holt, Isaacs, Munro, E. J. Nelson, Ordal, R. Taylor, Wilcox.

*Curriculum*—Chairman, V. Ray; Becker, Cochran, Demmery, Loucks, Normann, Roman, Williston, plus one ex officio member without vote representing each college and distinct unit of the University; University Editor, ex officio.

*Graduate Study and Research Committee*—Chairman, Loughridge; Guthrie, Fred Eastman, Hopkins, Isaacs, Mander, Charles A. Evans.

*Graduation*—Chairman, Grondal; Coombs, Cramlet, A. V. Eastman, Munro, Ordal, Plein, Rahskopf, Clotilde Wilson; Registrar, ex officio.

*Honors*—Chairman, Densmore; Church, F. S. Eastman, Huber, Jacobs, Zuckerman; Registrar, ex officio.

*Junior Colleges*—Chairman, T. R. Cole; Beaumont, Creore, O. E. Draper, Emery, Gates, Hitchcock, Lawson, Utterback, Warner; Dean of the College of Education, ex officio; Registrar, ex officio.

*Library*—Chairman, E. J. Nelson; Benham, Gates, Guthrie, J. K. Hall, Jessup, Marckworth, Moritz, Munro, Thomson, Uehling; Librarian, ex officio.

*Museum*—Chairman, Guthrie; Brockman, Hatch, P. Johnson, Katz, Mackin, W. F. Thompson; Director, Museum, ex officio.

*Personnel Committee*—Chairman, William R. Wilson; Cady, Corbally, Grondal, Hennes, Zillman; Guthrie, ex officio.

*Public Exercises*—Chairman, Lindblom; Corbally, Jerbert, Kingston, Lawrence, McCarthy, A. L. Miller, Orell, Powell.

*Public Lectures and Concerts*—Chairman, McKay; Astel, Conway, Gunther, Lutey, Rader, Schram,

Sivertz; Director of Student Affairs, ex officio.

**Public Relations**—Chairman, Tyler; Christian, Eby, Everest, D. H. Mackenzie, C. E. Martin, Mund; Comptroller, ex officio; Director, Bureau of Business Research, ex officio; Director, University News Service, ex officio; Executive Secretary, Alumni Association, ex officio.

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

**Rules**—Chairman, Stirling; Bostetter, H. C. Douglas, Helen Hall, Hennes, Thonson; Registrar, ex officio; University Editor, ex officio.

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

**Student Campus Organizations**—Chairman, A. L. Miller; E. H. Adams, Baisler Dwinell, Redford, F. R. Simpson, Zillman; Counselor for Men, ex officio; Associate Director of Student Affairs, ex officio.

**Student Discipline**—Chairman, Horton; K. C. Cole, Cramlet, Gose, Leahy, Reeves, Wilcox, R. Wilson, Winger.

**Student Welfare**—Chairman, Kidwell; Carrell, Edwards, Foote, Garfield, Guberlet, L. Lewis, Mansfield, Marckworth, Dixy Lee Ray; Director of Student Affairs, ex officio; Registrar, ex officio.

**Tenure and Academic Freedom**—Chairman, Winther; Goodspeed (chairman pro tem), M. Benson, Harrison, Huber, Pearce, R. J. Robinson, Rowntree, Schmid (pro tem), Sholley, T. G. Thompson, C. T. Williams.

#### Special Committees

**Faculty Welfare**—Chairman, Hayner; Moulton, Wilkie.

**General Education**—Chairman, Pauline Johnson (Group II); Perrin (Group I), Uehling (Group III), Van Horn (Group IV), Edwards (Group V), Mund (Group VI), Loren Carlson (Group VII).

**Health Insurance**—Chairman, Birnbaum; Beaumont, McCullough, D. H. Mackenzie, Wahlstrom.

**Investigate Extension Centers**—Chairman, A. Martin; Arestad, Eby, Engle, Hitchcock, Mander, R. Robinson, Van Horn.

**Investigate Grading System**—Chairman, Humphreys; R. P. Adams, Carrell, Dvorak, Goldberg, W. R. Hill, Schmidt, Smullyan.

**Summer School Policy**—Chairman, Sholley; R. Adams, Corbally, Loucks, Melden, Moulton, Shipman.

#### UNIVERSITY SENATE FOR 1947-1948

- I. **LETTERS.** *Terms expire spring, 1950:* Edwin H. Adams, *Radio Education*; Sverre Arestad, *Scandinavian*; E. Harold Eby, *English*; George Taylor, *Far Eastern*; Lawrence Zillman, *English*. *Terms expire spring, 1949:* Donald Cornu, *English*; Harvey Densmore, *Classics*; Joseph Barlow Harrison, *English*. *Terms expire spring, 1948:* Albert Franzke, *Speech*; Helen Kahin Kaufman, *English*; Jane Sorrie Lawson, *English*.
- II. **ARTS.** *Terms expire spring, 1950:* Kathleen Munro, *Music*; Walter Isaacs, *Art*. *Term expires spring, 1949:* Lionel H. Pries, *Architecture*. *Term expires spring, 1948:* Demar B. Irvine, *Music*.
- III. **SCIENCES.** *Terms expire spring, 1950:* George H. Cady, *Chemistry*; Donald H. Loughridge, *Physics*; Roy M. Winger, *Mathematics*. *Terms expire spring, 1949:* Edward Clay Lingafelter, *Chemistry*; Herschel Roman, *Botany*. *Terms expire spring 1948:* Ross A. Beaumont, *Mathematics*; Howard A. Coombs, *Geology*.
- IV. **TECHNOLOGY.** *Terms expire spring, 1950:* Loren Donaldson, *Fisheries*; George L. Hoard, *Elec. Engr.*; Sybren Tymstra, *Mech. Engr.*. *Terms expire spring, 1949:* Austin Eastman, *Elec. Engr.*; Robert B. Van Horn, *Civil Engr.*; Elgin Roscoe Wilcox, *General Engr.*. *Terms expire spring, 1948:* Robert Q. Brown, *General Engr.*; Bror Grondal, *Forestry*; Fred H. Rhodes, *Civil Engr.*
- V. **SOCIAL SCIENCES.** *Terms expire spring, 1950:* Solomon Katz, *History*; Everett Nelson, *Philosophy*. *Term expires spring, 1949:* William Stull Holt, *History*. *Term expires spring, 1948:* Thomas Cook, *Political Science*.
- VI. **APPLIED SOCIAL STUDIES.** *Terms expire spring, 1950:* Joseph Demmery, *E.&B.*; Nathanael Engle, *E.&B.*; Margaret Terrell, *Home Econ.*; Ruth Wilson, *Women's Phys. Ed.*. *Terms expire spring, 1949:* Henry A. Burd, *E.&B.*; Harry M. Cross, *Law*; Blanche Payne, *Home Econ.*. *Terms expire spring, 1948:* William E. Cox, *E.&B.*; Jennie Rowntree, *Home Econ.*; Robert L. Taylor, *Law*.
- VII. **HEALTH SCIENCES.** *Terms expire spring, 1950:* James M. Dille, *Pharmacol.*; Erling Ordal, *Microbiology*; Lillian B. Patterson, *Nursing*.



# ALPHABETICAL LIST OF THE UNIVERSITY FACULTY

February 28, 1948

RAYMOND BERNARD ALLEN, 1946.....	President of the University B.S., 1924, A.M., 1925, M.B., 1928, M.D., 1928, Ph.D., 1934, Minnesota; LL.D., 1946, Tulane; LL.D., 1946, Illinois; LL.D., 1946, Lake Forest College; D.Sc., 1947, Whitman
ADAMS, CATHERINE MARIE, 1946.....	Instructor in Music A.B., 1929, B.M., 1930, Coe College; M.A., 1932, Columbia
ADAMS, EDWIN HUBBARD, 1939 (1946).....	Assistant Professor of Radio Education; Executive Officer of the Board of Directors of Radio Education B.A., 1927, M.A., 1931, Washington State
ADAMS, JANET ANN, 1947 (1948).....	Associate in Music B.A., 1935, Washington
ADAMS, ROBERT PARDEE, 1947.....	Associate Professor of English B.A., 1931, Oberlin; Ph.D., 1937, Chicago
AIRTH, ANNABELLE MARGARET, 1946.....	Instructor in Nursing R.N., B.S., 1946, Washington
ALFORD, HAROLD JUDD, 1946.....	Acting Associate in English; Assistant Director of Adult Education and Extension Services B.A., 1938, Washington
ALLEN, JOSEPH KNIGHT, 1948.....	Acting Assistant Professor of Economics and Business A.B., 1932, M.B.A., 1939, Stanford
ALLIGER, RUTH MARY, 1947.....	Head Teacher and Associate in the Nursery School B.A., B.E., 1940, Washington State
ALLISON, MARY CLARA, 1944.....	Associate in Romance Languages B.A., 1926, College of Idaho; M.A., 1928, Northwestern
ALPS, GLEN EARL, 1945 (1947).....	Acting Instructor in Art B.A., 1940, Colorado State College of Education
ALTOSE, ALEXANDER RICHARD, 1947.....	Clinical Instructor in Medicine M.B., 1937, M.D., 1938, Northwestern
ANDERSON, ARTHUR G., JR., 1946 (1947).....	Assistant Professor of Chemistry A.B., 1940, Illinois; M.S. in Chem., 1942, Ph.D., 1944, Michigan
ANDERSON, BERTON EMMETT, 1948.....	Special Lecturer in Dental Science and Literature D.M.D., 1925, Oregon
ANDERSON, CARL ORLANDO, 1947.....	Clinical Instructor in Prosthetics D.D.S., 1924, Northwestern
ANDERSON, CLARENCE LOUIS, 1945.....	Lecturer in Fisheries B.S., 1917, M.S., 1924, Washington
ANDERSON, DONALD LORRAINE, 1947.....	Acting Instructor in Mineral Engineering B.S., 1938, St. Francis Xavier University; B.S. in Min. Engr., 1941, Illinois
ANDERSON, ELAM JONOTHAN, JR., 1947.....	Acting Associate in Psychology A.B., 1946, University of Redlands
ANDERSON, FREDERICK NEIL, 1945 (1948).....	Acting Instructor in Art B.A., 1943, Washington
ANDERSON, HELEN CORNELIA, 1945.....	Instructor in Nursing R.N., 1934, Bishop Johnson College of Nursing, Los Angeles; B.S., 1945, Washington
ANDERSON, OSWELL ARTHUR, 1946.....	Clinical Professor of Dentistry D.M.D., 1918, North Pacific College
ANDERSON, SYLVIA FINLAY, 1920 (1947).....	Assistant Professor of English B.A., 1919, M.A., 1923, Washington
ANDERSON, VICTORIA, 1937.....	Associate in English B.A., 1914, M.A., 1917, Washington
ANKELE, FELICITAS CHARLOTTE, 1927 (1947).....	Assistant Professor of Germanic Languages B.A., 1925, M.A., 1926, Ph.D., 1936, Washington
ANSCHUTZ, HERBERT LEO, 1947.....	Associate in English B.A., 1937, Washington

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

*Alphabetical List of the Faculty*

- ARBINGAST, STANLEY ALAN, 1948..... Acting Associate in Geography  
B.E., 1934, Winona State Teachers College
- ARESTAD, SVERRE, 1937 (1945)..... Asst. Prof. of Scandinavian Languages and Literature  
B.A., 1929, Ph.D., 1938, Washington
- ARMSTRONG, HAROLD CHARLES, 1946 (1947)..... Associate in English  
A.B., 1935, Brigham Young University; M.A., 1947, Washington
- ARONSON, SAMUEL FREDERICK, 1947..... Clinical Instructor in Medicine  
B.S., 1927, Washington; M.D., 1936, Northwestern
- ARRIGONI, LOUIS, 1941 (1945)..... Assistant Professor of Pharmaceutical Chemistry  
B.S., 1938, M.S., 1940, Ph.D., 1945, Washington
- ASTEL, GEORGE BERNARD, 1943 (1944)..... Assistant Professor of Journalism  
B.A., 1923, Washington
- AUERNHEIMER, AUGUST A., 1928 (1937)..... Assistant Professor of Physical Education  
B.P.E., 1926, Normal College of the American Gymnastic Union; B.S., 1931, Wash-  
ington; M.A., 1932, Columbia
- AULT, NELSON ALLEN, 1947..... Associate in English  
B.A., 1939, M.A., 1947, Washington
- AVANN, SHERWIN PARKER, 1946..... Assistant Professor of Mathematics  
B.S., 1938, Washington; M.S., 1940, Ph.D., 1942, California Institute of Technology
- AVERY, DON EDWARD, 1945 (1946)..... Acting Instructor in General Engineering  
B.S. in M.E., 1937, Washington
- AYER, LESLIE JAMES, 1916 (1947)..... Professor Emeritus of Law  
B.S., 1899, Upper Iowa; J.D., 1906, Chicago
- BACKSTROM, BERT HAROLD, 1946..... Assistant Professor of Military Science and Tactics
- BAILEY, ALAN JAMES, 1939 (1942)..... Associate Professor and Acting Director of  
Lignin and Cellulose Research  
B.S., 1933, M.S., 1934, Ph.D., 1936, Washington
- BAILEY, Lieut. Comdr. CHARLES ALBERT (D) U.S.N.R., 1946..... Assistant Professor  
of Naval Science  
B.S., 1942, California
- BAIRD, JOHN DOUGLAS, 1947..... Acting Associate in Romance Languages  
B.A., 1924, British Columbia
- BAISLER, PERRY EMANUEL, 1947..... Assistant Professor of Speech  
B.A., 1932, M.A., 1938, Washington
- BAKER, CLAUDE ROWE, 1947..... Assistant Professor of Dentistry  
D.D.S., 1935, B.A., 1937, M.S., 1939, Minnesota
- BAKER, WILLIAM Y., 1947..... Clinical Instructor in Psychiatry  
B.S., 1931, M.D., 1933, Nebraska
- BALLANTINE, JOHN PERRY, 1926 (1937)..... Professor of Mathematics and Astronomy  
A.B., 1918, Harvard; Ph.D., 1923, Chicago
- BALLARD, ARTHUR CONDICT, 1929..... Honorary Research Associate in Anthropology  
B.A., 1899, Washington
- BANGS, JACK LESTER, 1947..... Assistant Professor of Speech  
B.S., 1939, M.S., 1941, Washington
- BANGS, NAN J., 1944 (1947)..... Acting Instructor in Art  
B.F.A., 1937, Nebraska State Teachers College
- BANNICK, EDWIN GEORGE, 1947..... Clinical Professor of Medicine  
B.S., 1918, M.D., 1920, Iowa
- BARBER, THEODORE MELVIN, 1945..... Lecturer in Nursing  
B.S. Med., 1925, M.D., 1927, Nebraska
- BARKSDALE, JULIAN DEVREAU, 1936 (1943)..... Associate Professor of Geology  
B.A., 1930, Stanford; Ph.D., 1936, Yale
- BARNABY, JOSEPH THOMAS, 1934..... Lecturer in Fisheries  
B.S., 1929, Washington; M.A., 1932, Stanford
- BARNES, CLIFFORD ADRIAN, 1947..... Associate Professor of Oceanography  
B.S., 1930, Ph.D., 1936, Washington
- BARNOWE, THEODORE JOSEPH, 1947..... Assistant Professor of Economics and Business  
B.A., 1939, Morningside College; M.A., 1940, Ph.D., 1946, Washington
- BARR, ERIC LLOYD, 1936 (1946)..... Director of the Summer Sessions;  
Professor Emeritus of Naval Science  
Graduate, 1911, U.S. Naval Academy; Ph.D., 1938, Washington
- BARR, JOHN ALTON, 1947..... Acting Assistant Professor of Elementary Education  
B.S., 1936, M.A., 1938, Minnesota

- BARRON, BERNARD, 1947.....Associate in Music  
B.M., 1946, Willamette
- BARRY, FRANCES EVELYN, 1945.....Instructor in Nursing  
R.N., B.S., 1938, Wisconsin; M.S., 1943, Chicago
- BARTER, LEROY DONALD, 1947.....Research Assistant in the Engineering Experiment Station  
B.S. in A.E., 1942, Washington
- BARTON, PAUL, 1947.....Associate in English  
A.B., 1939, DePauw
- BATES, ALAN PHILIP, 1947.....Associate in Sociology  
B.A., 1938, M.A., 1940, Washington
- BAUER, HARRY C., 1945 (1947).....Professor of Librarianship; Director of Libraries  
B.A., 1927, M.S., 1929, Washington University (St. Louis); Certificate of Librarian-  
ship, 1931, St. Louis Library School
- BEAL, MAUD LAYTON, 1933 (1947).....Assistant Professor of English  
B.A., 1926, M.A., 1929, Washington
- BEARD, HARRY RANDALL, 1945.....Lecturer in Fisheries  
B.A., 1917, Colorado, M.S., 1920, Wisconsin
- BEAT, ALBERTA MARGARET, 1947.....Associate Dental Hygienist
- BEAUMONT, ROSS ALLEN, 1940 (1944).....Assistant Professor of Mathematics and Astronomy  
A.B., 1936, M.S., 1937, Michigan; Ph.D., 1940, Illinois
- BECHTEL, LENORE ALBERTA, 1948.....Associate in the Humanistic-Social Division of the  
College of Engineering  
B.M., 1938, DePauw
- BECHTHOLT, EDWARD, 1947.....Director of Teacher Service and Placement  
B.A., 1934, M.A., 1947, Washington
- BECK, ELEANOR NORDHOFF, 1932.....Associate in Music
- BECKER, ROLAND FREDERICK, 1946 (1947).....Associate Professor of Anatomy  
B.S., 1935, M.S., 1937, Massachusetts State; Ph.D., 1940, Northwestern
- BELL, FREDERICK HEWARD, 1931.....Lecturer in Fisheries  
B.A., 1924, British Columbia
- BELL, MARJORIE LAWSON, 1946 (1947).....Associate in English  
B.A., 1931, Washington
- BELSHAW, ROLLAND ELWOOD, 1930 (1948).....Professor of Physical Education;  
Executive Officer of the Department of Physical Education for Men  
A.B., 1927, Oregon; M.A., 1930, Columbia
- BENDER, CHARLES EDWARD, 1946 (1947).....Clinical Instructor in Medicine  
and Assistant Health Officer  
Ph.G., 1925, Ohio Northern; A.B., 1931, Ohio State; M.D., 1935, Jefferson Medical  
College (Philadelphia)
- BENEPE, OTIS JEROME, 1947.....Acting Associate in Psychology  
B.S., 1947, Washington
- BENHAM, ALLEN ROGERS, 1905 (1916).....Professor of English  
A.B., 1900, A.M., 1901, Minnesota; Ph.D., 1905, Yale
- BENNETT, EDWIN SAXTON, 1947.....Clinical Professor of Medicine  
M.D., 1914, New York University
- BENNO, NORMAN LLOYD, 1946.....Associate in Music
- BENSON, EDNA G., 1927 (1936).....Associate Professor of Art  
B.A., 1909, Iowa; M.A., 1923, Columbia
- BENSON, HENRY KREITZER, 1904 (1947).....Professor Emeritus of Chemical Engineering;  
Research Consultant, Departments of Chemistry and Chemical Engineering  
A.B., 1899, A.M., 1902, D.Sc., 1926, Franklin and Marshall College; Ph.D., 1907, Columbia
- BENSON, MERRITT ELIHU, 1931 (1948).....Professor of Journalism;  
Assistant Director of the School of Journalism  
LL.B., 1930, Minnesota; B.A., 1942, Washington
- BERGSETH, FREDERICK ROBERT, 1947.....Assistant Professor of Electrical Engineering  
B.S. in E.E., 1937, Washington; S.M. in E.E., 1938, Massachusetts Institute of Technology
- BERRY, DONNA MAE, 1946.....Associate in Physical Education  
B.S., 1944, Utah; M.A., 1946, Stanford
- BERTRAM, JOHN MARSHALL, 1946.....Acting Associate in General Engineering
- BEVIS, LEURA DOROTHY, 1947.....Assistant Professor of Librarianship  
B.A., 1927, Pomona; B.S. in L.S., 1947, Southern California
- BILLINGTON, SHEROD MARSHALL, 1947.....Clinical Instructor in Pediatrics  
A.B., 1932, M.D., 1935, Vanderbilt

*Alphabetical List of the Faculty*

- BINDER, BETTY JEAN, 1947.....Associate in English  
B.A., 1938, M.A., 1942, Minnesota
- BINGHAM, JAMES BALDWIN, JR., 1947.....Clinical Instructor in Medicine  
B.S., 1935, M.D., 1937, Wisconsin
- BIRD, WINFRED WYLAM, 1928 (1946).....Associate Professor of Speech  
A.B., 1926, Lawrence College; M.A., 1928, Washington; Ph.D., 1938, Iowa
- BIRNBAUM, ZYGMUNT WILLIAM, 1939 (1945).....Associate Professor of Mathematics  
and Astronomy  
LL.M., 1925, Ph.D., 1929, John Casimir University (Lwow, Poland)
- BLACKMAN, HELEN MARIE, 1943.....Instructor in Nursing  
R.N., 1929, St. Luke's, Iowa; B.S. in Nursing, 1942, Washington
- BLANKENSHIP, WILLIAM RUSSELL, 1932 (1943).....Professor of English Literature  
A.B., 1914, Missouri; M.A., 1929, Ph.D., 1935, Washington
- BLASER, HENRY WESTON, 1946.....Assistant Professor of Botany  
B.S., 1931, A.M., 1933, Temple; Ph.D., 1940, Cornell
- BLISS, ADDIE JEANNETTE, 1922 (1937).....Associate Professor of Home Economics  
B.A., 1906, Washington; M.A., 1917, Columbia
- BLIVEN, PAUL, 1941.....Lecturer in General Engineering  
B.S. in M.E., 1927, Minnesota; LL.B., 1933, Georgetown
- BOEHMER, HERBERT, 1937 (1945).....Assistant Professor of General Engineering  
Dipl. Ing. Braunschweig, 1928, Germany; M.S. in A.E., 1934, Washington
- BOGGS, THEODORE HARDING, 1947.....Acting Professor of International Trade  
B.A., 1902, Acadia University (Nova Scotia); B.A., 1905, Ph.D., 1908, Yale
- BOLTON, FREDERICK ELMER, 1912 (1947).....Professor Emeritus of Education;  
Research Consultant; Dean Emeritus of the College of Education  
B.S., 1893, M.S., 1896, Wisconsin; Ph.D., 1898, Clark University
- BONIFAS, PAUL AMI, 1946 (1947).....Associate Professor of Art
- BONNELL, MILDRED, 1947.....Assistant Professor of Home Economics;  
Assistant Director of the University Dining Halls  
B.A., 1927, Illinois; M.A., 1942, Columbia
- BONSACK, DANIEL, 1946.....Instructor in Music  
B.A., 1941, California
- BOSELLY, SHIRLEY EDWARD, 1946.....Acting Instructor in Mathematics  
B.S., 1922, Whitman
- BOSTETTER, EDWARD EVERETT, 1940 (1947).....Associate Professor of English  
A.B., 1935, Franklin and Marshall College; M.A., 1937, Ph.D., 1938, Princeton
- BOSTWICK, IRENE NEILSON, 1930 (1942).....Assistant Professor of Music  
B.M., 1922, Washington
- BOTZER, WILLIAM HOLST, 1946.....Lecturer in Economics and Business  
B.A., 1935, LL.B., 1938, Washington
- BOUGHTON, GLADYS R., 1947.....Assistant Professor of Librarianship  
B.A., 1932, M.S., 1939, University of Denver
- BOWERMAN, CHARLES EMERT, 1946.....Assistant Professor of Sociology  
A.B., 1935, Denison; M.A., 1941, Chicago
- BOWERS, JAMES M., 1947.....Clinical Assistant Professor of Medicine  
A.B., 1922, M.D., 1925, Michigan
- BOWLER, FRANK T., 1947.....Clinical Instructor in Pedodontics  
D.M.D., 1945, Oregon
- BOYER, HARVEY KINSEY, 1943.....Acting Instructor in Mathematics  
A.B., 1902, Wheaton (Illinois)
- BOYLE, JEAN ELIZABETH, 1946.....Assistant Professor of Nursing  
R.N., B.S. in Nursing, 1936, M.N., 1941, Washington
- BRADFORD, FLORENCE IRENE, 1947.....Supervisor of Field Work in the  
Graduate School of Social Work  
B.S., 1939, Springfield College (Massachusetts); M.A., 1946, Chicago
- BRAKEL, HENRY LOUIS, 1905 (1947).....Professor Emeritus of Physics;  
Major Advisor of the Department of Physics  
B.A., 1902, Olivet College (Michigan); M.A., 1905, Washington; Ph.D., 1912, Cornell
- BRAKEL, MARY OLGA, 1947.....Instructor in Home Economics  
B.S., 1932, M.S., 1935, Washington

- BRAUER, JOHN CHARLES, 1947.....Professor of Dentistry for Children;  
Director of Postgraduate Dental Education  
D.D.S., 1928, A.B., 1934, M.S., 1936, Nebraska
- BRAZEAU, WENDELL PHILLIPS, 1945 (1947).....Acting Instructor in Art  
B.F.A., 1933, M.F.A., 1947, Washington
- BREWER, STANLEY H., 1946.....Instructor in Economics and Business  
B.A., 1942, M.B.A., 1943, Washington
- BRIER, HOWARD MAXWELL, 1947.....Assistant Professor of Journalism  
B.A., 1925, M.Ed., 1931, Washington
- BRIGGS, JAMES ROBERT, 1947.....Associate in Accounting  
B.A., 1935, Washington
- BRIGHTBILL, LINWOOD JAMES, 1947.....Associate in Civil Engineering  
B.S., 1931, M.S., 1933, Minnesota
- BRITIN, MARIE ELEANOR, 1947.....Instructor in Speech  
B.S., 1941, Northwestern; M.A., 1942, Iowa
- BROCKMAN, CHRISTIAN FRANK, 1946.....Assistant Professor of Forestry  
B.S., 1924, Colorado State; M.S., 1931, Washington
- BROWN, LUNA BOWDOIN, 1947..Assistant Professor in the Graduate School of Social Work  
B.S., 1926, Florida State College for Women; M.A., 1937, New York University
- BROWN, MALCOLM, 1946 (1947).....Assistant Professor of English  
B.A., 1931, Washington
- BROWN, MARIE BAARSLAG, 1948.....Acting Associate in Art  
B.A., 1939, Washington
- BROWN, ROBERT QUIXOTE, 1919 (1947).....Professor of General Engineering  
B.S. in E.E., 1916, Washington
- BROWN, SHOLIE RICHARDS, 1947.....Instructor in Speech  
A.B., 1925, Wyoming; A.M., 1935, Southern California
- BROWN, STEPHEN DARDEN, 1930 (1937).....Associate Professor of Business Law  
LL.B., 1925, B.A., 1932, Washington; LL.M., 1938, Stanford
- BRUENNER, BERTRAM F., 1938 (1947).....Clinical Instructor in Dermatology  
B.S., 1926, M.D., 1929, Minnesota
- BRUMBACH, WAYNE BAKER, 1947.....Acting Instructor in Physical Education  
B.S., 1943, M.S., 1947, Washington
- BRYAN, WILLIAM SHEFFIELD, 1947.....Acting Associate in Mathematics  
B.S., 1941, Washington
- BUCKLEY, ROBERT WILLIAM, 1942.....Associate in Physical Education
- BUECHEL, HENRY THEODORE, 1946.....Assistant Professor of Economics and Business  
B.A., 1929, M.A., 1937, Washington State
- BURD, HENRY ALFRED, 1924 (1927).....Professor of Marketing  
B.S., 1910, Illinois Wesleyan; M.A., 1911, Ph.D., 1915, Illinois
- BURGESS, JANNA POTGIETER, 1937 (1947).....Assistant Professor of English  
B.A., 1912, Iowa; M.A., 1928, Washington
- BURKE, AGNES EVELYN, 1943 (1948).....Assistant Professor of Nursing  
R.N., 1930, M.A., 1941, Western Reserve; B.S., 1930, Akron Municipal University
- BURNAM, THOMAS BOND, 1946 (1947).....Associate in English  
B.A., 1936, M.A., 1937, Idaho
- BURNS, HARRY HAMILTON, 1934 (1943).....Assistant Professor of English  
B.A., 1928, Ph.D., 1935, Washington
- BURNS, KIRK LYCURGUS, 1946.....Acting Associate in Mathematics  
B.S., 1943, U. S. Naval Academy
- BURROUGHS, CARROLL ARMAND, 1947.....Acting Instructor in Anthropology  
B.A., 1940, New Mexico
- BURRUS, MARY EMMA, 1943.....Lecturer in Business Law  
B.A., 1935, LL.B., 1937, Washington
- BURUM, HENRY SHELTON, *cfc*, U.S.N., 1947.....Instructor in Naval Science
- BUTLER, CHARLES, 1945.....Lecturer in Fisheries  
B.S. in Chem., 1929, Monmouth College (Illinois)
- BUTLER, RALPH H. R., 1942 (1944).....Acting Instructor in Physics  
B.S., 1940, M.S., 1945, Washington
- BUTTERBAUGH, GRANT ILLION, 1922 (1937).....Associate Professor of Statistics  
A.B., 1916, Wisconsin; M.B.A., 1923, Washington; Ph.D., 1942, Chicago

- BUTTERWORTH, JOSEPH, JR., 1929.....Associate in English  
B.A., 1919, M.A., 1921, Brown
- BUXBAUM, EDITH, 1948.....Lecturer in the Graduate School of Social Work  
Ph.D., 1925, University of Vienna
- CADY, GEORGE HAMILTON, 1938 (1947).....Professor of Chemistry  
A.B., 1927, A.M., 1928, Kansas; Ph.D., 1930, California
- CALDWELL, MILDRED MELLERT, 1946.....Instructor in Nursing  
B.N., 1928, Lakeview Hospital (Chicago); B.S., 1940, Central YMCA College (Chicago)
- CAMBER, ROBERT LOUIS, 1947.....Clinical Instructor in Medicine  
B.A., 1939, Reed; M.D., 1943, Oregon
- CAMPBELL, ALEXANDER DUNCAN, 1946 (1947).....Clinical Instructor in Dermatology  
B.S., 1930, Whitman; M.D., 1934, Johns Hopkins
- CAMPBELL, ERNEST HOWARD, 1946.....Assistant Director of the Bureau  
of Governmental Research and Services  
A.B., 1932, LL.B., 1935, M.A., 1936, Washington; M.A., 1942, Ph.D., 1945, Harvard
- CAMPBELL, GORDON PORTIN, 1947.....Instructor in Mechanical Engineering  
B.S. in M.E., 1945, Colorado
- CAMPBELL, THOMAS HERBERT, 1945 (1946).....Assistant Professor of Civil Engineering  
B.S. in C.E., 1934, Washington; M.S. in C.E., 1938, Massachusetts Institute of Technology
- CANNON, ARTHUR MONROE, JR., 1947.....Assistant Professor of Accounting  
B.S., 1933, Oregon
- CANNON, C. VERNON, 1947.....Assistant Professor of Physics  
B.S., 1935, Virginia; Ph.D., 1940, North Carolina
- CAPPACCIO, GEORGE D., 1947.....Clinical Assistant Professor of Medicine  
M.D., 1931, Virginia
- CARLBERG, EDWARD FREDERICK, JR., 1948.....Acting Associate in Mechanical Engineering  
B.S., 1948, Washington
- CARLSON, CARL B., 1945.....Lecturer in Fisheries  
B.S. in Chem. Engr., 1935, Washington
- CARLSON, LOREN DANIEL, 1945 (1946).....Assistant Professor of Physiology;  
Assistant Dean of the School of Medicine  
B.S., 1937, St. Ambrose (Iowa); Ph.D., 1941, Iowa
- CARLSON, STELLA LUCILE, 1947 (1948).....Acting Instructor in Geography  
B.A., 1931, North Dakota State Teachers College; M.A., 1942, Ph.D., 1947, Washington
- CARPENTER, ALLEN FULLER, 1909 (1926).....Professor of Mathematics  
A.B., 1901, D.Sc., 1937, Hastings College; A.M., 1909, Nebraska; Ph.D., 1915, Chicago
- CARR, KENNETH MILLS, 1944 (1945).....Associate in Drama  
B.A., 1942, Eastern Washington College of Education; M.A., 1945, Washington
- CARRELL, JAMES AUBREY, 1939 (1947).....Professor of Speech  
A.B., 1927, Nebraska Wesleyan; M.A., 1929, Ph.D., 1936, Northwestern
- CARRELL, JOHN RAYBURN, 1948.....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1948, Washington
- CARRILLO-ESPESO, FRANCISCO E., 1948.....Acting Associate in Romance Languages  
Bachiller, 1947, San Marcos University (Lima)
- CARTWRIGHT, PHILIP WINDSOR, 1947.....Acting Assistant Professor of Labor Economics;  
Assistant Director of the Institute of Labor Economics  
A.B., 1940, M.A., 1942, Stanford
- CASTELL, ALBURY, 1947.....Visiting Professor of Philosophy  
B.A., M.A., Toronto; Ph.D., 1931, Chicago
- CEDERBERG, MARTHA, 1947.....Acting Associate in English  
A.B., 1929, Washington
- CENTENERO, ANTHONY D., 1935 (1945).....Analytical Chemist in the U.S. Bureau of Mines  
B.S. in Chem. Engr., 1934, Washington
- CHAMBER, ROBERT L., 1947.....Clinical Instructor in Medicine
- CHAPMAN, STUART WEBSTER, 1947.....Associate Professor in the Humanistic-Social  
Division, College of Engineering  
A.B., 1927, Boston University; Ph.D., 1939, Yale
- CHAPMAN, WILBERT McLEOD, 1947.....Professor of Fisheries;  
Director of the School of Fisheries  
B.S., 1932, M.S., 1933, Ph.D., 1937, Washington
- CHECOV, LOUIS, 1947.....Acting Associate in Psychology  
B.A., 1944, M.A., 1946, British Columbia

- CHEEVER, BRUCE BISSELL, 1946.....Associate in Economics and Business  
B.A., 1938, Washington
- CHENG, CH'ENG-K'UN, 1942 (1945).....Assistant Professor of Sociology  
B.A., 1931, Yenching University; M.A., 1937, Ph.D., 1946, Washington
- CHENOWETH, HARRY HOLT, 1946 (1947).....Instructor in Civil Engineering  
B.S. in C.E., 1937, Washington
- CHESSEX, JEAN CHARLES WILLIAM, 1928 (1934).....Associate Professor of  
Romance Languages  
B.A., 1920, B.D., 1922, M.A., 1925, Lausanne (Switzerland)
- CHEW, ERIC MacMILLAN, 1947.....Clinical Assistant Professor of Medicine  
B.S., 1929, Washington; M.D., 1933, Pennsylvania; M.S., 1938, Minnesota
- CHINQUE, KATHERINE MADELINE, 1947.....Instructor in Nursing  
R.N., 1931, Providence Hospital; B.S., 1946, Wayne University
- CHI WEN-SHUN, 1947.....Acting Associate in the Far Eastern Department  
B.A., 1932, Tsing Hua University
- CHIPPS, HENRY DAVIS, 1947.....Assistant Professor of Pathology;  
Acting Associate Professor of Oncology  
B.S., 1930, Alabama; M.D., 1934, University of Louisville
- 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
- CHU, SHIH CHIA, 1947.....Instructor in the Far Eastern Department  
A.B., 1928, A.M., 1931, Yenching University
- CHU, TUNG-TSU, 1947.....Research Associate in the Far Eastern Department  
B.A., 1934, M.A., 1936, Yenching University
- CHURCH, PHIL EDWARDS, 1935 (1943).....Associate Professor of Meteorology and Climatology;  
Acting Executive Officer of the Department of  
Meteorology and Climatology  
B.S., 1923, Chicago; M.A., 1932, Ph.D., 1937, Clark University
- CLANTON, JACK REED, 1947.....Assistant Professor of Civil Engineering  
B.S., 1936, Missouri School of Mines; M.S. in G.E., 1939, Pittsburgh
- CLARK, CAROL LOIS BERGTHOLD, 1946.....Associate in Zoology  
A.B., 1941, Baylor; M.S., 1945, Oklahoma
- CLARK, DONALD HATHAWAY, 1947.....Research Associate in the Engineering Experiment  
Station; Instructor in Forestry  
B.S., 1916, M.S.-F, 1917, Washington
- CLARK, EARL FRANKLIN, 1935.....Associate in Physical Education
- CLARK, ERNEST DUNBAR, 1945.....Lecturer in Fisheries  
B.A., 1908, Harvard; M.A., 1909, Ph.D., 1910, Columbia
- CLARK, LOIS, 1940.....Research Associate in Botany  
B.A., 1907, M.A., 1910, Washington; Ph.D., 1919, Minnesota
- CLEIN, NORMAN WARD, 1947.....Clinical Instructor in Pediatrics  
B.S., 1922, M.D., 1924, Northwestern
- CLEMENS, LOIS GERARD, 1947.....Associate in English  
A.B., 1935, Nebraska
- CLOUD, KENNETH ALLEN, 1946.....Associate in Music  
B.A., 1942, Washington
- CLOUGH, RAY WILLIAM, 1945.....Lecturer in Fisheries  
B.A., 1908, M.A., 1909, Tufts College; Ph.D., 1922, Washington
- CLUCK, ERNEST ROY, 1947.....Lecturer in Economics and Business  
LL.B., 1934, Washington
- COCHRAN, LYALL BAKER, 1923 (1943).....Associate Professor of Electrical Engineering  
B.S. in E.E., 1923, E.E., 1936, Washington
- CODD, JAMES EMMETT, 1947.....Acting Associate in History  
B.A., 1938, Washington
- CODLING, JOHN W., 1947.....Lecturer in Nursing  
Ph.C., 1929, B.S., 1932, Washington; M.D., 1942, Oregon
- COE, HERBERT EVERETT, 1935 (1947).....Senior Consultant in Surgery  
A.B., 1904, M.D., 1906, Michigan
- COFFMAN, GRACE MAE, 1939.....Instructor in Nursing  
B.A., 1920, Washington; R.N., 1925, Presbyterian Hospital (Chicago)
- COHEN, JAY DAVID, 1947.....Acting Associate in Psychology  
B.A., 1941, M.A., 1947, Mississippi

- COHEN, JOSEPH, 1932 (1941).....Assistant Professor of Sociology  
B.A., 1925, M.A., 1927, Washington; Ph.D., 1935, Michigan
- COLE, KENNETH CAREY, 1924 (1936).....Professor of Political Science;  
Co-director of the Institute of Public Affairs  
LL.B., 1924, Oxford; Ph.D., 1930, Harvard
- COLE, RICHARD JOSEPH, 1946.....Acting Instructor in Civil Engineering  
B.S., 1942, Washington; M.S., 1943, Massachusetts Institute of Technology
- COLE, THOMAS RAYMOND, 1930....Professor of Educational Administration and Supervision  
M.A., 1902, Upper Iowa; Ph.B., 1904, DePauw; LL.D., 1931, Upper Iowa
- COLE, WILLIAM DAVID, 1947.....Associate in Music  
B.S., 1946, Illinois
- COLEMAN, THOMAS BLAKE, 1947.....Assistant Professor of Psychiatry in the Graduate  
School of Social Work  
B.A., 1935, Washington; M.S., 1941, Columbia
- COLLIER, IRA LEONARD, 1919.....Assistant Professor of Civil Engineering  
B.S. in C.E., 1913, C.E., 1917, Washington
- COLLINS, FRANK HUMISTON, 1947.....Acting Associate in Mechanical Engineering
- COLLINS, JOHN DAVISON, 1947.....Clinical Instructor in Medicine  
B.S., 1933, Washington; M.D., 1937, Northwestern
- COLLINS, JUNE McCORMICK, 1947.....Acting Instructor in Anthropology  
B.A., 1941, Washington; M.A., 1946, Chicago
- COLTON, AGNES LOUISE, 1941 (1947).....Assistant Professor of English  
B.A., 1925, Whitman; M.A., 1928, Oregon; Ph.D., 1939, Washington
- CONWAY, JOHN ASHBY, 1927 (1943).....Associate Professor of Drama  
B.A., 1927, Carnegie Institute of Technology
- COOK, EARL FERGUSON, 1947.....Instructor in Geology  
B.S. in Min. Engr., 1943, M.S., 1947, Washington
- COOK, THOMAS IRA, 1939 (1945).....Professor of Political Science  
B.S., 1928, London University; Ph.D., 1937, Columbia
- COOMBS, HOWARD ABBOTT, 1934 (1943).....Associate Professor of Geology  
B.S., 1929, M.S., 1931, Ph.D., 1935, Washington
- COOPER, LEMUEL BROWNING, 1939 (1943).....Assistant Professor of Mechanical Engineering  
B.S. in M.E., 1931, Washington
- CORBALLY, JOHN EDWARD, 1927 (1942).....Professor of Secondary Education  
and Director of Cadet Teaching  
B.A., 1918, Whitworth; M.A., 1925, Ph.D., 1929, Washington
- CORNU, MAX DONALD, 1928 (1943).....Associate Professor of English  
LL.B., 1922, M.A., 1926, Ph.D., 1928, Washington
- COSTIGAN, GIOVANNI, 1934 (1948).....Professor of History  
B.A., 1926, B.Litt., 1930, M.A., 1930, Oxford; M.A., 1928, Ph.D., 1930, Wisconsin
- COSTIGAN, WARREN EVAN, 1947.....Instructor in Operative Dentistry  
D.D.S., 1947, Northwestern
- COVINGTON, DUANE MONROE, 1945.....Instructor in Forestry;  
Resident Manager at Pack Forest  
B.S.F., 1927, Washington
- COX, EDWARD GODFREY, 1911 (1947).....Professor Emeritus of English  
Editorial Consultant of the Department of English  
B.A., 1899, Wabash College; M.A., 1901, Ph.D., 1906, Cornell
- COX, TOM R., 1947.....Acting Associate in Mathematics  
B.S., 1933, College of Idaho
- COX, WILLIAM EDWARD, 1919 (1923).....Professor of Economics and Accounting  
B.A., 1909, M.A., 1910, Texas
- CRAIN, RICHARD WILLSON, 1936 (1947).....Assistant Professor of Mechanical Engineering  
B.S. in E.E., 1930, B.S. in M.E., 1931, Colorado A.M. College; M.S. in M.E.,  
1946, Washington
- CRAMLET, CLYDE MYRON, 1920 (1934).....Associate Professor of Mathematics and Astronomy  
A.B., 1916, Walla Walla; M.S., 1920, Ph.D., 1926, Washington
- CRAMPTON, JOSEPH HAMILTON, 1947.....Clinical Assistant Professor of Medicine  
B.S., 1938, University of Idaho; M.D., 1941, Vanderbilt
- CREEL, WILHELMINE SCHAEFFER, 1940 (1944).....Assistant Professor of Music  
B.M., 1927, M.M., 1929, American Conservatory of Music (Chicago); work with Bela  
Bartok and Zoltan Kodaly
- CREORE, ALVIN EMERSON, 1940 (1947).....Assistant Professor of Romance Languages  
A.B., 1934, M.A., 1936, University of Rochester; Ph.D., 1939, Johns Hopkins



- CRITTENDEN, ALDEN LARUE, 1947.....Instructor in Chemistry  
B.S., 1942, Ph.D., 1947, Illinois
- CROSS, HARRIET, 1932 (1941).....Assistant Professor of Nursing  
R.N., 1921, Columbia Hospital, Wisconsin; B.S., 1925, Minnesota; M.N., 1940, Washington
- CROSS, HARRY MAYBURY, 1943 (1945).....Associate Professor of Law  
B.A., 1936, Washington State; LL.B., 1940, Washington
- CROUCH, MIRIAM JANE, 1947.....Instructor in Nursing  
A.B., 1939, Marietta College; M.N., 1942, Western Reserve; M.S., 1947, Boston University
- CROWELL, THOMAS, 1947.....Clinical Associate in Anatomy  
A.B., 1935, North Carolina; M.D., 1940, Washington University (St. Louis)
- CRYSTAL, DEAN KNEELAND, 1947.....Clinical Associate in Physiology  
B.S., 1936, Washington; B.A., 1938, Oxford; M.D., 1941, Johns Hopkins
- CULBERT, SIDNEY SPENCE, 1947.....Acting Associate in Psychology  
B.A., 1943, Washington
- CURRY, EVERETT THAYER, 1947.....Associate Professor of Speech  
B.A., 1935, M.A., 1936, Ph.D., 1939, Iowa
- CURTIS, ELIZABETH LONG, 1930 (1947).....Assistant Professor of Art  
B.F.A., 1929, M.F.A., 1933, Washington
- CUTLER, RUSSELL KELSEY, 1946.....Assistant Professor of Physical Education  
B.Ed., 1930, U.C.L.A.; M.S., 1934, Oregon
- CUTTS, ROLLIN EDWARD, 1947 (1948).....Assistant Professor of Pediatrics  
B.S., 1926, M.B., 1927, M.D., 1928, Minnesota
- DAKAN, CARL SPENCER, 1919 (1923).....Professor of Corporation Finance and Investment  
B.S., 1910, Missouri
- D'AMELIO, Major GEORGE LOUIS, 1946. Assistant Professor of Military Science and Tactics  
B.S., 1940, M.A., 1941, Wisconsin
- DANIELS, JOSEPH, 1911 (1923).....Professor of Mining Engineering and Metallurgy  
S.B., 1905, Massachusetts Institute of Technology; M.S., 1908, E.M., 1933, Lehigh
- DANILOFF, MITCHELL M., 1947.....Acting Associate in the Far Eastern Department  
B.A., 1947, Washington
- DASHIELL, SAMUEL CURTIS, 1948.....Acting Associate in Geography  
B.A., 1940, Oregon; M.A., 1942, Clark University
- DAUBEN, HYP JOSEPH, JR., 1945.....Assistant Professor of Chemistry  
B.A., 1937, M.S., 1937, Ohio State; M.A., 1941, Ph.D., 1941, Harvard
- DAVID, JEAN FERDINAND, 1936.....Assistant Professor of Romance Languages  
Baccalaureat Es lettres, 1924, Sorbonne, Paris; B.A., 1929, M.A., 1932, Saskatchewan;  
Ph.D., 1936, Johns Hopkins
- DAVIES, ROBERTS JUDSON, 1947.....Clinical Assistant Professor of Medicine  
M.B., 1933, M.D., 1934, Minnesota
- DAVIS, ALANSON BEWICK, 1947.....Associate in Drama  
B.A., 1947, Washington
- DAVIS, CLARENCE D., 1947.....Clinical Associate in Physiology  
B.S., 1935, Massachusetts Institute of Technology; M.D., 1939, Johns Hopkins
- DAVIS, ERMA NELSON, 1926 (1947).....Acting Instructor in History  
B.A., 1918, University of Denver; M.A., 1924, Utah
- DAVIS, JOHN BAIRD, 1946 (1947).....Acting Instructor in Art  
B.A., 1936, M.A., 1937, Washington
- DAVIS, JOHN MacDOUGALL, 1946.....Lecturer in Law  
B.A., 1936, LL.B., 1940, Washington
- DAVIS, MERRELL REES, 1947.....Assistant Professor of English  
A.B., 1935, Whitman; M.A., 1937, Tufts
- DAY, EMMETT ELBERT, 1947.....Instructor in Mechanical Engineering  
B.A., 1936, East Texas State Teachers College; B.S., 1945, M.S., 1947, Massachusetts  
Institute of Technology
- DEERING, WILLIAM V. B., 1947.....Clinical Instructor in Pediatrics  
B.S., 1933, Washington; M.B., 1937, M.D., 1938, Northwestern
- de GREIFF, CARLOS, 1947.....Acting Associate in Romance Languages  
Bachiller, 1943, Academia Militar De Ramirez
- DEHN, WILLIAM MAURICE, 1907 (1947).....Professor Emeritus of Organic Chemistry;  
Research Consultant in the Department of Chemistry  
A.B., 1893, A.M., 1896, Hope College (Michigan); Ph.D., 1903, Illinois
- De LACY, ALLAN CLARK, 1946 (1947).....Assistant Professor of Fisheries  
B.S., 1932, M.S., 1933, Ph.D., 1941, Washington

- de la VEGA, ELIAS GAMALIEL, 1947..... Acting Associate in Romance Languages  
Bachiller, 1939, Colegio Nacional de Catamarca
- De MARSH, QUIN BERNARD, 1947..... Assistant Professor of Anatomy  
B.S., 1935, Washington; M.S., 1939, M.B., 1940, M.D., 1941, Northwestern
- DEMERY, JOSEPH, 1928 (1934)..... Professor of Economics and Business  
Ph.B., 1920, M.A., 1924, Chicago
- DENNY, GRACE GOLDENA, 1913 (1934)..... Professor of Home Economics  
B.A., 1907, Nebraska; M.A., 1919, Columbia
- DENNY, KATHERINE ELIZABETH, 1945..... Instructor in Mines  
B.A., 1941, Washington; M.A., 1943, Ohio State
- DENSMORE, HARVEY BRUCE, 1907 (1933)..... Professor of Greek; Chairman, General Studies;  
Executive Officer of the Dept. of Classical Languages and Literature  
A.B., 1903, Oregon; A.B., 1907, Oxford
- de VRIES, MARY AID, 1921 (1939)..... Associate Professor of Physical Education  
B.A., 1920, Wisconsin
- DEWEY, LEONARD A., 1946.... Clinical Instructor in Public Health and Preventive Medicine  
B.S., 1921, M.D., 1928, Nebraska
- DIETZ, ROBERT HENRY, 1947..... Instructor in Architecture  
B.S., 1941, Washington; M.Arch., 1944, Massachusetts Institute of Technology
- DILLE, JAMES MADISON, 1936 (1941)..... Professor of Pharmacology;  
Executive Officer, Department of Pharmacology  
B.S., 1930, M.S., 1933, Nebraska; Ph.D., 1935, Georgetown; M.D., 1946, Illinois
- DIRSTINE, MORRIS JOHN, 1946..... Clinical Associate in Anatomy  
Ph.G., 1926, Washington State; B.S., 1932, Ph.C., 1932, Washington;  
M.D., 1937, Northwestern
- DOBIE, EDITH, 1926 (1937)..... Associate Professor of History  
B.A., 1914, Syracuse; A.M., 1922, Chicago; Ph.D., 1925, Stanford
- DOCTER, JACK MERTON, 1947..... Lecturer in Nursing  
B.S., 1937, Washington; M.D., 1941, Columbia
- DODD, STUART CARTER, 1947..... Professor of Sociology; Director of the  
Washington Public Opinion Laboratory  
B.S., 1922, M.A., 1924, Ph.D., 1926, Princeton
- DONALDSON, LAUREN RUSSELL, 1935 (1945)..... Associate Professor of Fisheries  
A.B., 1926, Intermountain Union College; M.S., 1931, Ph.D., 1939, Washington
- DONLAN, Major JAMES DAMIAN, Jr., 1946..... Assistant Professor of  
Military Science and Tactics  
A.B., 1935, M.B.A., 1939, Stanford
- DORLAND, EDISON GRAHAM, 1946..... Lecturer in Nursing  
B.S., 1931, M.B., 1936, M.D., 1937, Northwestern; M.A., 1933, Utah
- DOUGLAS, HOWARD CLARK, 1941 (1943)..... Assistant Professor of Microbiology  
A.B., 1936, Ph.D., 1942, California
- DOUGLASS, CLARENCE EADER, 1939 (1945)..... Assistant Professor of General Engineering  
B.S. in C.E., 1927, Washington State
- DOUGLASS, DAVID ROBERT, 1947..... Instructor in General Engineering  
B.S. in A.E., 1946, Washington
- DRAPER, EDGAR MARION, 1925 (1936)..... Professor of Secondary Education; Executive  
Officer of the Department of In-Service Teacher Training in the  
Division of Adult Education and Extension Services  
B.A., 1916, M.A., 1925, Ph.D., 1926, Washington
- DRAPER, OSCAR ELDRIDGE, 1920 (1923)..... Lecturer in Accounting  
M.Acct., 1902, Vories Business College (Indianapolis)
- DRESSLAR, MARTHA ESTELLA, 1918 (1937)..... Associate Professor of Home Economics  
A.B., 1913, Southern California; B.S., 1917, Washington; M.S., 1918, Columbia
- DRESSLER, MARGUERITE RUTH, 1947..... Acting Associate in Psychology  
A.B., 1941, M.A., 1943, Florida State College for Women
- DUCHOW, ESTHER ALWINE, 1940..... Associate in Microbiology  
B.S., 1934, Washington
- DUCKETT, MARGARET RUTH, 1947..... Instructor in English  
A.B., 1926, Winthrop College (South Carolina); M.A., 1941, North Carolina
- DUDLEY, HOMER DANIEL, 1947..... Senior Consultant in Surgery  
M.D., 1902, Northwestern
- DUNCAN, GEORGE WALTON, 1948..... Assistant Professor of Surgery  
M.D., 1938, Emory

- DUNLOP, HENRY ADAM, 1931 (1947).....Acting Professor of Fisheries  
B.A., 1919, M.A., 1922, British Columbia
- Du PEN, EVERETT, 1945 (1947).....Assistant Professor of Art  
B.F.A., 1937, Yale
- DURAND, JAY ISAAC, 1947.....Senior Consultant in Pediatrics  
B.A., 1902, Minnesota; M.D., 1905, Vienna
- DURHAM, MILTON, 1947.....Clinical Associate in Anatomy  
B.S., 1936, M.D., 1939, Oregon
- DUSENBERY, BEA BOE, 1946 (1947).....Associate in English  
A.B., 1939, Whitman; M.A., 1946, Washington
- DUTTON, HARRY HORACE, 1938.....Lecturer in Nursing  
M.D., 1914, Vermont
- DVORAK, AUGUST, 1923 (1937).....Professor of Education;  
Director of Admissions Research in the Bureau of Testing  
B.A., 1920, Ph.D., 1923, Minnesota
- DWINNELL, JAMES HERBERT, 1941 (1945)....Ass't Professor of Aeronautical Engineering  
B.S. in A.E., 1939, Washington
- DYER, MARGARET THEKLA, 1947.....Instructor in Botany  
B.S., 1943, M.S., 1945, Washington; Ph.D., 1947, Cornell
- \*EARLE, FRANCES M., 1931 (1941).....Associate Professor of Geography  
B.A., 1918, Winthrop College (South Carolina); M.S., 1926, Columbia; Ph.D., 1929,  
George Washington
- EASTMAN, AUSTIN VITRUVIUS, 1924 (1942).....Professor of Electrical Engineering  
Executive Officer of the Department of Electrical Engineering  
B.S. in E.E., 1922, M.S., 1929, Washington
- EASTMAN, FLOREEN GLOVER, 1943 (1947).....Acting Instructor in Mathematics  
A.B., 1923, Nebraska
- EASTMAN, FRED SCOVILLE, 1927 (1946).....Professor of Aeronautical Engineering;  
Executive Officer of the Aeronautical Engineering Department  
B.S. in E.E., 1925, Washington; M.S., 1929, Massachusetts Institute of Technology
- EASTON, DEXTER MORGAN, 1947.....Instructor in Zoology  
A.B., 1943, Clark University; M.A., 1944, Ph.D., 1947, Harvard
- EASTWOOD, EVERETT OWEN, 1905 (1947).....Professor Emeritus of Mechanical Engineering;  
Research Consultant  
C.E., 1896, B.S., 1897, A.B., 1899, A.M., 1899, Virginia;  
B.S., 1902, Massachusetts Institute of Technology
- EBY, EDWIN HAROLD, 1927 (1947).....Professor of English  
Ph.B., 1923, Chicago; Ph.D., 1927, Washington
- ECKELMAN, ERNEST OTTO, 1911 (1947).....Professor Emeritus of Germanic Literature  
Librarian in Germanics  
B.A., 1897, Northwestern; B.L., 1898, Wisconsin; Ph.D., 1906, Heidelberg
- EDELSTEIN, LUDWIG, 1947.....Acting Associate Professor of Classics  
Ph.D., 1929, Heidelberg
- EDMONDS, HENRY WOLFNER, 1947.....Clinical Instructor in Pathology  
A.B., 1931, M.D., 1936, Washington University (St. Louis)
- EDMUNDSON, CLARENCE SINCLAIR, 1920.....Associate in Physical Education  
B.S.A., 1910, Idaho
- EDWARDS, ALLEN L., 1944.....Associate Professor of Psychology  
B.A., 1937, Central College (Chicago); M.A., 1938, Ohio State; Ph.D., 1940, Northwestern
- EGGERS, HAROLD E., 1948.....Clinical Associate in Anatomy  
B.S., 1933, M.D., 1937, Nebraska
- EGGERS, ROLF VAN KERVAL, 1942 (1947).....Clinical Instructor in Medicine  
B.A., B.S., 1930, North Dakota; M.D., 1933, Chicago
- EICHINGER, WALTER A., 1936 (1945).....Assistant Professor of Music  
B.M., 1932, M.M., 1933, Northwestern
- EKLIND, HERINA IDA, 1946.....Assistant Professor of Nursing  
R.N., 1917, Ravenswood Hospital, Chicago
- ELDRIDGE, RUTH, 1947.....Associate in English  
A.B., 1939, Central Washington College of Education
- ELLERBROOK, LESTER DAMON, 1946.....Assistant Professor of Pathology  
A.B., 1932, Hope College (Michigan); Ph.D., 1936, New York University

- ELLIOT, PAUL R., 1947.....Lecturer in Fisheries  
B.S., 1940, Washington
- ELMENDORF, WILLIAM WELCOME, 1946 (1947).....Instructor in Anthropology  
B.A., 1934, M.A., 1935, Washington
- EMERSON, DONALD EUGENE, 1946.....Assistant Professor of History  
A.B., 1937, Ph.D., 1942, Johns Hopkins; M.A., 1938, Columbia
- EMERY, DONALD WILLIAM, 1934 (1947).....Assistant Professor of English  
B.A., 1927, M.A., 1928, Iowa
- EMORY, Captain CAMPBELL DALLOS, U.S.N., 1947.....Professor of Naval Science  
B.S., Annapolis, 1921
- ENGEL, ERNEST DIRCK, 1934 (1941).....Assistant Professor of General Engineering;  
Assistant to the Dean  
B.S. in E.E., 1930, Washington
- ENGLE, NATHANAEL HOWARD, 1941.....Professor of Economics and Business;  
Director of Bureau of Business Research  
B.A., 1925, M.A., 1926, Washington; Ph.D., 1929, Michigan
- ENQUIST, LUCILLE C., 1944 (1946).....Instructor in Speech  
B.A., 1937, M.A., 1941, Washington
- ERICKSON, HARVEY D., 1947.....Associate Professor of Forest Products  
B.S., 1933, B.S., 1934, M.S., 1936, Ph.D., 1937, Minnesota
- ERIKSEN, GOSTA, 1942.....Associate in Physical Education  
B.A., 1939, Washington
- ESPEDAL, BIRGER ROLE, 1947.....Lecturer in Economics and Business  
A.B., 1941, LL.B., 1947, Washington
- ESPER, ERWIN A., 1927 (1934).....Professor of Psychology  
B.A., 1917, M.A., 1920, Ph.D., 1923, Ohio State
- ESTEVEZ, NELSON GERALDO, 1946 (1947).....Acting Instructor in Romance Languages  
B.A., 1945, California
- ETHEL, GARLAND ORAL, 1927 (1947).....Assistant Professor of English  
B.A., 1923, M.A., 1927, Ph.D., 1928, Washington
- EVANS, CHARLES ALBERT, 1946.....Professor of Microbiology;  
Executive Officer of Department of Microbiology  
B.S., 1935, B.M., 1936, M.D., 1937, Ph.D., 1942, Minnesota
- EVANS, DONALD, 1947.....Clinical Instructor in Pediatrics  
M.D., 1929, Iowa
- EVANS, ELEANOR, 1944 (1946).....Assistant Professor and Acting Director of Nursery School  
B.S., 1934, Illinois; M.E., 1937, Winnetka
- EVANS, MERRILL De VON, 1946.....Lecturer in Nursing  
A.B., Kansas State Teachers College; M.D., Kansas
- EVANS, PHILIP MAURICE MOODY, 1947.....Acting Associate in English  
B.A., 1946, Washington
- EVEREST, HAROLD PHILIP, 1940 (1945).....Professor of Journalism;  
Director, School of Journalism  
B.A., 1938, Washington
- EVERETT, NEWTON BENNIE, 1946.....Assistant Professor of Anatomy  
B.S., 1937, M.S., 1938, North Texas State College; Ph.D., 1942, Michigan
- EWING, ETHEL ELIZABETH, 1947.....Assistant Professor of Far Eastern Education  
B.A., 1928, Muskingum College; M.A., 1936, Radcliffe; Ph.D., 1944, Cornell University
- EYERLY, GEORGE BROWN, 1947.....Assistant Professor of Mineral Engineering  
B.S., 1940, Illinois; M.S., 1941, Washington
- FAIMAN, ROBERT NEIL, 1947.....Acting Associate in Electrical Engineering  
B.S. in E.E., 1947, North Dakota Agricultural College
- FALKNER, JUDSON FAHNESTOCK, 1936.....Professor of Law; Dean of the School of Law  
B.S., 1917, LL.B., 1919, Washington
- FARAH, ALFRED EMIL, 1947.....Assistant Professor of Pharmacology  
B.A., 1937, M.D., 1940, American University of Beirut (Lebanon)
- FARNER, LLOYD MARVIN, 1946 (1947).....Assistant Professor of Public Health  
and Preventive Medicine  
A.B., 1930, M.D., 1936, C.P.H., 1937, California
- FARQUHARSON, FREDERICK BURT, 1925 (1940).....Professor of Civil Engineering;  
Director of Engineering Experiment Station  
B.S. in M.E., 1923, M.E., 1927, Washington

- \*FARWELL, Capt. RAYMOND FORREST, U.S.N.R., 1921 (1940) . . . . . Professor of Transportation;  
Assistant Professor of Naval Science  
B.A., 1920, California; M.A., 1926, Washington
- FEATHERSTONE, MARION, 1946 . . . . . Assistant Professor of Home Economics  
B.S., 1925, Idaho; M.A., 1931, Southern California
- FEI, EDWARD, 1947 (1948) . . . . . Acting Associate in Economics and Business  
B.A., 1941, St. John's University (Shanghai)
- FELTON, VIRGINIA ELLEN, 1943 . . . . . Instructor in Nursing  
R.N., 1936, Toronto General Hospital; B.S. in Nursing, 1943, Washington
- FERGUSON, FREDERICK FERDINAND, 1946 . . . . . Assistant Professor of Zoology  
A.B., 1932, M.S., 1934, Tennessee; Ph.D., 1938, Virginia
- FERGUSON, GRACE BEALS, 1941 (1945) . . . . . Professor of Medical Social Work;  
Director, Graduate School of Social Work  
A.B., 1917, Minnesota; M.A., 1930, Indiana
- FERNALD, ROBERT LESLIE, 1945 (1947) . . . . . Assistant Professor of Zoology  
A.B., 1937, Monmouth College (Illinois); Ph.D., 1941, California
- FETTERLY, FLOYD COCHRAN, 1947 . . . . . Acting Instructor in Chemical Engineering  
B.S. in Chem.E., 1940, M.S., 1941, Washington
- FEY, LOUIS D., 1947 . . . . . Clinical Instructor in Medicine  
B.S., 1934, Washington; M.B., 1938, M.D., 1939, Northwestern
- FINLEY, JOHN A., 1946 . . . . . Instructor in Mines  
B.S. in Met. Engr., 1939, Michigan College of Mines
- FISCHER, LOUIS, 1929 (1945) . . . . . Professor of Pharmaceutical Chemistry  
B.S., Ph.C., 1926, M.S., 1928, Ph.D., 1933, Washington
- FISH, ANDREW, 1947 . . . . . Acting Professor of History  
B.A., 1920, M.A., 1921, Oregon; Ph.D., 1923, Clark University
- FISHER, JAMES HAYDEN, 1945 (1947) . . . . . Instructor in General Engineering  
B.S. in M.E., 1944, B.S. in E.E., 1947, Washington
- FITZMAURICE, BERTRAND T., 1946 . . . . . Clinical Associate in Anatomy  
B.S., 1930, Washington; M.D., 1934, Northwestern
- FLEISCHHAUER, JANET ELLEN, 1947 . . . . . Acting Associate in Romance Languages  
B.A., 1945, Oregon; A.M., 1946, Oberlin
- FLEMING, JULIA, 1948 . . . . . Instructor in Nursing  
B.S., 1947, Colorado
- FLOTHOW, PAUL G., 1940 . . . . . Lecturer in Nursing  
B.S., 1921, Nebraska; M.D., 1923, Pennsylvania; M.S., 1927, Minnesota
- FLOYD, EDITH HILMA, 1946 (1947) . . . . . Acting Instructor in Economics and Business  
B.A., 1944, Washington; M.A., 1946, Radcliffe
- FOOTE, EARLE GARVIN, 1947 . . . . . Instructor in Mechanical Engineering  
S.B., 1942, S.M., 1946, Massachusetts Institute of Technology
- FOOTE, HOPE LUCILE, 1923 (1937) . . . . . Associate Professor of Interior Design  
A.B., 1920, Iowa State Teachers College; M.A., 1923, Columbia
- FOOTE, LEONE La VERNE, 1946 . . . . . Clinical Professor of Dentistry;  
Special Lecturer in Nomenclature  
B.S., 1929, D.M.D., 1929, Oregon
- FOOTE, REBECCA GIBSON, 1947 . . . . . Acting Associate in Zoology  
B.A., 1935, Mills
- FORBES, ROBERT D., 1947 . . . . . Senior Consultant in Surgery  
M.B., 1903, McGill
- FORDON, JOHN VIVIAN, 1935 (1946) . . . . . Lecturer in Economics and Business  
U.B.A., 1931, M.B.A., 1934, Washington
- FORREST, MARSHALL, 1948 . . . . . Lecturer in Economics and Business  
B.S., Northwestern; J.D., 1947, Chicago
- FORSBERG, RUTH ELLEN, 1947 . . . . . Instructor in Nursing  
B.S.L., 1918, Rockford College
- FOUBERT, EDWARD L., 1947 . . . . . Instructor in Microbiology
- FOUTS, JOHN D., 1947. Clinical Assistant Professor of Public Health and Preventive Medicine  
B.S., 1932, E. Kentucky State Teachers College; M.D., 1936, University of Louisville
- FOX, KATHARINE S., 1945 . . . . . Instructor in Physical Education  
B.S., 1938, Washington; M.S., 1943, Oregon

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B.S., 1922, Washington; M.D., 1926, Washington University (St. Louis)
- FRANZKE, ALBERT LEONARD, 1936 (1939).....Associate Professor of Speech  
B.A., 1916, M.A., 1923, Lawrence
- FREEMAN, VICTOR JULIUS, 1947.....Instructor in Public Health and Preventive Medicine  
B.A., 1941, British Columbia; M.D., 1945, Toronto
- FREIN, PIERRE JOSEPH, 1903 (1947).....Professor Emeritus of Romance Languages  
A.B., 1892, Williams College (Massachusetts); Ph.D., 1899, Johns Hopkins
- FRENCH, GRACE MARIAN, 1947.....Research Associate in the Graduate School  
B.A., 1945, Maryland
- FRITTER, Commander CHARLES TAYLOR, U.S.N., 1946..Associate Professor of Naval Science  
B.S., 1933, U.S. Naval Academy
- FROST, VERNON R., 1945 (1946).....Associate Professor of Journalism  
B.A., 1926, Washington
- FRYE, THEODORE CHRISTIAN, 1903 (1947).....Professor Emeritus of Botany;  
Research Consultant in the Department of Botany  
B.S., 1894, Illinois; Ph.D., 1902, Chicago
- FULLER, RICHARD EUGENE, 1930 (1940).....Research Professor of Geology  
Ph.B., 1921, Yale College, Sheffield Scientific School; B.S., 1924, M.S., 1925, Ph.D., 1930,  
Washington
- FULLER, STEVEN D., 1946 (1947).....Acting Instructor in Art  
B.A., 1939, Washington
- GALLAGHER, MARIAN GOULD, 1944.....Law Librarian and Assistant Professor of Law  
B.A., 1935, LL.B., 1937, B.A. in L.S., 1939, Washington
- GANZER, VICTOR MARTIN, 1947.....Assistant Professor of Aeronautical Engineering  
B.A., 1933, Augustana College (Illinois); B.S. in Aero. Engr., 1941, Washington
- GARCIA-PRADA, CARLOS, 1925 (1939).....Professor of Spanish  
Ph.B., 1918, Colegio del Rosario (Bogota); A.M., 1924, Michigan;  
Ph.D., 1929, Universidad Nacional (Bogota)
- GARFIELD, VIOLA EDMUNDSON, 1937 (1945).....Assistant Professor of Anthropology  
B.A., 1928, M.A., 1931, Washington; Ph.D., 1939, Columbia
- GATES, CHARLES MARVIN, 1936 (1943).....Associate Professor of History  
B.A., 1926, Yale; M.A., 1928, Harvard; Ph.D., 1934, Minnesota
- GEBALLE, RONALD, 1946.....Assistant Professor of Physics  
B.S., 1938, M.A., 1940, Ph.D., 1943, California
- GEISSMAR, ELSE JOHANNA-MARIE, 1947.....Instructor in Music  
M.M., 1944, Michigan
- GERAGHTY, THOMAS PETER, 1947.....Clinical Instructor in Medicine  
B.S., 1934, Washington; M.D., 1939, Oregon
- GERALD, CURTIS FRANKLIN, 1947.....Assistant Professor of Chemical Engineering  
B.S., 1936, Iowa State College; M.S., 1938, Cincinnati; Sc.D., 1941, Massachusetts  
Institute of Technology
- GERMAN, WILLIAM MYNDERT, 1946.....Clinical Instructor in Operative Dentistry  
B.S., D.D.S., 1943, Southern California
- GERSHEVSKY, NOAH DAVID, 1943 (1947).....Assistant Professor in the Far  
Eastern Department  
B.S. in Met., 1930, Montana School of Mines
- GIBB, WILLIAM KENNETH, 1947.....Acting Associate in Mechanical Engineering
- GIEDT, WALVIN R., 1946.....Clinical Instructor in Public Health and Preventive Medicine  
B.S., 1932, South Dakota; M.D., 1937, Rush Medical College (Chicago);  
M.P.H., 1941, Johns Hopkins
- GILL, DOROTHY.....Clinical Instructor in Medicine  
B.S., 1931, M.S., 1932, Washington; M.D., 1938, Washington University (St. Louis)
- GILLETTE, ALLETTA MARIA, 1912 (1947).....Assistant Professor of English  
A.B., 1907, Cmth; M.A., 1911, Washington
- GILLINGHAM, JOHN BENTON, 1947.....Assistant Professor of Labor  
A.B., 1939, Washington State; M.A., 1941, Wisconsin
- GILMORE, JAMES JOSEPH, 1947.....Acting Associate in Art  
B.A., 1938, M.A., 1939, Washington
- GITLER, ROBERT LAURENCE, 1946.....Associate Professor of Librarianship;  
Director of the School of Librarianship  
A.B., 1930, Graduate Certificate in Librarianship, 1931, California; M.S., 1939, Columbia

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and in the Humanistic-Social Division of the College of Engineering  
B.S. in C.E. and N.S., 1945, Washington
- GOFORTH, EUGENE GEORGE, 1948.....Clinical Instructor in Psychiatry  
B.S., 1937, Illinois Wesleyan; M.D., 1941, Illinois
- GOGGIO, CHARLES, 1920 (1936).....Professor of Romance Languages  
A.B., 1910, Harvard; A.M., 1914, Ph.D., 1919, Wisconsin
- GOLDBERG, LEONARD D., 1947.....Assistant Professor of Business Law  
A.B., 1943, J.D., 1945, Chicago
- GOLDIE, JOHN HARRISON, 1948.....Associate in Electrical Engineering  
B.S. in E.E., Washington
- GOOD, LE ROY VINCENT, 1947.....Acting Associate in Mathematics  
B.S., 1933, Montana State; M.A., 1940, Washington
- GOODRICH, FOREST JACKSON, 1914 (1934).....Professor of Pharmacognosy;  
State Chemist; Dean of the College of Pharmacy  
Ph.C., 1913, B.S., 1914, M.S., 1917, Ph.D., 1927, Washington
- GOODSPEED, GEORGE EDWARD, 1919 (1934).....Professor of Geology;  
Executive Officer of the Department of Geology  
B.S. in Min.E., 1910, Massachusetts Institute of Technology
- GOSE, J. GORDON, 1946.....Professor of Law  
B.A., 1926, Whitman; LL.B., 1928, Washington
- GOWEN, HERBERT HENRY, 1909 (1944).....Professor Emeritus of Oriental Studies  
St. Augustine's College (Canterbury); D.D., 1912, Whitman
- GOWEN, LANCE EDWARD, 1924 (1937).....Professor of Architecture  
B.A. in Arch., 1916, M.A. in Arch., 1921, Gr. Arch., 1922, California
- GRAF, HUBERT A., 1936.....Associate in Music
- GRAMM, WARREN STANLEY, 1947.....Associate in Economics and Business  
B.A., 1944, Washington
- GRATZER, LOUIS BERNARD, 1947.....Instructor in Aeronautical Engineering;  
Research Associate  
B.S. in A.E., 1944, Washington
- GRAY, FLORENCE IRENE, 1945.....Instructor in Nursing  
R.N., B.S.N., 1945, Washington
- GRAY, MARGARET LUCILE, 1948.....Instructor in Nursing  
B.S. in Nursing, 1943, Washington
- GRAY, ROBERT SIMPSON, 1939 (1947).....Instructor in Drama  
B.A., 1936, M.A., 1938, Washington
- GRAYUM, HELEN STOLTE, 1947.....Acting Instructor in Speech  
A.B., 1933, Nebraska State Teachers College; M.A., 1935, Iowa
- GREEN, ALVIN WARREN, 1947.....Instructor in Public Health and Preventive Medicine  
and Acting Public Engineer  
B.S. in C.E., 1940, Iowa
- GREEN, DANIEL MARIE, 1946.....Associate Professor of Experimental Medicine  
and Therapeutics  
A.B., 1931, Fordham; M.S., 1935, New York University; M.D., 1938, New York  
Medical College
- GREEN, MILTON DOUGLAS, 1945.....Professor of Law  
B.A., 1926, J.D., 1928, Michigan; LL.M., 1938, Jur. Sc.D., 1943, Columbia
- GREGG, JOHN ANDREW, 1947.....Acting Associate in Electrical Engineering  
B.S. in E.E., 1945, Washington
- GREGORY, HOMER EWART, 1920 (1933).....Professor of Management and Accounting  
A.B., 1914, Washington State; M.A., 1917, Chicago
- GREGORY, NORMAN WAYNE, 1946 (1947).....Assistant Professor of Chemistry  
B.S., 1940, M.S., 1941, Washington; Ph.D., 1943, Ohio State
- GRIFFITH, DUDLEY DAVID, 1924 (1927).....Professor of English  
B.A., 1903, Simpson College (Iowa); Ph.D., 1916, Chicago
- GRIFFITHS, KEITH S., 1947.....Acting Associate in Sociology  
B.A., 1947, Washington
- GRINICH, VICTOR HENRY, 1947.....Associate in Electrical Engineering  
B.S. in E.E., 1945, Washington
- GRISWOLD, MANZER, 1946 (1947).....Supervisor of the Washington  
Public Opinion Laboratory  
B.S., 1940, Montana

*Alphabetical List of the Faculty*

- GRONDAL, BROR LEONARD, 1913 (1929).....Professor of Forestry  
B.A., 1910, Bethany College; M.S.F., 1913, Washington; D.Sc., 1943, Bethany  
College (Kansas)
- GROVES, ELIZABETH ALICE, 1945.....Assistant Professor of Librarianship  
B.A., 1929, British Columbia; B.S. in L.S., 1930, Washington
- GUBERLET, MURIEL LEWIN, 1943 (1946).....Instructor in English  
A.B., 1910, Bethany College (Kansas); A.M., 1928, Washington
- GUIDON, MICHAEL, III, 1946 (1947).....Instructor in Mechanical Engineering  
B.S. in M.E., 1942, Lehigh
- GULLIKSON, ALBERT CLARENCE, 1942 (1947).....Assistant Professor of General Engineering  
B.S. in M.E., 1924; M.E., 1938, Washington
- GUNDLACH, RALPH HARRELSON, 1927 (1937).....Associate Professor of Psychology  
B.A., 1924, M.A., 1925, Washington; Ph.D., 1928, Illinois
- GUNN, ELIZABETH, 1946.....Assistant Professor of Physical Education  
B.S., 1923, Washington; M.D., 1927, Oregon
- 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
- GUSTAFSON, PAUL VICTOR, 1948.....Assistant Professor of Microbiology  
B.S., 1936, Whitworth; M.S., 1937, Ph.D., 1942, Illinois; M.D., 1947, Chicago
- GUTHRIDGE, JANE, 1947.....Instructor in Nursing  
R.N., B.S., 1942, Washington
- GUTHRIE, EDWIN RAY, 1914 (1928).....Professor of Psychology; Dean of the Graduate School;  
Executive Officer in Charge of Academic Personnel  
A.B., 1907, A.M., 1910, Nebraska; Ph.D., 1912, Pennsylvania; LL.D., 1945, Nebraska
- GUY, PERCY, 1947.....Clinical Instructor in Pediatrics  
M.D., 1922, Illinois; M.P.H., 1938, Harvard
- HAAGA, AGNES MARIE, 1947.....Instructor in Drama;  
Extension Representative in the Division of Adult Education  
B.A., 1936, Siena College (Tennessee)
- HAASE, MYRTLE ELIZABETH, 1947.....Instructor in Nursing  
B.S., 1936, Wayne University
- HADDOCK, PHILIP GEORGE, 1947.....Assistant Professor of Forestry  
B.S., 1934, Ph.D., 1942, California
- HAERTIG, ELMER WALTER, 1948.....Clinical Instructor in Psychiatry  
M.D., 1939, Chicago
- HAFFLY, GILBERT, 1948.....Clinical Associate in Anatomy  
B.M., 1932, M.D., 1936, Northwestern
- HAGEN, WILLIAM H., 1947.....Clinical Professor of Dental Ceramics  
D.D.S., 1920, Minnesota
- HAGER, PHILIP ERNEST, 1947.....Associate in English  
B.A., 1939, M.A., 1946, Washington
- HALD, EARL CARLSEN, 1946 (1947).....Associate Professor of Economics and Business  
B.S., 1931, A.M., 1932, Nebraska; Ph.D., 1939, California
- HALL, AMY VIOLET, 1924 (1947).....Associate Professor in the Humanistic-Social Division  
of the College of Engineering  
B.Ed., 1920, M.A., 1923, Ph.D., 1940, Washington
- HALL, DAVID CONNOLLY, 1908 (1947).....Professor Emeritus of Hygiene and  
Assistant Health Officer  
Ph.B., 1901, Brown; Sc.M., 1903, Chicago; M.D., 1907, Rush Medical College;
- HALL, GEORGE DONOVAN, 1947.....Associate in Electrical Engineering  
B.S., 1946, Washington
- HALL, HELEN MARIE, 1931 (1943).....Associate Professor of Music  
B.M., 1925, Washington
- HALL, JAMES KENDALL, 1930 (1934).....Professor of Public Utilities and Public Finance  
B.A., 1925, M.A., 1926, Oregon; Ph.D., 1929, Stanford
- HALL, S. WARREN, III, 1947.....Clinic Physician in the University Health Service  
B.A., 1927, Swarthmore; M.A., 1928, Ph.D., 1933, Pennsylvania; M.D., 1943, Syracuse
- HALL, WALTER ALEXIS, JR., 1947.....Instructor in Prosthetics  
B.S., D.D.S., 1938, Southern California
- HALLER, MARY ELIZABETH, 1931 (1941).....Assistant Professor of Mathematics  
and Astronomy  
B.A., 1924, M.S., 1931, Ph.D., 1934, Washington



- HALLOCK, BARBARA DRUSCILLA, 1948.....Instructor in Nursing  
B.S., 1940, Washington
- HAMACK, FRANK HARTMOND, 1921 (1942).....Lecturer in Accounting  
LL.B., 1916, Georgetown
- HAMMER, VERNON BENJAMIN, 1947.....Instructor in General Engineering  
B.S. in C.E., 1940, Washington; M.S., 1941, Harvard
- HAMPSON, ROBERT EDWARDS, 1946.....Clinical Professor of Operative Dentistry;  
Executive Officer of the Department of Operative Dentistry  
D.M.D., 1917, North Pacific College
- HANAHAN, DONALD JAMES, 1948.....Instructor in Chemistry  
B.S., 1941, Ph.D., 1944, Illinois
- HANKS, THRIFT GENE, 1947.....Clinical Instructor in Medicine  
B.S., 1941, M.S., M.D., 1939, Illinois
- HANOT, WILLIAM, 1948.....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1947, Washington
- HANSET, HERBERT EUGENE, 1947.....Assistant Professor of Naval Science  
B.A., 1938, Washington
- HANSON, KERMIT OSMOND, 1948.....Assistant Professor of Accounting and Statistics  
A.B., 1938, Luther College (Iowa); M.S., 1940, Iowa State
- HAPP, NINA MAURINE, 1945.....Lecturer in Economics and Business  
B.A., 1930, Northwestern; M.B.A., 1937, Chicago
- HARDT, JOHN P., 1948.....Associate in Economics and Business  
B.A., 1945, Washington
- HARDY, MARTHA ELIZABETH, 1943 (1946).....Associate in Mathematics  
B.A., 1929, Washington
- HARKINS, HENRY NELSON, 1947.....Professor of Surgery;  
Executive Officer of the Department of Surgery  
B.S., 1925, M.S., 1926, Ph.D., 1928, M.D., 1931, Chicago
- HARPER, FLORA GWENDOLINE, 1947.....Associate in Music  
B.A., 1946, M.A., 1947, Washington
- HARRINGTON, DONAL FRANCIS, 1938 (1947).....Associate Professor of Drama  
B.A., 1928, Montana; M.A., 1933, Columbia
- HARRIS, CHARLES WILLIAM, 1906 (1924).....Professor of Hydraulic Engineering  
B.S. in C.E., 1903, Washington; C.E., 1905, Cornell University
- HARRIS, EDISON D., 1947.....Associate Professor of Music  
B.S., 1942, New York University
- HARRIS, FLORENCE RING, 1947.....Associate in the Nursery School  
B.A., 1931, Washington
- HARRIS, GLEN ALFRED, 1946 (1947).....Associate in English  
B.S., 1923, M.A., 1924, Colgate
- HARRIS, MARKHAM, 1946 (1947).....Assistant Professor of English  
A.B., 1929, M.A., 1931, Williams
- HARRISON, BEATRICE ELEANORA, 1948.....Acting Associate in Romance Languages
- HARRISON, JOSEPH BARLOW, 1913 (1933).....Professor of English  
B.A., 1910, Washington; A.B., 1913, Oxford
- HARRISON, ROGER W., 1945.....Lecturer in Fisheries  
B.S. in Chem. Engr., 1925, Washington State; M.S., 1928, George Washington
- HARSCH, ALFRED ELMER, 1930 (1940).....Professor of Law  
B.A., 1926, LL.B., 1928, Washington; LL.M., 1940, Columbia
- HARTSON, MARGARET, 1947.....Assistant Professor of Social Work and  
Consultant Counselor in the Office of Student Affairs  
B.A., 1935, M.A., 1937, Washington
- HATCH, MELVILLE HARRISON, 1927 (1941).....Professor of Zoology; Acting Executive Officer  
of the Department of Zoology  
B.A., 1919, M.A., 1921, Ph.D., 1925, Michigan
- HAUAN, MERLIN JAMES, 1928.....Lecturer in Civil Engineering  
B.S. in E.E., 1925, Washington
- HAVILAND, JAMES WEST, 1946 (1947).....Clinical Assistant Professor of Medicine  
A.B., 1932, Union College (New York); M.D., 1936, Johns Hopkins
- HAWES, EVELYN JOHNSON, 1946.....Acting Associate in Speech  
B.A., 1937, Washington

- HAYASHI, SHIZUKO, 1948.....Acting Associate in Sociology  
A.B., 1946, Sterling College (Kansas)
- HAYDEN, ALICE HAZEL WEGGE, 1942 (1946).....Associate Professor of Education  
Ph.C., 1928, B.S., M.S., 1929, Oregon State; Ph.D., 1932, Purdue
- HAYNER, NORMAN SYLVESTER, 1925 (1937).....Professor of Sociology  
B.A., 1920, Washington; A.M., 1921, Ph.D., 1923, Chicago
- HAZEN, BERNICE MERRIAM, 1948.....Lecturer in Nursing  
M.D., 1921, Tufts College
- HEARST, JOSEPH ALBERT, 1947.....Special Research Associate in the Institute  
of Public Affairs  
B.A., 1940, Washington
- HEATHERS, LOUISE B., 1945.....Assistant Professor of Psychology  
B.A., 1933, Washington; Ph.D., 1940, Yale
- HEIBERG, MALVINA MATTHEWS, 1947.....Acting Instructor in Art  
B.F.A., 1939, New York
- HEILMAN, ROBERT BECHTOLD, 1948.....Professor of English; Executive Officer  
of the Department of English  
A.B., 1927, Lafayette (Pennsylvania); M.A., 1930, Ohio State;  
M.A., 1931, Ph.D., 1935, Harvard
- HELBURG, BRUCE FREDERICK, 1945.....Associate in Journalism  
B.A., 1936, Washington
- HEMLINGE, CHARLES LOUIS, 1911 (1944).....Professor Emeritus of Romance Languages  
B.Ph., 1911, German-Wallace College, Berea; A.M., 1915, Washington
- HEMENWAY, ANSEL ARTHUR, 1947.....Assistant Professor of Humanistic-Social Studies  
in the College of Engineering  
B.A., 1937, Arizona
- HEMENWAY, ISABEL WOLFE, 1946 (1947).....Instructor in English in the Humanistic-Social  
Division of the College of Engineering  
B.A., 1909, Nebraska; M.A., 1912, Chicago
- HENDERSON, JESSE LESTER, 1948.....Clinical Instructor in Psychiatry  
B.S., 1924, Eureka College (Illinois); M.D., 1929, Washington University (St. Louis)
- HENDERSON, JOSEPH EDMONDS, 1929 (1942).....Professor of Physics;  
Director of Applied Physics Laboratory  
B.S., 1922, College of Wooster; Ph.D., 1928, Yale
- HENNES, ROBERT GRAHAM, 1934 (1947).....Professor of Civil Engineering  
B.S. in C.E., 1927, Notre Dame; M.S., 1928, Massachusetts Institute of Technology
- HENRY, BERNARD STAUFFER, 1931 (1941).....Professor of Microbiology  
B.S., 1925, M.A., 1926, Ph.D., 1931, California
- HENRY, MARJORIE RUTH, 1947.....Associate in English  
A.B., 1938, M.A., 1940, Baylor
- HENSLEY, MERDECES HOOVER, 1939 (1945).....Instructor in Art  
B.F.A., 1930, M.F.A., 1938, Washington
- HERMANS, THOMAS GERALD, 1929 (1940).....Assistant Professor of Psychology  
B.S., 1923, M.A., 1927, Washington
- HERRING, JOHN PEABODY, 1947.....Research Associate in the Institute of Labor Economics  
A.B., 1904, Brown; B.D., 1907, Union Theological Seminary; Ph.D., 1924, Columbia
- HERRIOTT, ESTHER SIMONE, 1947.....Acting Associate in Romance Languages
- HERRMAN, ARTHUR PHILIP, 1923 (1937).....Professor of Architecture;  
Director of the School of Architecture  
B.A. in Arch., 1921, Carnegie Institute of Technology
- HIGGS, PAUL McCLELLAN, 1926 (1939).....Assistant Professor of Physics  
B.S., 1919, Washington
- HILDEBRAND, ALICE GRACE, 1946 (1947).....Clinical Assistant Professor of Medicine  
B.S. in Medicine, 1934, M.D., 1936, Nebraska;  
M.Sc. in Medicine, 1940, Minnesota
- HILDEBRAND, JAMES LESLIE, 1946.....Acting Associate in Mathematics  
B.A., 1938, M.A., 1940, N. Texas State Teachers College
- HILE, FREDERIC WEBB, 1946 (1947).....Assistant Professor of Speech  
A.B., 1935, M.A., 1937, Denver University; Th.M., 1944, Iliff School of Theology
- HILEN, ANDREW REUBEN, Jr., 1945.....Instructor in English  
B.A., 1937, Washington; Ph.D. 1943, Yale
- HILL, RAYMOND LEROY, 1927 (1945).....Professor of Art  
Grad., Rhode Island School of Design, 1913

- HILL, WILLIAM RYLAND, JR., 1941 (1947) . . . Associate Professor of Electrical Engineering  
B.S. in E.E., 1934, Washington; M.S. in E.E., 1938, E.E., 1941, California
- HIRABAYASHI, GORDON KIYOSHI, 1947 . . . Acting Associate in Sociology  
B.A., 1946, Washington
- HITCHCOCK, CHARLES LEO, 1937 (1944) . . . Professor of Botany;  
Executive Officer of the Department of Botany  
A.B., 1927, Pomona; A.M., 1929, Claremont College; Ph.D., 1931, Washington  
University (St. Louis)
- HITCHNER, DELL GILLETTE, 1947 . . . Assistant Professor of Political Science  
B.A., 1936, Wichita College; M.A., 1937, Missouri; Ph.D., 1940, Wisconsin
- HO, PHILIP WEN JEN, 1947 . . . Research Associate in the Far Eastern Department  
B.A., 1938, M.A., 1941, Yenching University
- HOAG, ALBERT LYNN, 1946 (1947) . . . Instructor in General Engineering  
B.S.F., 1941, Washington
- HOARD, GEORGE LISLE, 1920 (1941) . . . Professor of Electrical Engineering  
B.S. in E.E., 1917, M.S. in E.E., 1926, Washington
- HOEDEMAEKER, EDWARD DAVID, 1935 (1947) . . . Clinical Instructor in Psychiatry;  
Lecturer in the Graduate School of Social Work  
B.S., 1927, M.D., 1929, Michigan
- HOFFMAN, KATHERINE JANET, 1942 (1945) . . . Assistant Professor of Nursing  
B.A., 1929, College of Puget Sound; R.N., 1934, Tacoma General Hospital;  
M.N., 1941, Washington
- HOFFSTADT, RACHEL EMILIE, 1923 (1939) . . . Professor in Microbiology  
B.S., 1908, Hanover (Indiana); M.S., 1912, Chicago; Ph.D., 1915, D.Sc., 1921,  
Johns Hopkins
- HOGAN, MICHAEL, 1947 . . . Acting Associate in Speech  
B.A., 1938, Washington
- HOLLAND, RUTH MALINDA ANDERSON, 1947 . . . Instructor in Nursing  
B.A., 1944, Luther College (Iowa); M.S., 1947, Western Reserve
- HOLLISTER, FLOYD L., 1947 . . . Acting Associate in Mechanical Engineering
- HOLMES, CHARLES MERTON, 1948 . . . Clinical Instructor in Psychiatry  
B.S., 1927, Washington; B.A., 1929, M.D., 1931, Oregon; Certificate, 1929,  
University of Paris
- HOLMES, HARLAN BAUTA, 1931 . . . Lecturer in Fisheries  
B.A., 1922, M.A., 1939, Stanford
- HOLT, WILLIAM STULL, 1940 . . . Professor of American History;  
Executive Officer of the Department of History  
A.B., 1920, Cornell University; Ph.D., 1926, Johns Hopkins
- HOPKINS, WILLIAM STEPHEN, 1946 . . . Professor of Labor Economics;  
Director of the Institute of Labor Economics  
B.S., 1925, M.A., 1928, Oregon; Ph.D., 1932, Stanford
- HORNE, DORTHALEE BELLE, 1944 . . . Assistant Professor of Physical Education  
B.S., 1930, Missouri; M.S., 1939, Oregon
- HORSFALL, FRANK HENRY, 1936 . . . Associate in Music
- HORST, AARON PAUL, 1947 . . . Professor of Psychology  
A.B., 1927, California; Ph.D., 1931, Chicago
- HORTON, GEORGE PLANT, 1934 (1946) . . . Associate Professor of Psychology;  
Executive Officer of the Department of Correspondence  
Study in the Division of Adult Education and Extension Services  
B.S., 1926, M.A., 1930, Ph.D., 1932, Princeton
- HORWOOD, EDGAR MILLER, 1946 (1947) . . . Instructor in Civil Engineering  
B.S. in M.E., 1942, Georgia School of Technology
- HOSHOR, JOHN PAYTON, 1947 . . . Assistant Professor of Speech  
A.B., 1938, A.M., 1940, Washington; Ph.D., 1947, Iowa
- HOSSOM, HAROLD KENNETH, 1948 . . . Instructor in Political Science  
A.B., 1936, Stanford; M.F.S., 1938, Southern California; Ph.D., 1942, Princeton
- HOTSON, JOHN WILLIAM, 1911 (1947) . . . Professor Emeritus of Botany;  
Research Consultant in the Department of Botany  
A.B., 1901, A.M., 1902, McMaster (Toronto); Ph.D., 1913, Harvard
- HSIA, HSIU-YUNG, 1947 . . . Lecturer in the Far Eastern Department  
B.A., 1941, Yenching
- HSU, WELLINGTON SIANG, 1944 . . . Instructor in the Far Eastern Department  
B.S., 1922, Illinois; M.S., 1924, D.Sc., 1928, Harvard

*Alphabetical List of the Faculty*

- HUBER, JOHN RICHARD, 1939 (1942).....Associate Professor of Economics  
B.A., 1931, College of Wooster; M.A., 1933, Ph.D., 1937, Princeton
- HUGHES, GLENN, 1919 (1930).....Professor of English; Director of the School of Drama  
B.A., 1916, Stanford; M.A., 1920, Washington
- HUMPHREY, JAMES LESLIE, 1946.....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1946, Washington
- HUMPHREY, ROBERT CARL, 1946 (1948).....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1944, Washington
- HUMPHREYS, LLOYD GIRTON, 1946.....Associate Professor of Psychology;  
Director of the Bureau of Testing  
B.S., 1935, Oregon; M.A., 1936, Indiana; Ph.D., 1938, Stanford
- HUNNER, WESLEY LOUIS, 1946 (1947).....Instructor in English  
B.A., 1935, M.A., 1938, Washington
- HUNT, ROSEMARY LONGWOOD, 1944.....Associate in Psychology  
B.S., 1943, Washington
- HUSTON, FRANCES BREITWEG, 1944 (1946).....Associate in English  
B.A., 1931, Reed
- HUTCHINS, LEWIS REID, 1946.....Clinical Associate in Anatomy  
A.B., 1928, Washington; M.D., 1935, Oregon
- HUTCHINSON, JAMES CARL, 1946.....Clinical Associate in Anatomy  
B.S., 1927, Idaho; M.D., 1933, Northwestern; M.S., 1945, Minnesota
- HUTCHINSON, WILLIAM BURKE, 1947.....Medical Lecturer in the School of Nursing  
B.S., 1931, Washington; M.D., 1936, McGill
- HYNES, KYRAN EMMETT, 1948.....Clinical Assistant Professor of Medicine  
B.S., 1933, Creighton (Nebraska); B.M., M.D., 1935, Louisiana Medical Center
- INGLIS, RUTH ARDELL, 1946.....Assistant Professor of Sociology  
A.B., 1935, M.A., 1937, Stanford; Ph.D., 1945, Bryn Mawr
- IRVINE, DEMAR BUEL, 1937 (1947).....Associate 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.F.A., 1909, James Millikin University
- JACOBS, MELVILLE, 1928 (1945).....Associate Professor of Anthropology  
A.B., 1922, College of the City of New York; A.M., 1923, Ph.D., 1931, Columbia
- JACOBSEN, ANDREW BOONE, 1946.....Instructor in Electrical Engineering; Research  
Associate in the Engineering Experiment Station  
B.S. in E.E., 1941, Washington
- JACOBSEN, BERNE SELVIG, 1943.....Associate in Journalism  
B.A., 1931, Washington
- JACOBSEN, ELDON ERNEST, 1947.....Acting Associate in Psychology  
B.S., 1941, M.S., 1943, Utah State Agricultural College
- JACOBSEN, PHILIP AMUNDS, 1927 (1939).....Assistant Professor of General  
Engineering; Technical Director of Audio-Visual Studies  
B.S., 1926, Washington
- JACOBSEN, THEODOR SIEGUMFELDT, 1928 (1941).....Associate Professor of Astronomy  
and Mathematics  
B.A., 1922, Stanford; Ph.D., 1926, California
- JACOBSON, BERTHE PONCY, 1937 (1939).....Associate Professor of Music  
Conservatory of Music, Geneva; Diploma Schola Cantorum, Paris;  
Dalcroze School, Geneva
- JAHN, JULIUS ARMIN, 1947.....Instructor in Sociology  
B.A., 1938, M.A., 1942, Minnesota
- JAHNCKE, GLADYS ALVERNIA, 1947.....Lecturer in Nursing  
R.N., 1929, Michael Reese Hospital (Chicago); B.S., 1943, Columbia
- JAMES, JOHN, 1946 (1948).....Acting Instructor in Sociology  
B.S., 1936, Connecticut; M.A., 1942, Washington
- JAMISON, LAURA MAUDE, 1946.....Instructor in Nursing  
R.N., B.S., 1936, Washington
- JAQUETTE, WILLIAM ALDERMAN, JR., 1947.....Clinical Instructor in Pediatrics  
A.B., 1932, Harvard; M.D., 1936, Pennsylvania
- JARVI, ALBERT OTTO, 1945 (1947).....Assistant Professor of Civil Engineering  
B.S. in C.E., 1938, Washington; M.S. in C.E., 1939, Massachusetts Institute of Technology
- JEFFERSON, WILLIAM, JR., 1947.....Associate in Physical Education

- JENKS, ELIZABETH MAY, 1947.....Instructor in Speech  
A.B., 1920, California; M.A., 1928, Cornell University
- JENSEN, ALFRED, 1930 (1947).....Associate Professor of General Engineering  
B.S. in C.E., 1925, M.S. in C.E., 1937, Washington
- JENSEN, CLYDE REYNOLDS, 1947.....Clinical Assistant Professor of Pathology  
A.B., 1922, Dartmouth; M.D., 1925, Rush Medical College
- JENSEN, LYLE HOWARD, 1947.....Acting Assistant Professor of Chemistry  
B.A., 1939, Walla Walla College; Ph.D., 1943, Washington
- JERBERT, ARTHUR RUDOLPH, 1921 (1937).....Associate Professor of Mathematics  
and Astronomy  
B.S., 1916, M.S., 1923, Ph.D., 1928, Washington
- JESSUP, JOHN HUNNICUTT, 1926 (1927).....Associate Professor of Educational Sociology  
A.B., 1920, Earlham College (Indiana); M.A., 1924, Iowa
- JOB, EMIL, 1947.....Clinical Instructor in Medicine  
B.S., 1937, B.S., 1941, M.D., 1942, Wayne University
- JOHNSON, ARTHUR DEAN, 1947.....Clinical Instructor in Medicine  
B.A., 1934, Iowa; M.D., 1939, Northwestern
- JOHNSON, BESSIE PAULINE, 1941 (1945).....Associate Professor of Art  
B.A., 1929, Washington; M.A., 1936, Columbia
- JOHNSON, CHARLES WILLIS, 1903 (1947).....Professor Emeritus of Pharmaceutical Chemistry;  
Dean Emeritus of the College of Pharmacy  
Ph.C., 1896, B.S., 1900, Ph.D., 1903, Michigan
- JOHNSON, LAWRENCE EGON, 1946.....Associate in General Engineering  
B.S. in C.E., 1945, Washington
- JOHNSON, LOCKREM HAROLD, 1947.....Acting Associate in Music
- JOHNSON, MARY LOUISE, 1945 (1947).....Assistant Professor of Home Economics  
B.A., 1940, Hardin-Simmons (Texas); M.S., 1942, Wisconsin
- JOHNSON, ROBERT JOSEPH, 1946 (1947).....Assistant Professor of Anatomy  
M.D., 1943, Iowa
- JOHNSTON, KATHLEEN ARDIES, 1946 (1947).....Assistant Professor of Home Economics  
B.A., 1933, British Columbia; B.S., 1940, Washington; Ph.D., 1946, Cornell University
- JONES, CHARLES HERBERT, 1948.....Lecturer in Nursing  
B.S., 1940, Washington; M.D., 1943, Oregon
- JONES, ERNEST MORGAN, 1945 (1946).....Professor of Operative Dentistry;  
Dean of the School of Dentistry  
D.D.S., 1916, Northwestern
- JONES, LYLE VINCENT, 1947.....Acting Associate in Psychology  
B.S., 1947, Washington
- JONES, MARSHALL HENRY, 1946.....Clinical Associate in Anatomy  
M.D., 1927, Northwestern
- JONES, ROBERT WILLIAM, 1920 (1934).....Professor of Journalism  
B.A., 1906, LL.B., 1913, Missouri; M.A., 1918, South Dakota
- JONES, Colonel WILLIAM HENRY, Jr., 1946.....Professor of Military Science and Tactics  
B.A., 1908, Ogden College (Kentucky); B.S., 1913, U. S. Military Academy
- JONQUET, EUGENE MAURICE, 1940 (1946).....Assistant Professor in Graduate  
School of Social Work  
B.A., 1932, James Millikin University; M.A., 1933, M.S.W., 1938, Washington  
University (St. Louis)
- JOPPA, ROBERT GLENN, 1947.....Instructor and Research Associate in  
Aeronautical Engineering  
B.S. in A.E., 1945, Washington
- JOY, FREDERICK B., 1947.....Clinical Instructor in Pediatrics  
B.A., 1929, M.D., 1931, Oregon
- JUHL, ROBERT SIDNEY, 1947.....Lecturer in Economics and Business  
A.B., 1939, LL.B., 1947, Michigan
- KAHL, JOHN A., 1946.....Clinical Assistant Professor of Public Health and Preventive Medicine  
B.S., 1933, M.D., 1935, Nebraska; M.P.H., 1940, Johns Hopkins
- KAJER, GRACE MARIE, 1948.....Instructor in Nursing  
B.S., 1945, College of St. Scholastica; R.N., 1945, St. Mary's Hospital (Duluth)
- KASTNER, ETHEL DEVER, 1948.....Instructor in the Far Eastern Department  
B.A., 1943, M.A., 1945, Washington
- KATZ, SOLOMON, 1936 (1943).....Associate Professor of History  
A.B., 1930, Ph.D., 1933, Cornell University

- KAUFMAN, S. HARVARD, 1945 (1947).....Psychiatric Consultant in the Office  
of Student Affairs  
B.S., 1934, M.D., 1936, Wisconsin
- KAUFMAN, HELEN KAHIN, 1930 (1943).....Assistant Professor of English Literature  
B.A., 1909, Wilson College (Pennsylvania); M.A., 1911, Indiana; Ph.D., 1934, Washington
- KECHLEY, GERALD RAYMOND, 1947.....Associate in Music  
B.A., 1946, Washington
- KELLER, JEAN PAUL, 1948.....Acting Instructor in Romance Languages  
B.A., 1933, Heidelberg College (Ohio); M.A., 1940, Ohio State
- KELLOGG, HOWARD B., 1946.....Associate Professor of Anatomy  
B.S., 1922, Washington; M.S., 1925, Ph.D., 1927, M.B., 1929, M.D., 1930, Northwestern
- KENNEDY, FRED WASHINGTON, 1909 (1947).....Professor Emeritus of Journalism;  
Consultant on Press Relations
- KENNY, DOUGLAS TIMOTHY, 1947.....Acting Associate in Psychology  
B.A., 1945, M.A., 1947, British Columbia
- KENT, BETTY ELOUISE, 1947.....Acting Associate in Sociology  
A.B., 1945, Miami University
- KENWORTHY, RAY W., 1929 (1939).....Assistant Professor of Physics  
B.A., 1924, M.S., 1925, Iowa; Ph.D., 1938, Washington
- KERBY, CHARITY CAROLINE, 1946.....Instructor in Nursing  
B.A., 1934, Seattle Pacific College; R.N., 1946, Swedish Hospital (Seattle)
- KERR, GEORGE H., 1947.....Lecturer in the Far Eastern Department  
A.B., 1932, Rollins College; M.A., 1935, University of Hawaii
- KIDD, EUGENE LINWOOD, 1947.....Clinical Instructor in Medicine  
S.B., 1935, Washington; M.D., 1939, Rush Medical College
- KIDWELL, KATHRO, 1939 (1944).....Assistant Professor of Physical Education  
B.S., 1927, Nebraska; M.S., 1928, Wisconsin
- KILPATRICK, FRANKLIN PEIRCE, 1947.....Acting Associate in Psychology  
B.A., 1942, Washington
- KIMMEL, Colonel EDWARD, U.S. Army, retired, 1932 (1946).....Professor Emeritus of  
Military Science and Tactics  
B.S., 1897, M.A., 1907, Washington State
- KINCAID, STERLING PRICE, JR., 1946.....Instructor in the Humanistic-Social  
Division of the College of Engineering  
B.A., 1932, M.A., 1934, Ph.D., 1939, Southern California
- KINCAID, TREVOR, 1899 (1947).....Professor Emeritus of Zoology;  
Research Consultant in the Department of Zoology  
B.S., 1899, Washington; D.Sc., 1940, College of Puget Sound
- KING, BRIEN THAXTON, 1947.....Senior Consultant in Surgery  
M.D., 1911, Vanderbilt
- KING, ROBERT LEONARD, 1947.....Clinical Assistant Professor of Medicine  
M.D., 1928, B.S., 1931, Virginia
- KINGSTON, JOHN MAURICE, 1940 (1946).....Assistant Professor of Mathematics and Astronomy  
B.A., 1935, Western Ontario; M.A., 1936, Ph.D., 1939, Toronto
- KINSELLA, HAZEL GERTRUDE, 1942 (1947).....Professor of Music  
B.M., 1916; B.F.A., 1928, B.A., 1931, Nebraska; M.A., 1934, Columbia;  
Ph.D., 1941, Washington
- KINTNER, NANCY JANE, 1942.....Instructor in Nursing  
R.N., B.S., 1940, Washington
- KIRCHHOFF, PAUL, 1947.....Acting Associate Professor of Anthropology  
Ph.D., 1931, University of Leipzig
- KIRCHNER, GEORGE, 1919 (1939).....Assistant Professor of Music  
Grad., 1911, University of Leipzig
- KIRSTEN, FREDERICK KURT, 1915 (1946).....Research Professor of Aeronautical Engineering  
B.S. in E.E., 1909; E.E., 1914, Washington
- KLIMA, JOAN ROBERTS, 1946 (1948).....Instructor in Economics and Business  
A.B., 1940, College of Puget Sound; M.S., 1941, New York University
- KOLESAR, JOHN, S.Sgt., U.S.M.C., 1947.....Instructor in Naval Science
- KORNGOLD, JANET FENIMORE, 1944.....Assistant Professor of Nursing Education  
A.B., 1910, Earlham College (Indiana); R.N., 1924, Presbyterian Hospital (Chicago);  
M.A., 1929, Northwestern

- KRADER, LAWRENCE, 1947..... Research Associate in the Far Eastern Department  
B.S.S., 1941, Columbia
- KRAFT, ROBERT PAUL, 1947..... Acting Associate in Mathematics  
B.S., 1947, Washington
- KRANTZ, CLEMENT IRENEUS, 1947..... Clinical Assistant Professor of Medicine  
A.B., 1920, M.D., 1924, Johns Hopkins
- KRETZLER, HARRY HAMLIN, 1947..... Clinical Instructor in Medicine  
B.S., 1921, M.D., 1923, Nebraska
- KRUPSKI, EDWARD, 1945 (1947)..... Instructor in Pharmacy  
B.S., 1939, M.S., 1941, Washington
- KUETHER, CARL ALBERT, 1946..... Assistant Professor of Biochemistry  
A.B., 1936, Miami (Ohio); M.S., 1940, Wayne University; Ph.D., 1943, George Washington University
- KUHN, BERTHA MEHITABLE, 1941 (1947)..... Assistant Professor of English  
B.A., 1916, M.A., 1917, North Dakota; Ph.D., 1940, Washington
- KULISHECK, CLARENCE LOUIS, 1946..... Associate in English  
A.B., 1935, A.M., 1937, Minnesota
- KUNDE, NORMAN FREDERICK, 1930 (1937)..... Assistant Professor of Physical Education  
B.S., 1928, M.S., 1932, Washington; D.Ed., 1946, New York University
- LADD, JAMES WILLIAM, 1947..... Assistant Program Director for Radio Education  
A.B., 1930, Pacific University; M.A., 1936, Washington State
- LAMBERTY, ELIZABETH REGINA, 1941..... Instructor in Nursing  
R.N., 1934, B.S., 1938, Minnesota
- LAMSON, OTIS FLOYD, 1947..... Senior Consultant in Surgery  
M.D., 1907, Pennsylvania
- LANGENHAM, HENRY AUGUST, 1922 (1947)..... Lecturer in Pharmacy  
Ph.C., 1909, Illinois; B.S., 1914, M.S., 1916, Ph.D., 1918, Wisconsin
- LANKFORD, MARGARET ALICE, 1946..... Instructor in Nursing  
R.N., 1943, St. Mary's School of Nursing (Minnesota);  
B.S. in Nursing, 1944, College of St. Teresa (Minnesota)
- LANTOS, THOMAS PETER, 1948..... Acting Associate in Germanic Languages
- LARSON, CHARLES P., 1947..... Clinical Instructor in Pathology  
B.A., 1931, Gonzaga (Spokane); M.D., C.M., 1936, McGill
- LARSON, THEA ELIDA, 1941..... Instructor in Pharmacy in School of Nursing  
Ph.G., 1923, B.S., 1931, Iowa; M.S., 1941, Washington
- LASHER, EARL PARSONS, JR., 1946 (1947)..... Assistant Professor of Anatomy  
B.A., 1931, M.D., 1934, Cornell University
- LAUBHAN, ROYLE KENNETH, 1948..... Instructor in Anatomy  
A.B., 1936, M.D., 1941, Stanford
- 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
- LAVASKA, ANNA, 1946..... Instructor in the Far Eastern Department  
B.A., 1946, Washington
- LAW, DAVID BARCLAY, 1947..... Assistant Professor of Pedodontics  
B.S.D., 1938, D.D.S., 1938, M.S., 1941, Northwestern
- LAWRENCE, CHARLES WILSON, 1926 (1934)..... Associate Professor of Music  
B.M., 1918, Oberlin; M.A., 1930, Washington
- LAWS, E. HAROLD, 1947..... Clinical Instructor in Medicine  
B.S., 1938, M.D., 1940, Indiana
- LAWSON, JANE SORRIE, 1922 (1939)..... Associate Professor of English  
M.A., 1906, St. Andrews (Scotland)
- LAWTON, GRAHAM HENRY, 1947..... Assistant Professor of Geography  
B.A., 1934, B.Ed., 1936, Melbourne; B.A., 1941, M.A., 1944, Oxford
- LAY, COY LAFAYETTE, 1947..... Clinical Associate in Anatomy  
M.D., 1946, Texas
- LEAHY, KATHLEEN MABEL, 1927 (1943)..... Associate Professor of Nursing;  
Director of Field Work  
R.N., 1921, Stanford; A.B., 1926, Oregon; M.S., 1931, Washington
- LEAVITT, HARRY LINWOOD, 1947..... Lecturer in the School of Nursing  
B.A., 1927, Oregon; M.D., 1930, Michigan
- LEDBETTER, GIRVIS ERWIN, 1947..... Research Associate in Aeronautical Engineering  
B.S. in A.E., 1942, Washington

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- LEEDE, WILLIAM EDWARD, 1947.....Clinical Instructor in Medicine  
B.S., 1934, M.D., 1937, Oregon
- LEGG, HERBERT HUGH, JR., 1947.....Research Associate, Bureau of Governmental  
Research and Services
- LEIMAN, JOHN MELVIN, 1947.....Acting Associate in Psychology  
B.S., 1940, Ohio; M.S., 1946, Oregon
- LEMERE, FREDERICK, 1946 (1947).....Clinical Professor of Psychiatry, and  
Acting Chairman of the Section on Psychiatry  
M.A., 1930, M.D., 1932, Nebraska
- LEMON, BERLAN, 1947.....Acting Associate in Psychology  
B.S., 1941, Oregon State
- LESTER, CHARLES NELSON, 1939 (1947).....Clinical Instructor in Medicine; Assistant  
Director of the Health Center  
B.A., 1928, M.D., 1934, Colorado
- \*LEVY, ERNST, 1937.....Professor of History, Law, and Political Science  
LL.D., 1906, Berlin
- LEWIS, LAUREL JONES, 1946.....Assistant Professor of Electrical Engineering  
A.B., 1933, E.E., 1935, Ph.D., 1947, Stanford
- LEWIS, M. LEONARD, 1946.....Clinical Instructor in Dentistry  
B.S., 1938, Washington; D.M.D., 1943, North Pacific College
- LINCOLN, MIRIAM, 1947.....Clinical Assistant Professor of Medicine  
A.B., 1922, Radcliffe; M.S.S., 1923, Smith; M.D., 1932, Rochester
- LINDAHL, WALLACE WILLIAM, 1947.....Clinical Instructor in Medicine  
B.S., 1933, Washington State; M.D., 1938, Northwestern
- LINDBLOM, ROY ERIC, 1924 (1945).....Professor of Electrical Engineering  
B.S. in E.E., 1922, M.S. in E.E., 1929, Washington
- LINDELL, HARRY WALTER, 1946.....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1944, Washington
- LINDEN, HARRY EUGENE, 1947.....Instructor in Music
- LINGAFELTER, EDWARD CLAY, 1939 (1947).....Associate Professor of Chemistry  
B.S., 1935; Ph.D., 1939, California
- LIPPINCOTT, STUART WELLINGTON, 1946.....Professor of Pathology;  
Executive Head of the Department of Pathology  
A.B., 1929, Clark University; M.D., 1935, C.M., 1935, McGill
- LISLE, RUTH, 1946.....Acting Associate in Classics  
B.A., 1938, Washington
- LLOYD, FLORENCE LEONE, 1944 (1947).....Assistant Professor of Home Economics  
B.S., 1932, M.S., 1934, Montana State
- LOEW, EDGAR ALLAN, 1909 (1923).....Professor of Electrical Engineering;  
Dean of the College of Engineering  
B.S. in E.E., 1906, E.E., 1922, Wisconsin
- LOGAN, ROLF F., 1947.....Associate in Music  
B.S., 1947, North Dakota State Teachers College
- LONGWELL, LESLIE T., 1947.....Acting Associate in the Far Eastern Department  
B.A., 1936, M.A., 1940, Washington
- LOOMIS, GORDON J., 1948.....Associate in Electrical Engineering  
B.S. in E.E., 1944, Washington
- LOOMIS, TED ALBERT, 1947.....Assistant Professor of Pharmacology  
B.S., 1939, Washington; M.S., 1941, Ph.D., 1943, University of Buffalo; M.D., 1946, Yale
- LORIG, ARTHUR NICHOLAS, 1934 (1941).....Associate Professor of Accounting  
B.A., 1922, Wisconsin; C.P.A., 1927; M.A., 1932, Stanford; Ph.D., 1936, Chicago
- LOUCKS, ROGER BROWN, 1936 (1946).....Associate Professor of Psychology  
B.S. in C.E., 1927, Ph.D., 1930, Minnesota
- LOUGHRIDGE, DONALD HOLT, 1931 (1942).....Professor of Physics  
B.S., 1923, Ph.D., 1927, California Institute of Technology
- LOWRY, STELLA MAY, 1944 (1947).....Instructor in Art  
B.A., 1936, Washington
- LUBY, GRACE KATHRYN, 1947.....Instructor in Nursing  
B.S., 1944, George Peabody College (Tennessee); R.N., Creighton Memorial,  
St. Joseph's Hospital (Nebraska)

\* On leave.



- LUCAS, HENRY STEPHEN, 1921 (1934)..... Professor of History  
A.B., 1913, Olivet (Michigan); A.M., 1915, Indiana; Ph.D., 1921, Michigan
- LUECK, DAVID WILLIAM, 1947... Research Associate in the Engineering Experiment Station  
B.S.E., 1943, M.S.E., 1947, Michigan
- LUND, PAUL K., 1947..... Clinical Assistant Professor of Pathology  
B.A., 1934, Carleton College (Minnesota); M.D., C.M., 1940, McGill
- LUNDBERG, GEORGE ANDREW, 1945..... Professor of Sociology;  
Executive Officer of the Department of Sociology  
B.A., 1920, North Dakota; M.A., 1923, Wisconsin; Ph.D., 1925, Minnesota
- LUNDY, HOWARD W., 1946.... Clinical Instructor in Public Health and Preventive Medicine  
B.S., 1932, Washington State; M.S., 1934, St. Louis University Medical School;  
Dr. P.H., 1939, Massachusetts Institute of Technology
- LUTEY, WILLIAM GLEN, 1934 (1940)..... Instructor in Liberal Arts  
B.A., 1930, M.A., 1931, Washington
- LYNCH, JAMES ERIC, 1931 (1943)..... Professor of Fisheries  
B.A., 1917, M.A., 1921, Nebraska; Ph.D., 1929, California
- LYNCH, JOHN FRANCIS, 1947..... Acting Associate in Romance Languages  
B.A., 1934, M.A., 1937, Washington
- LYONS, DANIEL ALAN, 1947..... Acting Associate in Mechanical Engineering
- McADAMS, LAURA ELIZABETH, 1941 (1945)..... Assistant Professor of Home Economics  
B.S., 1923, M.S., 1932, Kansas State
- McCAIN, ELIZABETH GUNN, 1946..... Assistant Professor of Physical Education  
B.S., 1921, Washington; M.D., 1927, Oregon
- McCARTHY, JOSEPH LePAGE, 1941 (1947)..... Associate Professor of Chemical Engineering  
B.S. in Chem. E., 1934, Washington; M.S., 1936, Idaho; Ph.D., 1938, McGill
- McCLENAHAN, RICHARD MYRL, csom, U.S.N., 1948..... Instructor in Naval Science
- McCONAHEY, JAMES M., 1921 (1947)..... Professor Emeritus of Accounting;  
Advisor to Professional Accounting Students  
B.S., 1896, M.S., 1899, Washington and Jefferson College; LL.B., 1899, Northwestern;  
C.P.A., 1916
- McCOY, LAYTON LESLIE, 1947..... Acting Associate in Chemistry  
B.S. in Chem., 1947, Washington
- McCOY, LESLIE LAYTON, 1947..... Lecturer in the School of Nursing  
B.S., 1917, Wisconsin; M.D., 1919, Columbia
- McCRERY, LESTER LYLE, 1943..... Instructor in Speech  
B.A., 1933, M.A., 1940, Washington
- McCULLOUGH, WILLIAM HAYWORTH, 1943..... Assistant Professor of Social Work  
A.B., 1932, DePauw; A.M., 1940, Chicago
- McELMEEL, EUGENE F., 1947..... Clinical Associate in Anatomy  
B.A., 1930, College of St. Thomas (Minnesota); B.S., 1933, M.D., 1936, Minnesota
- McFARLAN, LEE HORACE, 1927 (1946)..... Professor of Mathematics and Astronomy  
B.S., 1917, Kansas State Teachers College; A.M., 1921, Ph.D., 1924, Missouri
- McGOWND, JANE, 1928..... Assistant Professor of Physical Education  
B.S., 1917, M.A., 1923, Columbia
- McINTYRE, HARRY JOHN, 1919 (1943)..... Professor of Mechanical Engineering  
B.S. in M.E., 1915, M.B.A., 1923, Washington
- McKAY, GEORGE FREDERICK, 1927 (1943)..... Professor of Music  
B.Mus., 1923, University of Rochester
- McKEE, LYNNE G., 1947..... Lecturer in Fisheries  
B.S., 1927, M.S., 1928, Washington
- McKENZIE, VERNON, 1928 (1946)..... Professor of Public Relations  
B.A., 1909, Toronto; M.A., 1914, Harvard
- McKINLAY, FLORENCE DILLOW, 1937 (1945)..... Instructor in English  
B.A., 1908, Lombard (Illinois); M.A., 1931, Washington
- McKINNELL, JAMES FRANKLIN, Jr., 1947..... Acting Associate in Mineral Engineering  
B.S., 1942, Washington
- McLARNEY, ARTHUR JAMES, 1946..... Associate in Physical Education  
B.S., 1932, Washington State
- McLELLAN, HELEN, 1937 (1945)..... Associate Professor of Physical Education  
B.S., 1930, Wisconsin; M.A., 1931, Columbia
- McMAHON, EDWARD, 1908 (1940)..... Professor Emeritus of American History  
Ph.B., 1898, Washington; M.A., 1907, Wisconsin

*Alphabetical List of the Faculty*

- McMAHON, THERESA SCHMID, 1911 (1937)....Professor Emeritus of Economics and Labor  
A.B., 1899, A.M., 1901, Washington; Ph.D., 1909, Wisconsin
- McMINN, BRYAN TOWNE, 1920 (1939).....Professor of Mechanical Engineering;  
Executive Officer of the Department of Mechanical Engineering  
B.S. in M.E., 1918, Oregon State; M.S. in M.E., 1926, M.E., 1931, Washington
- McNEESE, DONALD CHARLES, 1946 (1947).....Instructor in General Engineering  
B.S. in C.E., 1940, Wyoming
- McNEILL, Lieut. Comdr. DAN CALDWELL, (SC) U.S.N., 1946.....Assistant Professor  
of Naval Science  
A.B., 1940, DePauw
- McVAY, JOHN PATRICK, 1947.....Clinical Instructor in Medicine  
B.S., 1928, Washington; M.D., 1932, Oregon
- MACARTNEY, THOMAS WAKEFIELD, 1946 (1947).....Instructor in General Engineering  
B.S. in C.E., 1939, B.S. in Com. Engr., 1946, Washington
- MACDONALD, CATHERINE JOAN, 1945.....Supervisor of Field Work,  
Graduate School of Social Work  
B.A., 1936, Washington
- MacIVOR, VIRGINIA ELLEN, 1945.....Instructor in Nursing  
R.N., 1933, Montana Deaconess; B.S.N., 1945, Washington
- MacKAY, WARDELL RAYMOND, 1946.....Associate in English  
B.A., 1938, Washington
- MACKENZIE, DONALD HECTOR, 1929 (1944).....Professor of Management and Accounting  
B.B.A., M.B.A., 1925, Washington; C.P.A., 1933
- MACKIN, JOSEPH HOOVER, 1934 (1947).....Professor of Geology  
B.S., 1930, New York University; M.A., 1932, Ph.D., 1936, Columbia
- MacLAURIN, WILLIAM ALEXANDER, 1946 (1947).....Assistant Professor of Architecture  
B.A., 1937, Washington
- MacLEAN, DOROTHY, 1936 (1943).....Assistant Professor of Physical Education  
B.S., 1933, Oregon; M.S., 1938, Washington
- MacLEAN, JAMES BEATTIE, 1947.....Associate in German  
B.A., 1928, British Columbia; M.A., 1935, Washington
- MALONE, CARLE HARRISON, 1947.....Acting Associate Professor of Romance Languages  
B.A., 1925, University of Denver; M.A., 1930, Colorado; Ph.D., 1942, Washington
- MANCHESTER, ROBERT CASE, 1947.....Clinical Instructor in Medicine  
B.A., 1927, Ohio Wesleyan; M.S., 1930, M.D., 1932, University of Rochester
- MANDER, LINDEN ALFRED, 1928 (1937).....Professor of Political Science;  
Co-Director of the Institute of International Affairs  
B.A., 1917, M.A., 1920, Adelaide (Australia)
- MANSFIELD, ROBERT STUART, 1932 (1945).....Associate Professor of Journalism  
B.A., 1926, M.A., 1931, Michigan
- MARCKWORTH, GORDON DOTTER, 1939.....Professor of Forest Management;  
Dean of the College of Forestry  
B.S.F., 1916, Ohio; M.F., 1917, Yale
- MARK, SARA NORRIS, 1937 (1947).....Instructor in English  
B.A., B.S., 1911, M.A., 1929, Washington
- MARK, SHELLEY MUIN, 1948.....Associate in Economics and Business  
B.A., 1943, Washington; M.S., 1944, Columbia
- MARKHAM, MARGARET OGDEN, 1946.....Instructor in Nursing  
B.A., 1943, Wellesley; M.N., 1946, Yale
- MARSH, HAROLD, Jr., 1947.....Assistant Professor of Law  
B.A., 1939, Rice Institute (Texas); LL.B., 1942, Texas; LL.M., 1947, Columbia
- MARTIN, ARTHUR WESLEY, Jr., 1937 (1943).....Associate Professor of Physiology  
B.S., 1931, College of Puget Sound; Ph.D., 1936, Stanford
- MARTIN, CHARLES EMANUEL, 1924.....Professor of Political Science;  
Co-Director of the Institute of International Affairs;  
Executive Officer of the Department of Political Science  
B.L., 1914, A.M., 1915, California; Ph.D., 1918, Columbia; LL.D., 1942, Southern California
- MARTIN, CHARLOTTE HELEN, 1947.....Instructor in Nursing  
B.S. in Nursing, 1945, Seattle College
- 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 University;  
Sc.D., 1937, Monmouth College (Illinois)

- MARTIN, JOHN K., 1947.....Clinical Assistant Professor of Medicine  
B.S., 1926, M.D., 1928, Nebraska
- MARTIN, JOHN PIERRE, 1947.....Instructor in Civil Engineering  
B.S., 1941, Armour College of Engineering (Illinois)
- MARTIN, JOHN WATSON, 1947.....Acting Associate in Romance Languages
- MARTS, MARION ERNEST, 1948.....Instructor in Geography  
B.A., 1937, M.A., 1944, Washington
- MASKE, WILLIAM, 1917 (1947)....Research Associate in the Engineering Experiment Station  
B.S., 1915, M.S., 1917, Washington
- MASON, ALDEN, 1946 (1947).....Acting Instructor in Art  
B.A., 1942, M.F.A., 1947, Washington
- MASON, DAVID GREENWALT, 1947.....Clinical Instructor in Pathology  
B.A., 1931, M.D., 1935, Oregon
- MASON, MARY LUCILE, 1943 (1947).....Associate in English  
B.A., 1923, Grinnell College (Iowa)
- MASON, WILLIAM RALPH, 1946 (1947).....Instructor in Civil Engineering  
B.S. in C.E., 1940, Washington; M.S., 1941, Massachusetts Institute of Technology
- MATTHEWS, NORMAN LAMBKIN, 1947.....Assistant Professor of Pharmacology  
S.B., 1933, Chicago; Ph.D., 1940, Ohio State; M.D., 1946, Rochester
- MATHIES, JAMES CROSBY, 1946.....Associate in Biochemistry  
B.S. in Chem., 1942, Washington; M.S., 1946, Wayne University
- MATHY, LEONARD GEORGE, 1945.....Assistant Professor of Economics and Business  
A.B., 1941, M.A., 1943, Ph.D., 1946, Illinois
- MATSUSHITA, IWAO, 1946.....Acting Associate in the Far Eastern Department
- MAULBETSCH, JEAN WORTHLEY, 1947.....Acting Associate in English  
B.A., 1942, Linfield College (Oregon)
- MAXEY, GEORGE E., 1947.....Research Assistant Engineer in the  
Engineering Experiment Station
- MAXEY, LOUISE HENRIETTA, 1944.....Instructor in Nursing  
R.N., 1930, Seattle General Hospital; B.S., 1944, Washington
- MEESE, RICHARD HUNT, 1946.....Instructor in Civil Engineering  
B.S. in C.E., 1939, Washington; M.S. in C.E., 1941, Harvard
- MEISNEST, FREDERICK WILLIAM, 1927 (1947) ..Professor Emeritus of Germanic Literature  
and Graduate Examiner  
B.S., 1893, Ph.D., 1905, Wisconsin
- MELDEN, ABRAHAM IRVING, 1946.....Assistant Professor of Philosophy  
A.B., 1931, U.C.L.A.; A.M., 1932, Brown; Ph.D., 1938, California
- MELDER, FRANK STEAVENSON, 1946 (1947).....Instructor in General Engineering  
B.S. in M.E., 1936, Washington
- MENDENHALL, AUDREY K., 1946.....Instructor in Pharmacy in the School of Nursing  
B.S., 1938, Washington
- MENZIES, ELIZABETH KELLY.....Librarian, Forestry Branch
- MERKLINGHAUS, OTTO ELLIS, 1947.....Acting Associate in Sociology  
B.A., 1946, Washington
- MERRICK, Captain ARTHUR WEST, JR., 1946.....Assistant Professor of  
Military Science and Tactics
- MERRILL, GRANT WARREN, 1947.....Lecturer in Journalism  
A.B., 1925, Washington
- MESSER, ROWLAND ENLOW, 1946 (1947).....Instructor in General Engineering  
B.S. in M.E., 1935, Washington
- NETZGER, JUDITH, 1947.....Research Associate in the Bureau of Business Research  
A.B., 1944, Vassar
- MEYER, HERMAN CARL HENRY, 1934 (1942) ..Associate Professor of Germanic Languages  
B.A., 1924, Capital University (Ohio); Ph.D., 1936, Chicago
- MICHAEL, FRANZ HENRY, 1942 (1943) ..Associate Professor in the Far Eastern Department  
Dr. Jur., 1933, Freiburg (Germany)
- MILES, FRANK FRODSHAM, 1947.....Acting Associate in Sociology  
B.A., 1935, Washington
- MILFORD, JOHN JAMES, JR., 1947.....Instructor in Physiology  
B.S., 1935, Howard College (Alabama); M.S., Ph.D., 1940, New York; M.D., 1943, Yale

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- MILLER, ALFRED LAWRENCE, 1923 (1937).....Professor of Civil Engineering  
B.S. in C.E., 1920, C.E., 1926, Washington
- MILLER, CHARLES JOHN, 1927 (1945).....Professor of Marketing  
B.B.A., 1922, M.B.A., 1927, Washington
- MILLER, DELBERT CHARLES, 1947.....Associate Professor of Sociology  
B.S., 1934, M.A., 1937, Miami (Ohio); Ph.D., 1940, Minnesota
- MILLER, MARJORIE MERCEDES, 1946 (1947).....Associate in English  
B.A., 1934, M.A., 1938, Washington
- MILLER, ROBERT STOECKER, 1947.....Acting Instructor in Mechanical Engineering  
B.S., 1939, Washington
- MILLS, BLAKE DAVID, JR., 1946 (1947).....Professor of Mechanical Engineering  
B.S. in M.E., B.S. in E.E., 1934, Washington; M.S. in M.E., 1935, Massachusetts  
Institute of Technology
- MILLS, CASWELL ALBERT, 1942 (1943).....Instructor in Physical Education  
B.A., 1935, North Dakota State Teachers College; M.A., 1943, Washington
- MILLS, ELIZABETH TABOR, 1947.....Assistant Professor of Medical Social Work  
A.B., 1931, Washington; M.S., 1933, Washington University (St. Louis)
- MILNE, Major HARRY THOMSON, 1946.....Assistant Professor of Naval Science  
B.S., 1940, Oregon
- MISCH, PETER, 1947.....Assistant Professor of Geology  
D.Sc., 1932, University Goettingen (Germany)
- MITCHELL, EDITH LAUBSCHER, 1947.....Instructor in Nursing  
B.S., 1929, Washington
- MITHUN, OMER LLOYD, 1947.....Instructor in Architecture  
B.Arch., 1942, Minnesota
- MITTET, HOLGER PEDER, 1946.....Instructor in Civil Engineering  
B.S. in C.E., 1937, Washington; M.S. in C.E., 1938, Massachusetts Institute of Technology
- MIX, Major STANLEY MONROE, 1946.....Assistant Professor of Military Science and Tactics  
B.S., 1940, South Dakota State
- MIYAMOTO, SHOTARO FRANK, 1945.....Assistant Professor of Sociology  
B.A., 1936, M.A., 1938, Washington
- MOEN, HARLEM GORDON, 1947.....Acting Associate in Music  
B.E., 1939, Winona State Teachers College (Minnesota)
- MONTANO, JOSE DURAN, 1947.....Acting Associate in Romance Languages  
Bachelor, 1944, The American Institute (La Paz)
- MOODY, LESTER DEANE, 1947.....Associate in English  
B.A., Washington State
- MOORE, CHARLES GALE, 1948.....Acting Associate in Mechanical Engineering  
B.S. in M.E., 1945, Washington
- MORE, CHARLES CHURCH, 1900 (1947).....Professor Emeritus 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. in M.E., 1921, Massachusetts Institute of Technology
- MORRISON, DUNCAN GRANT, 1947.....Acting Associate in Mathematics  
A.B., 1928, Washington; M.A., 1930, British Columbia
- MORRISON, JAMES BRYAN, 1946 (1947).....Instructor in Mechanical Engineering  
B.S. in M.E., 1943, Virginia Polytechnic Institute
- MORRISON, JOHN WILSON, 1946 (1947).....Instructor in English  
B.A., 1937, Washington
- MORROW, CECIL LOVELAND, 1947.....Clinical Instructor in Medicine  
B.S., 1923, Chicago; M.D., 1929, Rush Medical College
- MORSE, JOHN MOORE, 1946.....Acting Instructor in Architecture  
A.B., 1934, B.Arch., 1940, Harvard
- MOULTON, RALPH WELLS, 1941 (1945).....Associate Professor of Chemical Engineering  
B.S. in Chem. E., 1932, M.S. in Chem. E., 1934, Ph.D., 1938, Washington
- MULLEMEISTER, HERMAN, 1918 (1945).....Associate Professor of Mathematics  
B.S., 1911, M.S., 1912, Ph.D., 1913, Royal University of Utrecht (Holland)
- MULVANY, PAUL KENNETH, 1947.....Associate in Chemical Engineering  
B.S. in Chem. Engr., 1944, Washington
- MUMBY, MILDRED, 1946 (1947).....Clinical Instructor in Dermatology  
M.D., 1925, Oregon

- MUND, VERNON ARTHUR, 1932 (1937)..... Professor of Economics  
B.B.A., 1928, M.B.A., 1929, Washington; Ph.D., 1932, Princeton
- MUNRO, KATHLEEN, 1929 (1945)..... Professor of Music; Acting Director of the School of Music  
B.M., 1924, Washington; M.A., 1929, Columbia; Ph.D., 1937, Washington
- MURPHY, CAMPBELL GARRETT, 1945..... Lecturer in the Graduate School of Social Work  
B.A., 1936, Swarthmore; M.A., 1943, Washington
- MURPHY, HERTA ALBRECHT, 1946..... Lecturer in Economics and Business  
B.B.A., 1930, M.A., 1942, Washington
- MURPHY, RALPH MASON, 1946 (1947)..... Instructor in Speech  
B.A., 1924, Franklin College; M.A., 1929, Wisconsin
- MURRAY, M. E. MIRIAM, 1948..... Lecturer in the Graduate School of Social Work  
A.B., 1933, M.A., 1935, Kansas
- MURRAY, RICHARD McCANN, 1947..... Acting Associate in General Engineering
- MURTON, CLARENCE CHARLES, 1943..... Associate in Journalism  
B.A., 1924, Washington
- NAMKUNG, HELEN, 1948..... Acting Associate in the Far Eastern Department  
B.M., 1940, Toyo Conservatory of Music (Tokyo)
- NARODICK, PHILIP HOWARD, 1947..... Clinical Instructor in Medicine  
B.A., 1929, Crane College (Illinois); B.S., 1930, Illinois; M.D., 1933, Providence Hospital (Seattle)
- NAUNDORF, HELEN HOFFFLIN, 1947..... Associate in English  
B.A., 1933, Washington
- NEDDERMEYER, SETH HENRY, 1946..... Associate Professor of Physics  
A.B., 1929, Stanford; Ph.D., 1935, California Institute of Technology
- NEFF, ENID ELIZABETH, 1945..... Acting Associate in English  
B.A., 1934, Oklahoma Southwestern State College; M.A., 1942, Oklahoma
- NELSEN, ROBERT JERRY, 1947..... Assistant Professor of Dental Materials  
D.D.S., 1940, Minnesota
- NELSON, AVERLY M., 1947..... Clinical Instructor in Medicine  
B.S., 1937, Washington; M.D., 1941, Oregon
- NELSON, EVERETT JOHN, 1930 (1947)..... Professor of Philosophy;  
Executive Officer of the Philosophy Department  
B.A., 1923, M.A., 1925, Washington; M.A., 1928, Ph.D., 1929, Harvard
- NELSON, LUCRETIA, 1947..... Exchange Assistant Professor of Art  
A.B., 1934, M.A., 1936, California
- NELSON, OLE ANDY, 1947..... Lecturer in Nursing  
M.D., 1913, University of Louisville
- NELSON, OLIVER WENDELL, 1945 (1947)..... Assistant Professor of Speech  
B.A., 1933, M.A., 1939, Washington
- NEVA, ARNOLD CARL, 1947..... Instructor in Pharmacy  
B.S., 1941, M.S., 1943, Ph.D., 1947, Minnesota
- NEWKIRK, PAUL RICHARD, 1944..... Lecturer in Nursing  
M.D., 1911, Heidelberg (Germany)
- NEWMAN, CHARLES WYNN, Jr., 1947..... Instructor in Mechanical Engineering  
B.S. in M.E., 1941, B.S. in Mar.E., 1941, Michigan
- NICHOLSON, DONALD A., 1946..... Senior Consultant in the Section on Psychiatry  
M.D., 1897, Minnesota
- NILSEN, THOMAS ROBERT, 1946..... Acting Associate in Speech  
B.A., 1940, Washington
- NIX, MARTHA JEANETTE, 1928 (1947)..... Assistant Professor of English  
B.A., 1922, M.A., 1925, Washington
- NORDQUIST, WILLIAM BERTIL, 1947..... Instructor in Mechanical Engineering  
B.M.E., 1941, Rensselaer Polytechnic Institute; M.S., 1946, Massachusetts Institute of Technology
- NORGORE, MARTIN, 1946..... Clinical Associate in Anatomy  
B.S., 1921, Washington; M.D., 1926, Oregon
- NORMANN, THEODORE FREDERICK, 1940..... Associate Professor of Music  
B.A., 1925, Macalaster College (Minnesota); M.A., 1928, Columbia
- NORRIS, EARL RALPH, 1927 (1940)..... Professor of Chemistry;  
Executive Officer of Department of Biochemistry  
B.S., 1919, Montana State; Ph.D., 1924, Columbia

- NORTHROP, CEDRIC, 1947.....Clinical Instructor in Public Health and Preventive Medicine  
B.A., 1930, M.D., 1936, Oregon
- NORTHROP, MARY WATSON, 1931.....Instructor in Nursing  
B.A., 1920, Vassar; M.S., 1923, Columbia
- NORTON, RODERICK ARTHUR, 1946.....Lecturer in Nursing  
A.B., 1934, M.D., 1937, Michigan
- NOSTRAND, HOWARD LEE, 1939....Professor of Romance Languages; Executive Officer of  
the Department of Romance Languages  
B.A., 1932, Amherst; M.A., 1933, Harvard; Docteur de l'Université de Paris, 1934
- NOTTELMANN, RUDOLPH HANS, 1927.....Professor of Law  
A.B., 1912, Monmouth College (Illinois); M.A., 1913, Illinois; LL.B., 1922, Yale
- NOVIKOW, ELIAS THEODORE, 1947 (1948).....Acting Instructor in the  
Far Eastern Department  
B.M., 1939, Oklahoma; M.Mus., 1942, Michigan; M.A., 1946, Washington
- O'BRIEN, ROBERT WILLIAM, 1939 (1945).....Assistant Professor of Sociology  
A.B., 1929, Pomona; A.M., 1931, Oberlin; Ph.D., 1945, Washington
- O'BRYAN, JOSEPH GRATTAN, 1914 (1947).....Professor Emeritus of Law;  
Research Assistant to the Law Librarian  
B.A., 1893, Jesuit College (Denver); LL.D., 1928, Regis College (Denver)
- OBST, FRANCES MELANIE, 1944.....Assistant Professor of Home Economics  
B.S., 1934, M.A., 1938, Minnesota
- ODELL, HOWARD HARRY, 1948.....Associate in Physical Education;  
Head Football Coach  
B.S., 1934, Pittsburgh
- OLCOTT, VIRGINIA, 1931 (1945).....Associate Professor of Nursing  
R.N., 1926, Peter Bent Brigham Hospital (Boston); B.S., 1927, M.S., 1931, Washington
- OLES, KEITH FLOYD, 1947.....Associate in Geology  
B.S., 1943, Washington
- ORDAL, ERLING JOSEF, 1937 (1943).....Associate Professor of Microbiology  
A.B., 1927, Luther College (Iowa); Ph.D., 1936, Minnesota
- ORELL, BERNARD L., 1947.....Assistant Professor of Forestry  
B.S.F., 1939, M.F., 1941, Oregon State
- ORR, DOUGLASS WINNETT, 1941 (1947)....Lecturer in the Graduate School of Social Work;  
Clinical Instructor in Psychiatry  
A.B., 1928, Swarthmore; M.S., 1934, M.D., 1935, Northwestern
- ORR, FREDERICK WESLEY, 1925 (1928).....Professor of Speech  
B.L., 1901, Drury (Missouri); G.C.D., 1905, Boston School of Expression;  
M.A., 1925, Lawrence College (Wisconsin)
- OSBURN, WORTH JAMES, 1936.....Professor of Remedial and Experimental Education  
A.B., 1903, Central College (Missouri); A.M., 1904, Vanderbilt; B.S., 1908, Missouri;  
Ph.D., 1921, Columbia
- OWEN, DONALD BRUCE, 1946.....Acting Associate in Mathematics  
B.S., 1945, M.S., 1946, Washington
- OWENS, BERL WINFIELD, 1948.....Instructor in Mechanical Engineering  
B.Aero.E., 1944, Minnesota
- PAHN, VADIM OTTO, 1946 (1948).....Instructor in the Far Eastern Department  
B.A., 1935, B.S.A., 1938, British Columbia
- PALMER, LESTER JOERG, 1947.....Clinical Professor of Medicine  
M.D., 1914, Northwestern
- PALMER, VINSON LE ROY, 1943 (1947).....Instructor in Electrical Engineering  
B.S. in E.E., 1940, Washington
- PALMQUIST, EMIL EUGENE, 1944 (1946).....Clinical Assistant Professor of Public  
Health and Preventive Medicine  
B.A., 1930, Gustavus Adolphus College (Minnesota); B.M., 1936, M.D., 1937,  
Northwestern; M.P.H., 1942, Michigan
- PAQUETTE, ROBERT GEORGE, 1946.....Research Chemist in the Division of Oceanography  
B.S., 1936, Ph.D., 1941, Washington
- PARKER, STEPHEN THOMAS, 1947.....Clinical Professor of Dermatology  
M.D., 1921, Creighton (Nebraska); B.S., 1923, Gonzaga (Spokane)
- PARKS, DORIS HAZEL, 1947.....Instructor in Home Economics  
B.S., 1940, Illinois
- PARKS, FRANK LOVERN, 1946.....Acting Instructor in Sociology  
B.A., 1929, B.E., 1929, M.A., 1931, Colorado

- PATTERSON, AMBROSE MCCARTHY, 1919 (1947).....Professor Emeritus of Painting;  
Consultant in Painting  
National School of Art (Melbourne); Juliens, Colorossi and Delacluse Schools of Art (Paris)
- PATTERSON, LILLIAN BEATRICE, 1945.....Assistant Professor of Nursing  
R.N., 1923, Presbyterian Hospital (Chicago); B.A., 1941, C.P.H.N., 1942, M.A.,  
1943, Washington
- PATTERSON, VIOLA HANSEN, 1947.....Instructor in Art  
B.A., 1921, B.S. in L.S., 1921, B.F.A., 1925, M.F.A., 1947, Washington
- PATTON, HARRY DICKSON, 1947.....Assistant Professor of Physiology  
B.A., 1939, Arkansas; Ph.D., 1943, M.D., 1946, Yale
- PAULSON, EDWARD, 1947.....Lecturer in Mathematics  
B.A., 1936, Brooklyn College (New York); M.A., 1938, Columbia
- PAYNE, BLANCHE, 1927 (1942).....Professor of Home Economics  
B.S., 1916, Kansas State Teachers College; M.A., 1924, Columbia
- PEARCE, JOHN KENNETH, 1921 (1943).....Professor of Forestry  
B.S.F., 1921, Washington
- PEEK, CLIFFORD LAVERNE, 1938.....Assistant Professor of Physical Education  
B.S., 1929, Washington; M.A., 1931, Columbia
- PEELING, VIVIAN S., 1947.....Associate in English  
B.A., 1925, Smith
- PELLEGRINI, ANGELO M., 1930 (1945).....Assistant Professor of English  
B.A., 1927, Ph.D., 1942, Washington
- PENCE, CORALYN M., 1947.....Acting Associate in Art
- PENCE, ORVILLE LEON, 1941 (1946).....Assistant Professor of Speech  
B.A., 1935, M.A., 1939, Washington; Ph.D., 1946, Iowa
- PENDLETON, JAMES LAKE, 1946 (1947).....Instructor in Civil Engineering  
B.S. in C.E., 1938, B.S., 1940, Carnegie Institute of Technology
- PENINGTON, RUTH ESTHER, 1928 (1943).....Associate Professor of Art  
B.F.A., 1927, M.F.A., 1929, Washington
- PENNELL, DOROTHY WINIFRED, 1946.....Acting Associate in Mathematics  
A.B., 1923, M.A., 1939, Washington; B.A., 1905, M.A., 1905, St. Andrew's (Scotland);  
B.S., 1906, Edinburgh
- PERKS, LILIAN CHARLOTTE, 1942 (1947).....Acting Instructor in Mathematics  
B.S., M.A., 1906, St. Andrews, Scotland
- PERRIN, PORTER GALE, 1947.....Professor of English  
A.B., 1917, Dartmouth; M.A., 1921, Maine; Ph.D., 1936, Chicago
- PERSON, HENRY AXEL, 1937 (1947).....Assistant Professor of English  
B.A., 1927, Ph.D., 1942, Washington
- PETERSON, CLAIRE GARLICK, 1944.....Associate in Music  
B.A., 1945, Washington
- PETERSON, PHILIP LESLIE, 1947.....Clinical Instructor in Medicine  
A.B., 1926, St. Olaf College (Minnesota); M.D., 1931, Rush Medical College
- PETTIBONE, EARL WINTON, JR., 1947.....Assistant Professor of Transportation  
B.A., 1939, Washington; M.A., 1940, Haverford College (Pennsylvania)
- PETTIBONE, MARIAN HOPE, 1945 (1947).....Instructor in Zoology  
B.S., 1931, Linfield College (Oregon); M.S., 1932, Oregon; Ph.D., 1947, Washington
- PEYMAN, DOUGLAS ALASTAIR RALPH, 1947.....Acting Associate in Psychology  
B.A., 1943, M.A., 1946, British Columbia
- PHILBRICK, WARREN WHEELER, 1947.....Acting Instructor in Mechanical Engineering;  
Research Associate in the Engineering Experiment Station  
B.S. in M.E., 1938, Washington; M.B.A., 1940, Harvard
- PHILLIPS, HERBERT JOSEPH, 1920 (1934).....Assistant Professor of Philosophy  
B.A., 1920, Ph.D., 1933, Washington
- PHILLIPS, RONALD PICKERING, 1936.....Associate in Music
- PIFER, DRURY AUGUSTUS, 1945 (1947).....Associate Professor of Mineral Engineering;  
Acting Director of the School of Mineral Engineering  
B.S. in Min. Engr., 1930, M.S. in Min. Engr., 1931, Washington
- PITT, CARL ALLEN, 1946.....Associate in Speech  
B.A., 1933, Intermountain Union College (Montana); M.A., 1946, Washington State
- PLATT, VIRGINIA PROVINE, 1943 (1945).....Acting Instructor in Physics  
B.S. in M.E., 1945, Washington
- PLEIN, ELMER MICHAEL, 1938 (1945).....Associate Professor of Pharmacy  
Ph.C., B.S. in Pharm., 1929, M.S., 1931, Ph.D., 1936, Colorado

- POOLE, H. GORDON, 1947.....Acting Associate Professor of Mineral Engineering  
B.S. in Min. Engr., 1931, Case Institute of Technology (Cleveland); M.S., 1932, Idaho
- PORTER, RAYMOND GEORGE, csk, USN, 1947.....Instructor in Naval Science
- POSELL, EDWARD A., 1938.....Lecturer in Nursing  
B.S., 1923, College of the City of New York; M.D., 1927, Boston University
- POTEBNYA, ORR YURIEVICH, 1947.....Acting Associate in the Far Eastern Department
- POWELL, SARGENT GASTMAN, 1919 (1943).....Professor of Chemistry  
B.S., 1916, M.S., 1916, Washington; Ph.D., 1920, Illinois
- POWERS, FRANCIS FOUNTAIN, 1928 (1939).....Professor of Educational Psychology;  
Dean of the College of Education  
B.A., 1923, Ph.D., 1928, Washington; M.A., 1927, Oregon
- POWERS, LELAND EARL, 1946.....University Health Officer;  
Professor of Public Health and Preventive Medicine; Executive Officer  
of the Department of Public Health and Preventive Medicine  
M.D., 1933, Iowa; M.S. in Public Health, 1939, Michigan
- PRATT, FRANK HOWLEY, 1946.....Associate Professor of Oral Anatomy;  
Executive Officer of the Department of Oral Anatomy  
D.M.D., 1916, North Pacific College
- PRESTON, HOWARD HALL, 1920 (1922).....Professor of Money and Banking;  
Dean of the College of Economics and Business  
B.S., 1911, LL.D., 1938, Coe College (Iowa); M.A., 1914, Ph.D., 1920, Iowa
- PRIES, LIONEL HENRY, 1928 (1938).....Associate Professor of Architecture  
A.B., 1920, California; M.Arch., 1921, Pennsylvania
- PRINDIVILLE, MARGUERITE, 1947.....Instructor in Nursing  
B.S., 1939, Columbia
- PRINS, ROBERT FREDERICK, 1947.....Associate in English  
B.A., 1942, M.A., 1947, Washington
- PRINS, RUTH BALKEMA, 1947.....Acting Associate in Drama  
B.A., 1942, Washington
- PULLEN, ROSCOE LE ROY, 1947.....Associate Professor of Medicine;  
Director of Hospital Planning  
B.A., 1935, Knox College (Illinois); B.M., 1939, M.D., 1940, Northwestern
- PURDUE, ROBERT ALLEN, 1946.....Lecturer in Economics and Business  
B.A., 1939, LL.B., 1942, Washington
- PUTNAM, GARTH LOUIS, 1947....Research Associate in the Engineering Experiment Station  
B.S., 1935, M.S., 1937, Washington; Ph.D., 1942, Columbia
- RADCLIFFE, DONALD GREGG, 1947.....Acting Assistant Professor of General Engineering  
B.S. in C.E., 1932, M.S., 1934, Illinois
- RADER, MELVIN MILLER, 1930 (1944).....Associate Professor of Philosophy  
B.A., 1925, M.A., 1927, Ph.D., 1929, Washington
- RAHSKOPF, HORACE G., 1928 (1944).....Professor of Speech;  
Executive Officer of the Department of Speech  
B.A., 1920, Willamette (Oregon); M.A., 1927, Ph.D., 1935, Iowa
- RALPH, PAUL HERBERT, 1947.....Assistant Professor of Anatomy  
B.A., 1936, Westminster College (Missouri); M.S., 1937, Oklahoma A and M;  
Ph.D., 1942, Michigan
- RANDALL, JOHN HERMAN, JR., 1948.....Visiting Professor of Philosophy  
A.B., 1918, M.A., 1919, Ph.D., 1922, Columbia
- RANKERT, EDWARD HENRY, 1947.....Instructor in Naval Science
- RANKIN, ESTELLE ALITA, 1946.....Acting Instructor in Geography  
B.S., 1932, Washington; M.A., 1935, Columbia
- RASANEN, PAUL ROBERT, 1947.....Instructor in Pharmacy  
B.S., 1940, Washington State; M.S., 1942, Nebraska; Ph.D., 1947, Purdue
- RATH, ROBERT EARLE, 1947.....Associate in General Engineering  
B.S. in M.E., 1944, Swarthmore
- RAY, DIXY LEE, 1945 (1947).....Assistant Professor of Zoology  
B.A., 1937, M.A., 1938, Mills; Ph.D., 1945, Stanford
- RAY, VERNE FREDERICK, 1933 (1947).....Professor of Anthropology; Associate Dean,  
Graduate School  
B.A., 1931, M.A., 1933, Washington; Ph.D., 1937, Yale
- READ, WILLIAM MERRITT, 1927 (1945).....Professor of Classical Languages;  
University Editor  
A.B., 1923, DePauw; A.M., 1924, Ph.D., 1927, Michigan



- REAUGH, DANIEL M., 1945.....Lecturer in Law  
A.B., 1932, Washington State; J.D., 1936, Washington; J.S.D., 1940, Yale
- REDFORD, GRANT H., 1945.....Assistant Professor of English  
B.S., 1937, Utah State; M.A., 1940, Iowa
- REED, CARROLL EDWARD, 1946.....Instructor in German  
B.A., 1936, M.A., 1937, Washington; Ph.D., 1941, Brown
- REEVES, GEORGE SPENCER, 1935 (1939).....Assistant Professor of Physical Education  
B.S., 1933, Oregon State; M.S., 1938, Oregon
- REIERSON, FRANCIS FREMONT, 1947.....Acting Associate in Physical Education  
B.A., 1947, Washington
- REIFLER, ERWIN, 1947.....Visiting Professor in the Far Eastern Department  
Dr. Ker. Pol., 1931, Vienna
- REIS, GEORGE WILLIAM, 1947.....Medical Photographer in Medical Illustration  
B.S., 1933, Loyola University (Chicago)
- REISS, GRACE DEWEY, 1945.....Field Work Supervisor in Graduate School of Social Work  
B.A., 1932, Iowa; M.A., 1940, Minnesota
- REMBE, ARMIN, 1947.....Clinical Assistant Professor of Pediatrics  
B.S., 1922, M.D., 1925, Northwestern
- RHEES, MARK CHARLES, 1947.....Research Associate in Pathology  
B.S., 1938, Utah State; M.S., 1941, Texas A. and M.
- RHODES, FRED HAROLD, Jr., 1927 (1943).....Associate Professor of Civil Engineering  
B.S. in C.E., 1926, B.S. in M.E., 1926, C.E., 1935, Washington
- RICHARDS, JOHN WILLIS, 1931 (1937).....Professor of Law  
B.A., 1923, Wisconsin; LL.B., 1926, LL.M., 1930, S.J.D., 1931, Harvard
- RICHARDSON, WILLIAM W., 1947.....Clinical Instructor in Medicine  
B.A., 1934, Amherst; M.D., 1938, Pennsylvania
- RICHEIMER, JAMES WALTER, 1947.....Associate in German  
A.B., 1944, University of Louisville; M.A., 1947, Columbia
- RICHINS, WILLIAM DWAIN, 1946.....Associate in Economics and Business  
B.A., 1936, Brigham Young University; M.B.A., 1938, Louisiana State
- RICKER, WALTER ALBRA, Jr., 1946.....Assistant Professor of Pathology  
M.D., 1939, Marquette (Wisconsin)
- RIGG, GEORGE BURTON, 1909 (1947).....Professor Emeritus of Botany;  
Research Consultant in the Department of Botany  
B.S., 1896, Iowa; A.M., 1909, Washington; Ph.D., 1914, Chicago
- RILEY, JOHN BRANSON, 1948.....Clinical Instructor in Psychiatry  
B.S., 1933, M.B., 1933, M.D., 1934, Minnesota
- RILEY, WALTER LEE, 1946.....Acting Assistant Professor of Political Science  
B.A., 1933, Adams State College (Colorado); M.A., 1935, Stanford
- RINGLE, ARTHUR LEVI, 1946.....Clinical Associate Professor of Public  
Health and Preventive Medicine  
M.D., 1935, Colorado; C.P.H., 1937, Minnesota
- RISEGARI, EILENE, 1945.....Instructor in Music  
B.A., 1916, Washington; M.A., 1920, Columbia
- RISING, LOUIS WAIT, 1934 (1936).....Professor of Pharmaceutical Chemistry  
Ph.G., B.S., 1924, Oregon State; M.S., 1926, Ph.C., 1928, Ph.D., 1929, Washington
- RITTER, DAVID MOORE, 1944 (1947).....Lecturer in Chemistry  
S.B., 1933, Ph.D., 1937, Chicago
- RIVENBURGH, VIOLA K., 1944 (1947).....Associate in English  
A.B., 1919, Nebraska; M.A., 1926, University of Hawaii
- ROBBINS, FLOYD DAVID, 1946 (1947).....Instructor in Electrical Engineering  
B.S. in E.E., 1925, Washington
- ROBERTS, JAMES RUSSELL, 1946.....Assistant Professor of English  
B.A., 1930, M.A., 1931, Washington State; Ph.D., 1940, Washington
- ROBERTS, MILNOR, 1901 (1947).....Dean Emeritus of the College of Mines  
B.A., 1899, Stanford
- ROBERTSON, JAMES CAMPBELL HAY, 1945.....Associate Professor of Forestry  
R.S.F., 1927, Washington; M.S.F., 1933, California
- ROBINSON, FRANK JOSEPH, 1946.....Assistant Professor of Industrial Management  
B.S., 1937, U.C.L.A.; M.B.A., 1940, Harvard
- ROBINSON, REX JULIAN, 1929 (1945).....Professor of Chemistry  
B.A., 1925, DePauw; M.A., 1927, Ph.D., 1929, Wisconsin

- RODENHOUSE, EVERT, 1947..... Acting Associate in Mathematics  
B.S., 1937, Washington
- ROETHKE, THEODORE, 1947..... Associate Professor of English  
A.B., 1929, A.M., 1936, Michigan
- ROGERS, CALVIN ABRAHAM, 1947..... Acting Associate in Mathematics  
B.A., 1944, Washington State
- ROGERS, WALTER EDWIN, 1946 (1947)..... Instructor in Electrical Engineering  
B.S. in E.E., 1934, California
- ROHRBAUGH, ALICE, 1947..... Instructor in Nursing  
B.A., 1934, College of Wooster; M.N., 1940, C.P.N., 1942, Western Reserve
- ROJAS, CARLOS ARAGON, 1946 (1947)..... Acting Instructor in Romance Languages  
A.B., 1924, M.A., 1925, Pomona
- ROLLER, JULIUS ABRAHAM, 1945..... Assistant Professor of Economics and Business  
B.B.A., 1934, Washington
- ROMAN, HERSCHEL LEWIS, 1942 (1947)..... Associate Professor of Botany  
A.B., 1936, Ph.D., 1942, Missouri
- ROOT, CORNELIUS, 1947..... Director of Laboratories in the School of Journalism
- ROSE, THELMA, 1946 (1947)..... Instructor in Home Economics  
B.S., 1940, Washington
- ROSEN, MORITZ, 1909 (1947)..... Professor Emeritus of Music;  
Graduate, Warsaw Conservatory, Russia  
Examiner of Strings
- ROSENBERG, REINHARDT MATHIAS, 1948..... Associate Professor of Aeronautical  
Engineering  
B.S. in G.E., 1941, Pittsburgh; M.S. in Aero. Engr., 1946, Purdue
- ROSS, KATHERINE DURBROW, 1948..... Acting Associate in English  
A.B., 1925, California
- ROSS, ZOLA HELEN, 1947..... Associate in English
- ROSSBACH, CHARLES EDMUND, 1947..... Acting Instructor in Art  
B.A., 1940, Washington; M.A., 1941, Columbia; M.A., 1947, Cranbrook Academy of Art  
(Michigan)
- ROSSMAN, EDWARD ALBERT, 1946 (1947)..... Instructor in Aeronautical Engineering  
B.S. in A.E., 1938, Washington
- ROTH, WILLIAM, 1947..... Assistant State Chemist  
B.S. in Pharm., 1941, Washington
- ROWE, OLIVER HUBERT, 1948..... Electron Microscopist in the Engineering  
Experiment Station  
E.S., 1937, North Dakota Agricultural College
- ROWLAND, JULIA OLIVE, 1947..... Instructor in Nursing  
B.S., 1947, Washington
- ROWLANDS, THOMAS McKIE, 1928 (1943)..... Associate Professor of General Engineering  
B.S., in Nav. Arch. and Marine Engr., 1926, Massachusetts Institute of Technology
- ROWLEY, ELLEN MARIE, 1947..... Acting Instructor in Physical Education  
A.B., 1942, Macalester College (Minnesota); M.Ed., 1943, Minnesota
- ROWNTREE, JENNIE IRENE, 1925 (1932)..... Professor of Home Economics;  
Director of the School of Home Economics  
B.S., 1918, Wisconsin; M.S., 1925, Chicago; Ph.D., 1929, Iowa
- RUCH, THEODORE CEDRIC, 1946..... Professor of Physiology;  
Executive Officer of the Department of Physiology  
B.A., 1927, Oregon; M.A., 1928, Stanford; B.A., 1930, B.S., 1932, Oxford; Ph.D., 1933, Yale
- RULIFSON, LEONE HELMICH, 1926 (1943)..... Associate Professor of Physical Education  
B.S., 1922, M.A., 1936, Washington
- RUPP, NATALIE COLES, 1947..... Acting Associate in the Humanistic-Social Division  
of the College of Engineering  
B.A., 1946, U.C.L.A.
- RUSHMER, ROBERT FRAZER, 1947..... Assistant Professor of Physiology  
B.S., 1936, Chicago; M.D., 1939, Rush Medical College
- RUST, PAUL JAMES, 1947..... Associate in English  
B.A., 1935, M.A., 1937, Idaho
- RUSTEBAKKE, HOMER MARTIN, 1947..... Instructor in Electrical Engineering  
B.S., 1941, Polytechnic College of Engineering (Oakland); M.S., 1945, Pittsburgh
- RUTHERFORD, FREDERICK WARNER, 1942..... Lecturer in Nursing  
A.B., 1930, Illinois; M.D., 1935, Harvard

- RUTLEDGE, IVAN CATE, 1947.....Assistant Professor of Law  
B.A., 1934, Carson-Newman College (Tennessee); M.A., 1940, LL.B., 1946, Duke
- RYAN, MILO, 1946.....Acting Assistant Professor of Journalism  
B.A., 1928, M.A., 1934, Michigan
- SAIBEL, LAURA FRAUTSCH, 1946. Field Work Supervisor in Graduate School of Social Work  
B.A., 1939, M.A., 1941, Minnesota
- ST. CLAIR, LAURA PHENELLA, 1937 (1947).....Instructor in English  
A.B., 1915, West Lafayette (Ohio); M.A., 1917, Adrian College (Michigan)
- SALO, ALICE HAYDEN, 1947.....Acting Instructor in Physical Education  
A.B., 1930, Florida; M.A., 1931, George Peabody College (Tennessee)
- SANDELIN, ROBERT WILLIAM, 1947.....Associate Professor of Metallurgy  
B.S. in Chem. Engr., 1930, M.S., 1931, Ph.D., 1941, Minnesota
- SANDERMAN, LLEWELLYN ARTHUR, 1928 (1944).....Assistant Professor of Physics  
B.S., 1923, Linfield College (Oregon); M.S., 1931, Ph.D., 1943, Washington
- SANDERSON, ERIC ROBERT, 1947.....Clinical Associate in Anatomy  
B.S., 1935, Minnesota; M.D., 1937, Harvard
- SAUERLANDER, ANNEMARIE MARGARET, 1947.....Visiting Lecturer in German  
B.A., 1928, M.A., 1930, Buffalo; Ph.D., 1936, Cornell
- SAVAGE, GEORGE MILTON, JR., 1935 (1945).....Associate Professor of English  
B.A., 1928, M.A., 1928, Ph.D., 1935, Washington
- SAVELLE, MAX, 1947.....Professor of History  
A.B., 1925, M.A., 1926, Ph.D., 1932, Columbia
- SCHAEFFER, ROBERT LEE, 1946.....Acting Assistant Professor of Psychology  
B.Ed., 1909, State Normal School (Colorado); B.A., 1937, M.A., 1939, Pennsylvania
- SCHALLERT, WILLIAM LOUIS, 1947.....Acting Instructor in Meteorology  
B.S., 1938, Wisconsin State Teachers College
- SCHALLER, GILBERT SIMON, 1922 (1937).....Professor of Mechanical Engineering  
B.S., in M.E., 1916, Illinois; M.B.A., 1925, Washington
- SCHARDT, ALVIN LUDWIG, 1944.....Associate in Music
- SCHAEFFER, VICTOR BLANCHARD, 1938.....Lecturer in Oceanography  
B.S., 1920, M.S., 1932, Ph.D., 1936, Washington
- SCHERTEL, MAX, 1931 (1947).....Assistant Professor of German  
B.Ed., 1909, State Normal School (Colorado); B.A., 1923, M.A., 1928, Ph.D., 1938, Washington
- SCHEYER, FREDERICK LOUIS, 1946 (1947).....Assistant Professor of Anatomy  
M.D., 1928, Temple
- SCHILLER, ZOE LUND, 1947.....Associate in English
- SCHMID, CALVIN FISHER, 1937 (1941).....Professor of Sociology  
B.A., 1925, Washington; Ph.D., 1930, Pittsburgh
- SCHMIDT, FRED HENRY, 1946.....Assistant Professor of Physics  
B.S.E., 1937, Michigan; M.A., 1940, Buffalo; Ph.D., 1945, California
- SCHRADER, OTTO HARRY, JR., 1936 (1945).....Associate Professor of Forestry  
B.S.F., 1931, Washington; M.S., 1932, Wisconsin; Ph.D., 1942, Yale
- SCHRAG, CLARENCE CLYDE, 1944 (1946).....Instructor in Sociology  
B.A., 1939, Washington State; M.A., 1945, Washington
- SCHRAM, LLOYD WILLIAM, 1940 (1945).....Instructor in Political Science;  
Director, Division of Adult Education and Extension Services  
B.A., 1934, LL.B., 1937, Washington; LL.M., 1938, Harvard
- SCHUBERT, WOLFGANG MANFRED, 1947.....Instructor in Chemistry  
B.S., 1941, Illinois; Ph.D., 1947, Minnesota
- \*SCHULTHEIS, FREDERIC DWIGHT, 1938 (1942). Associate Professor of Chinese Language  
and History; Assistant Director of Far Eastern Institute  
B.A., 1929, Washington; M.A., 1931, Columbia
- SCHULTZ, ARTHUR GUSTAVE, 1946.....Associate Clinical Professor of Prosthetics  
D.M.D., 1924, North Pacific College
- SEED, RICHARD WARREN, 1948.....Acting Instructor in Mechanical Engineering  
B.S. in M.E., 1944, California Institute of Technology
- SEELYE, WALTER BALE, 1947.....Clinical Professor of Pediatrics;  
Acting Executive Officer of the Department of Pediatrics  
B.S., 1922, Washington; M.D., 1926, Harvard

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- SELIGMAN, HILDA BARBARA, 1947.....Acting Associate in Romance Languages
- SERGEV, SERGIUS IVAN, 1923 (1946).....Professor of Civil Engineering  
B.S. in M.E., 1923, M.E., 1931, Washington
- SEYMOUR, ALLYN HENRY, 1948....Research Associate in the Applied Fisheries Laboratory  
B.S., 1937, Washington
- SHANKLIN, JAMES GAYLORD, 1948.....Lecturer in Nursing  
A.B., Hanover College (Indiana); M.D., 1939, Indiana
- SHANNON, LYLE WILLIAM, 1946.....Acting Associate in Sociology  
B.A., 1942, Cornell College
- SHAPLEY, JAMES LOUIS, 1947.....Acting Associate in Speech  
B.A., 1947, Washington
- SHATTUCK, WARREN LOCKE, 1935 (1941).....Professor of Law  
B.A., LL.B., 1934, Washington; J.S.D., 1936, Yale
- SHAW, JOSEPH WILLIAM, 1947.....Clinical Professor of Dermatology  
B.S., 1925, M.D., 1926, M.S., 1930, Michigan
- SHEEDY, FORREST HERMAN, 1947.....Acting Associate in English  
B.A., 1936, Oregon
- SHEFELMAN, S. HAROLD, 1930.....Lecturer in Law  
Ph.B., 1920, Brown; LL.B., 1925, Yale
- SHELDON, CHARLES STUART, II, 1940 (1946).....Assistant Professor of Transportation  
B.A., 1936, M.A., 1938, Washington; A.M., 1939, Ph.D., 1942, Harvard
- SHEPARD, ROBERT EASTON, 1947.....Research Associate in Hydraulic Engineering  
B.S., 1940, Washington
- SHERMAN, JOHN CLINTON, 1942 (1948).....Assistant Professor of Geography  
A.B., 1937, Michigan; M.A., 1943, Clark University; Ph.D., 1947, Washington
- SHERWOOD, KENNETH KYLER, 1940 (1947).....Clinical Assistant Professor of Medicine  
B.S., 1923, B.M., 1925, M.D., 1926, Minnesota
- SHIH, VINCENT YU-CHUNG, 1945.....Assistant Professor of Chinese Language,  
Literature and Philosophy  
B.A., 1925, Fukien Christian University, Foochow; M.A., 1930, Yenching University;  
Ph.D., 1939, Southern California
- SHIPMAN, GEORGE ANDERSON, 1946 (1947).....Professor of Political Science;  
Co-Director of the Institute of Public Affairs  
B.A., 1925, M.A., 1926, Wesleyan University (Connecticut); Ph.D., 1931, Cornell University
- SHOLLEY, JOHN BURRILL, 1932 (1939).....Professor of Law  
LL.B., 1932; B.A., 1935, Washington; J.S.D., 1937, Chicago
- SHORT, JAMES EDWARD, 1947.....Acting Associate in Mathematics  
B.Ed., 1935, Montana State; M.Ed., 1947, Washington
- SHUCK, GORDON RUSSELL, 1918 (1937).....Professor of Electrical Engineering  
B.S. in E.E., 1906, Minnesota
- SHURTLEFF, MARCELLUS CLAY, 1947.....Eye, Ear, Nose, and Throat Specialist  
in the University Health Service  
M.D., 1937, Nebraska
- SIDEY, THOMAS KAY, 1903 (1943).....Professor Emeritus of Latin and Greek  
A.B., 1891, Victoria University; Ph.D., 1900, Chicago
- SIEG, LEE PAUL, 1934 (1946).....President Emeritus of the University  
B.S., 1900, M.S., 1901, Ph.D., 1910, Iowa; LL.D., 1934, Pittsburgh, 1941, Iowa
- SIMPSON, FLOYD ROBERT, 1943 (1946).....Associate Professor of Economics and Business  
B.A., 1933, M.A., 1938, Ph.D., 1943, Minnesota
- SIMPSON, LURLINE VIOLET, 1924 (1944).....Associate Professor of Romance Languages  
B.A., 1920, M.A., 1924, Ph.D., 1928, Washington
- SINES, FRANCIS JACK, 1947.....Instructor in General Engineering  
B.S. in C.E. and N.S., 1945, Washington
- SIRKEN, MONROE, 1947.....Acting Associate in Sociology  
B.A., 1946, M.A., 1947, California
- SIVERTZ, VICTORIAN, 1926 (1936).....Assistant Professor of Chemistry  
B.S., 1922, Washington; M.S., 1924, West Virginia; Ph.D., 1926, McGill
- SKAHEN, JULIA GOODSSELL, 1945 (1946).....Assistant Professor of Anatomy and Physiology  
B.S., 1926, M.S., 1928, Washington; Ph.D., 1941, Chicago
- SKEELS, DELL ROY, 1946 (1947).....Associate in English  
B.A., 1941, M.A., 1942, Idaho

- SKINNER, MACY MILLMORE, 1916 (1947).....Professor Emeritus of Foreign Trade;  
Counsellor for Foreign Trade Students  
A.B., 1894, A.M., 1895, Ph.D., 1897, Harvard
- SKUBI, KAZIMER BOGARD, 1947.....Clinical Instructor in Medicine  
B.S., 1932, Washington; M.D., 1940, Rush Medical College
- SLAUGHTER, LOIS ELIZABETH, 1945 (1948).....Instructor in Physical Education  
B.A., 1943, Texas; M.S., 1945, Wellesley
- SLOUGH, IONE O., 1948.....Instructor in Nursing  
R.N., 1918, Michigan; B.S., 1934, Michigan State Normal College
- SMID, CAROLINE GEARHART, 1943.....Acting Associate in Speech  
B.A., 1935, Washington
- SMITH, ALBERT WILLIAM, 1947.....Acting Associate in Geography  
A.B., 1943, Clark University
- SMITH, BRUCE BROWNFIELD, 1946.....Clinical Instructor in Operative Dentistry  
D.M.D., B.S., 1942, North Pacific College
- SMITH, CHARLES WESLEY, 1905 (1947).....Librarian Emeritus; Professor Emeritus of  
Librarianship; Bibliographic Consultant  
B.A., 1903, B.L.S., 1905, Illinois
- SMITH, ELMER HALDON, 1947.....Instructor in Electrical Engineering;  
Research Associate in the Engineering Experiment Station  
E.E., 1942, University of Cincinnati
- SMITH, FREDERICK CHARNLEY, 1926 (1947).....Professor of Civil Engineering  
B.S. in C.E., 1926, C.E., 1929, Washington
- SMITH, GEORGE SHERMAN, 1921 (1941).....Professor of Electrical Engineering  
B.S. in E.E., 1916, E.E., 1924, Washington
- SMITH, HARRY EDWIN, 1914 (1929).....Professor of Economics and Business  
A.B., 1906, M.A., DePauw; Ph.D., 1912, Cornell
- SMITH, HAZEL MARTHA, 1944.....Acting Associate in Home Economics  
B.S., 1927, Oregon
- SMITH, GEORGE DUNCAN, 1946.....Research Associate in the Bureau of Governmental  
Research and Services  
B.A., 1944, Washington
- SMITH, LAURA BELLE, 1947.....Instructor in Nursing  
R.N., 1945, Swedish Hospital (Seattle); B.S., 1946, Seattle Pacific College
- SMITH, ROBERT HOWARD, 1947.....Research Associate in Aeronautical Engineering  
B.S., 1946, Washington
- SMITH, RUTH SPANGLE R., 1947.....Associate in Psychology  
B.A., 1943, Swarthmore; M.A., 1944, Columbia
- SMITH, STEVENSON, 1911 (1916).....Professor of Psychology;  
Executive Officer, Department of Psychology; Director of the Gatzert Foundation  
B.S., 1904, Ph.D., 1909, Pennsylvania
- SMULLYAN, ARTHUR FRANCIS, 1946.....Assistant Professor of Philosophy  
A.B., 1935, College of the City of New York; A.M., 1940, Ph.D., 1941, Harvard
- SNADER, ELIZABETH ALBEE ADAMS, 1945.....Instructor in Music  
B.A., 1936, New England Conservatory of Music; M.M., 1938, Michigan
- SNIDER, HAROLD WAYNE, 1948.....Associate in Economics and Business  
B.A., 1947, Washington
- SNYDER, WILLIAM ARTHUR, 1940 (1943).....Instructor in Mechanical Engineering  
B.M.E., 1939, Minnesota
- SODERSTROM, KENNETH MALCOLM, 1941 (1947).....Clinical Assistant Professor of Medicine  
M.D., 1931, Nebraska; M.S. in P.H., 1940, Johns Hopkins
- SOMMERFELD, FRANZ RENE, 1947 (1948).....Instructor in German  
B.A., 1944, California; M.A., 1946, Columbia
- SOULE, ELIZABETH STERLING, 1920 (1934).....Professor of Nursing;  
Dean of the School of Nursing  
R.N., 1907, Malden Hospital (Massachusetts); B.A., 1926, M.A., 1931, Washington;  
D.Sc., 1944, Montana State
- SPARKMAN, DONALD ROSS, 1947.....Clinical Instructor in Medicine  
B.S., 1930, Washington; M.D., 1934, Pennsylvania
- SPECTOR, IVAR, 1931 (1942).....Associate Professor of Russian Language and Literature  
Graduate, Teachers Seminar (Russia); M.A., 1926, Northwestern; Ph.D., 1928, Chicago
- SPEIR, EDWARD B., 1946.....Lecturer in Nursing  
B.A., 1929, M.D., 1933, Kansas

- †SPERLIN, OTIS BEDNEY, 1921 (1923).....Lecturer in English  
A.B., 1903, Indiana; Ph.M., 1908, Chicago
- SPICKARD, VERNON WARREN, 1947.....Clinical Assistant Professor of Pediatrics  
B.S., 1917, Drake; M.D., 1918, Pennsylvania
- SPIELHOLZ, JESS BERNARD, 1947.....Clinical Associate in Pathology  
M.D., 1932, Long Island College of Medicine; M.S.P.H., 1943, Columbia
- SPIELMANN, HEINZ, 1948.....Acting Associate in Germanic Languages
- SPRAGG, ARMOREL McDOWELL, 1944 (1947).....Acting Instructor in Art  
B.A., 1934, Washington
- STAHL, HERBERT M., 1947.....Associate in English  
B.A., 1936, Huron College (South Dakota); M.A., 1938, Colorado State College of Education
- STAMATAKIS, ETHEL M., 1947.....Instructor in Nursing  
R.N., 1928, Muncie Home Hospital (Indiana); B.S., 1938, Ball State Teachers College (Indiana); C.P.H.N., 1949, Western Reserve
- STANSBERRY, CLAUD J., 1946.....Clinical Professor of Prosthetics;  
Executive Officer of the Department of Prosthetics  
D.D.S., 1905, California
- STANSBY, MAURICE EARL, 1943.....Lecturer in Fisheries  
B.Chem., 1930, M.S., 1933, Minnesota
- STARKS, MILAN VICTOR, 1948.....Clinical Instructor in Oral Histology  
B.S., 1940, D.D.S., 1940, Nebraska
- STARR, JAMES MARION, 1946 (1947).....Associate in Speech  
B.A., 1937, M.A., 1943, Washington
- STEELE, CORALEE I., 1946.....Instructor in Nursing  
R.N., 1929, Multnomah Hospital (Oregon); B.S., 1933, Washington
- STEINBRUECK, VICTOR, 1946 (1947).....Instructor in Architecture  
B.Arch., 1935, Washington
- STEINER, JESSE FREDERICK, 1931.....Professor of Sociology  
B.A., 1901, Heidelberg College (Ohio); M.A., 1913, Harvard; Ph.D., 1915, Chicago
- STEVENS, ARTHUR WILBER, 1948.....Acting Associate in English  
B.A., 1942, Brown
- STEVENS, EDWIN BICKNELL, 1910 (1947).....Professor Emeritus and Advisor to  
Higher Education Conference  
A.B., 1896, Tufts; A.M., 1899, Harvard
- STEVENS, LEONARD WOODBURY, 1937 (1946).....Instructor in Physical Education  
B.S., 1933, M.S., 1941, Washington
- STEWART, HAL BURTON, JR., 1947.....Clinic Physician for the University Health Service  
B.S., 1941, Washington; M.D., 1944, Creighton (Nebraska)
- STIBBS, GERALD DENIKE, 1948.....Professor of Dentistry  
D.M.D., B.S., North Pacific College
- STIPPES, MARVIN CLIFFORD, 1946.....Acting Associate in Mathematics  
B.S., 1943, Illinois; M.S., 1946, Washington
- STIRLING, THOMAS BRENTS, 1932 (1943).....Associate Professor of English  
LL.B., 1926, Ph.D., 1934, Washington
- STOLESON, HELEN ELEANOR, 1945.....Instructor in Nursing  
R.N., 1931, Washington Boulevard Hospital; B.S., 1940, Minnesota
- STOLZHEISE, RALPH M., 1948.....Clinical Instructor in Psychiatry  
A.B., 1926, Willamette University; M.D., 1934, Oregon
- STONE, EDWARD NOBLE, 1910 (1944).....Professor Emeritus of Classical Languages  
A.B., 1891, M.A., 1893, Olivet (Michigan)
- STONE, EMMA ABERCROMBIE, 1948.....Instructor in Nursing  
B.A., 1937, Eastern Washington College of Education
- STONE, GEORGE HARRISON, 1947.....Instructor in Naval Science
- STOWELL, ELLERY CORY, JR., 1947.....Research Associate in Pathology  
B.S., 1940, California Institute of Technology; M.A., 1943, Ph.D., 1948, California
- STRASH, VICTOR C., 1947.....Instructor in the Far Eastern Department  
B.A., 1915, University of Moscow (Russia); M.A., 1931, Washington
- STREIB, JOHN FREDERICK, JR., 1947.....Assistant Professor of Physics  
B.S., 1936, Ph.D., 1941, California Institute of Technology

- STRIZEK, OTTO P., 1947..... Clinical Instructor in Oral Anatomy  
D.M.D., 1926, Oregon
- STROH, JAMES EUGENE SIMMER, 1947..... Clinical Assistant Professor of Medicine  
B.S., 1928, South Dakota; M.D., 1931, Illinois
- STROTHER, CHARLES RIDDELL, 1931 (1947)..... Professor of Psychology  
B.A., 1929, M.A., 1932, Washington; Ph.D., 1935, Iowa
- STUNTZ, DANIEL ELLIOT, 1940 (1945)..... Assistant Professor of Botany  
B.S., 1935, Washington; Ph.D., 1940, Yale
- SUGARS, THOMAS W., 1948..... Clinical Instructor in Psychiatry  
S.B., 1936, Washington State; M.D., 1939, Rush Medical College
- SULLIVAN, CLAYTON LEE, 1935 (1947)..... Instructor (Retired) in Mechanical Engineering
- SUNOO, HAROLD HAGWON, 1946..... Instructor in the Far Eastern Department  
B.A., 1942, Pasadena College; M.A., 1944, Washington
- SVELANDER, KATHERINE GUSTAFSON, 1946..... Assistant Professor of Nursing  
R.N., 1928, Swedish Hospital (Seattle); B.S., 1928, Washington
- SVIHLA, ARTHUR, 1938 (1943)..... Professor of Zoology  
A.B., 1925, Illinois; M.S., 1928, Ph.D., 1931, Michigan
- SWANSON, JOHN EDWARD, JR., 1946 (1947)..... Associate in Civil Engineering  
B.S. in C.E. and N.S., 1945, Washington
- SWARM, H. MYRON, 1947..... Instructor in Electrical Engineering  
B.S. in E.E., 1940, Washington
- SWARNER, RACHEL G., 1945..... Associate in Music  
B.A., 1946, Washington
- SYLVESTER, HOWARD EUGENE, 1943 (1947)..... Instructor in English  
B.A., 1937, M.A., 1941, New Mexico
- SYLVESTER, ROBERT OHRUM, 1947..... Assistant Professor of Civil Engineering  
B.S. in C.E., 1936, Washington; S.M., 1941, Harvard
- TANNER, ROBERT LEIGH, 1947..... Instructor in Electrical Engineering  
A.B., 1944, M.A., 1947, Stanford
- TARTAR, HERMAN VANCE, 1917 (1927)..... Professor of Chemistry;  
Executive Officer of Departments of Chemistry and Chemical Engineering  
B.S., 1902, Oregon State; Ph.D., 1920, Chicago
- TATSUMI, HENRY SABURO, 1935 (1946)..... Associate Professor of Japanese Language  
B.A., 1932, M.A., 1935, Washington
- \*TAUB, ABRAHAM HASKELL, 1936 (1946)..... Professor of Mathematics and Astronomy  
B.S., 1931, Chicago; Ph.D., 1935, Princeton
- TAYLOR, EDWARD AYERS, 1929..... Professor of English  
B.A., 1909, Denver University; M.A., 1918, Ph.D., 1925, Chicago
- TAYLOR, GEORGE EDWARD, 1939 (1946)..... Professor of Far Eastern History;  
Executive Officer of Far Eastern Department; Director of the Far Eastern Institute  
A.B., 1927, A.M., 1928, Birmingham (England)
- TAYLOR, ROBERT LINCOLN, 1941 (1945)..... Professor of Law  
B.A., 1927, Yale; J.D., 1930, Northwestern
- TEEVAN, THOMAS FOSTER, 1946 (1947)..... Associate in English  
B.A., 1936, College of Puget Sound
- TEMPLETON, FREDERIC EASTLAND, 1947..... Professor of Radiology;  
Chairman of the Section on Radiology  
B.S., 1927, Washington; M.D., 1931, Oregon
- TENNANT, HAROLD ELMER, 1944..... Acting Instructor in Geography  
B.A., 1933, M.A., 1937, Washington
- TERRELL, MARGARET ELMA, 1928 (1944)..... Professor of Home Economics;  
Director of University Food Service  
B.A., 1923, Penn College (Iowa); M.A., 1927, Chicago
- TERRY, MIRIAM, 1930 (1937)..... Assistant Professor of Music  
B.M., 1926, Washington
- THAYER, RALPH IRA, 1945..... Assistant Professor of Economics and Business;  
Assistant Director of the Institute of Labor Economics  
B.S., 1937, Northwestern; M.A., 1944, Washington; Ph.D., 1947, Stanford
- THIEL, SERRETA MARGARET, 1945..... Instructor in Music
- THOMAS, BERNARD OWEN AMOS, 1946..... Professor of Dental Histopathology;  
Executive Officer of the Department of Oral Pathology  
D.D.S., 1935, B.A., 1936, M.S., 1939, Minnesota; D.D.S., 1940, Ph.D., 1946, Columbia

- THOMAS, GERALD FREDERICK, 1947.....Lecturer in the School of Nursing  
M.D., 1933, Nebraska
- THOMAS, HARLAN, 1926.....Professor of Architecture;  
Director Emeritus of the School of Architecture  
B.S., 1894, Colorado State
- THOMLE, KRISTINE, 1945.....Acting Instructor in Scandinavian  
B.A., 1915, M.A., 1934, Washington
- THOMPSON, CARLISLE HARRY, 1946.....Associate in English  
B.S., 1922, U.S. Naval Academy
- THOMPSON, GORDON GRAHAME, 1947....Clinical Professor of Obstetrics and Gynecology;  
Acting Executive Officer of the Department of Obstetrics and Gynecology  
B.S., 1906, Macalester College (Minnesota); M.D., 1910, Illinois
- THOMPSON, IVAN, 1947.....Clinical Instructor in Medicine  
B.M., 1934, M.D., 1935, Northwestern
- THOMPSON, THOMAS GORDON, 1919 (1929).....Professor of Chemistry;  
Director of Oceanographic Laboratories  
A.B., 1914, Clark University; M.S., 1915, Ph.D., 1918, Washington
- THOMPSON, WILLIAM FRANCIS, 1930 (1947).....Research Professor of  
Fisheries; Director of the Fisheries Institute  
B.A., 1911; Ph.D., 1930, Stanford
- THOMSON, DAVID, 1902 (1947).....Professor Emeritus of Latin;  
Vice-President Emeritus; Pre-Law Advisor  
B.A., 1892, Toronto; LL.D., 1936, British Columbia
- THORNTON, HELEN KNOTT, 1947.....Research Associate in Pathology  
B.S., 1937, M.S., 1939, Washington; Ph.D., 1944, Ohio State
- THORPE, BERENICE Du RAE, 1946 (1947).....Instructor in English  
B.A., 1924, M.A., 1925, Washington
- TIDWELL, ROBERT AUSTIN, 1947.....Clinical Instructor in Pediatrics  
B.S.M., 1935, M.D., 1937, Oklahoma
- TIEN, GERALD, 1947.....Acting Assistant Professor of Geography  
A.B., 1932, M.A., 1936, Yenching; Ph.D., 1948, Michigan
- TIFFANY, WILLIAM ROBERT, 1947.....Associate in Speech  
B.A., 1946, Washington
- TILLOTSON, HELEN GENE, 1945.....Instructor in Nursing  
R.N., B.S., 1941, Minnesota
- TONSING, ARTHUR RICHARD, 1947.....Acting Associate in Mechanical Engineering
- TORNEY, JOHN ALFRED, Jr., 1930 (1937).....Assistant Professor of Physical Education  
B.S., 1928, Washington; M.A., 1930, Columbia
- TOWN, VICTOR JOHN, 1947 (1948).....Acting Associate in Political Science  
B.A., 1935, M.A., 1940, British Columbia
- TRUAX, ARTHUR ROBERT, 1924.....Lecturer in Finance
- TRUEBLOOD, DONALD VAUGHN, 1947.....Senior Consultant in Surgery  
A.B., 1911, Washington; M.D., 1915, Johns Hopkins
- TRUEBLOOD, PAUL GRAHAM, 1947.....Assistant Professor of English  
A.B., 1928, Willamette (Oregon); M.A., 1930, Ph.D., 1935, Duke
- TSCHUDIN, MARY STICKELS, 1942 (1944).....Assistant Professor of Nursing  
R.N., B.S. in Nursing, 1935, C.P.H.N., 1936, M.S., 1939, Washington
- TSUTAKAWA, GEORGE, 1947.....Acting Associate in Art  
B.A., 1937, Washington
- TURNER, EDWARD LEWIS, 1945.....Professor of Internal Medicine;  
Dean of the School of Medicine  
B.S., 1922, M.S., 1923, Chicago; M.D., 1928, Pennsylvania
- TURNER, MABEL ALEXANDRA, 1941 (1946).....Assistant Professor of Librarianship  
A.B., 1926, Oregon; B.S. in L.S., 1931, Columbia
- TYLER, RICHARD GAINES, 1929.....Professor of Civil Engineering  
C.E., 1908, Texas; B.S. in C.E., 1910, Massachusetts Institute of Technology
- TYMSTRA, SYBREN RUURD, 1929 (1945).....Professor of Mechanical Engineering  
M.E., 1905, Zwickau (Germany)
- UEHLING, EDWIN ALBRECHT, 1936 (1947).....Professor of Physics  
B.A., 1925, Wisconsin; M.A., 1930, Ph.D., 1932, Michigan
- UHRICH, GEORGE EDWARD, 1946.....Acting Associate in Mathematics  
B.S., 1939, Washington; M.S., 1941, Colorado



- ULBRICKSON, ALVIN M., 1927.....Associate in Physical Education  
B.A., 1927, Washington
- UMPHREY, GEORGE WALLACE, 1911 (1922).....Professor of Romance Languages  
A.B., 1899, Toronto; A.M., 1901, Ph.D., 1905, Harvard; Litt.D., 1919,  
Universidad de San Marcos (Lima)
- URQUHART, ALEXANDER DONALD, JR., 1947.....Associate in Political Science  
B.A., 1943, Washington
- UTTERBACK, CLINTON LOUIS, 1918 (1934).....Professor of Physics; Executive Officer  
of Department of Physics; Director of Physics Laboratories  
B.S., 1908, Purdue; M.S., 1918, Washington; Ph.D., 1926, Wisconsin
- VAIL, CURTIS C. D., 1939.....Professor of Germanic Languages and Literature;  
Executive Officer of the Department of Germanic Languages and Literature  
A.B., 1924, Hamilton College; M.A., 1929, Ph.D., 1936, Columbia
- VANDEWALL, GEORGE L., 1947.....Clinical Assistant Professor of Operative Dentistry  
A.B., 1932, Washington; D.M.D., 1937, Oregon
- VAN HORN, ROBERT BOWMAN, 1925 (1938).....Professor of Hydraulic Engineering;  
Executive Officer of the Department of Civil Engineering  
B.S. in C.E., 1916, C.E., 1926, Washington
- VAN OGLE, LOUISE, 1915 (1947).....Professor Emeritus of Music; Examiner in Piano  
Theoretical Work with Dr. Bridge, Chester, England; Richter, Leipzig;  
Piano, Godowsky, Lhevinne, Berlin; Harold Bauer, Paris
- VAN TUYL, ANTON MARIE, 1947.....Acting Associate in Germanics
- VAN VACTOR, WILLIAM EDWIN, 1947.....Associate in English  
A.B., 1943, A.M., 1946, Oregon
- VICKNER, BERTHA ALMEN, 1920 (1947).....Instructor in English  
B.A., 1910, Gustavus Adolphus; M.A., 1917, Washington
- VICKNER, EDWIN JOHAN, 1912.....Professor of Scandinavian Languages;  
Executive Officer of the Department of Scandinavian Languages  
A.B., 1901, A.M., 1902, Ph.D., 1905, Minnesota
- VOEGTLIN, WALTER LYLE, 1947.....Clinical Assistant Professor of Medicine  
B.S., 1932, M.S., 1933, B.M., 1934, M.D., 1935, Northwestern
- VON BREVERN, MAXIM C., 1934 (1942).....Associate Professor of Political Science  
Graduate, Imperial Royal Military Academy,  
Wiener Neustadt, Austria, 1907; Ph.D., 1935, Washington
- WADE, ARTHUR E., 1928.....Lecturer in Home Economics  
B.S., 1902, Cornell College; M.D., 1905, Sioux City College of Medicine
- WAGNER, CARL VERN, 1947.....Associate in English  
B.S., 1946, Washington
- WAGNER, CHARLOTTE FITTON, 1940 (1946).....Instructor in Speech  
B.A., 1937, M.A., 1941, Washington
- WAGNER, LOUIS CHARLES, 1947.....Associate Professor of Marketing  
B.A., 1938, Washington; M.A., 1940, Minnesota
- WALDRON, LAWRENCE GALEN, 1947.....Acting Instructor in Architecture  
B.Arch., 1936, Washington
- WALKER, LAUREN McNEAL, 1946 (1947).....Assistant Professor of Economics and Business  
B.A., 1939, M.B.A., 1943, Washington
- WALSKE, MAX CARL, JR., 1947.....Acting Associate in Mathematics  
B.S., 1944, Washington
- WALTERS, MARGARET CURTIS, 1929 (1947).....Assistant Professor of English  
B.A., 1917, Mills; M.A., 1919, Yale
- WANAMAKER, FRANK HERMAN, 1947.....Medical Lecturer in Nursing  
D.D.S., 1922, M.D., 1930, Northwestern
- WANG, KAN-YU, 1946 (1948).....Lecturer on the Community Forum Program in the  
Division of Adult Education and Extension Services  
B.A., 1929, National Tsinghua University; M.A., 1930, Ph.D., 1947, Harvard
- WARBINGTON, ALBERT LEE, 1947.....Associate in Civil Engineering  
B.S., 1943, Washington
- WARNER, FRANK MELVILLE, 1913 (1937).....Professor of Engineering Drawing  
B.S., 1907, Wisconsin
- WARNING, MARGARET CYNTHIA, 1943 (1947).....Assistant Professor of Home Economics  
B.A., 1936, Morningside College (Iowa); B.S., 1944, M.A., 1945, Washington
- WATERS, ELLEN HARRIET, 1946.....Assistant Professor of Physical Education  
B.A., 1927, Washington; M.A., 1940, Columbia

- WATSON, WILBUR EARL, 1946.....Clinical Associate in Anatomy  
B.S., 1930, Washington; M.D., 1935, McGill
- WATTS, CHARLES EDWARD, 1947.....Clinical Professor of Medicine  
B.S., 1913, Idaho; M.D., 1918, Rush Medical College
- WEAVER, CHARLES EDWIN, 1907 (1921).....Professor of Geology  
B.S., 1904, Ph.D., 1907, California
- WEAVER, EDWARD ALLAN, 1947.....Instructor in Botany  
A.B., 1935, Nebraska Wesleyan; Ph.D., 1942, Missouri
- WEBSTER, DONALD HOPKINS, 1939.....Associate Professor of Political Science;  
Director of Bureau of Governmental Research and Services  
B.A., 1929, LL.B., 1931, Ph.D., 1933, Washington
- WEINSTEIN, SYDNEY, 1947.....Clinical Instructor in Medicine  
B.S., 1926, Washington; M.D., 1930, Jefferson Medical College
- WEISER, RUSSELL SHIVLEY, 1934 (1942).....Associate Professor of Microbiology  
B.S., 1936, M.S., 1931, North Dakota State; Ph.D., 1934, Washington
- WELANDER, ARTHUR DONOVAN, 1937 (1943).....Instructor in Fisheries  
B.S., 1934, M.S., 1940, Ph.D., 1946, Washington
- WELCH, WILLIAM RALPH, 1942.....Associate in Physical Education
- WELKE, WALTER CARL, 1929 (1943).....Associate Professor of Music  
B.M. in Educ., 1927, Michigan
- WENNEKENS, MARCEL PAT, 1947.....Acting Associate in Romance Languages
- WERNER, AUGUST, 1931 (1932).....Professor of Music  
B.S., 1913, College of Agriculture, Stend, Norway
- WESNER, ELENORA M., 1924 (1946).....Assistant Professor of Germanic Languages  
A.B., 1915, Chicago; M.A., 1923, Northwestern
- WEST, FRANK BEACH, 1946.....Assistant Professor of Chemical Engineering  
B.S. in Chem.E., 1936, Ph.D., 1939, Minnesota
- WESTPHAL, KATHERINE V., 1946.....Instructor in Art  
B.A., 1943, M.A., 1943, California
- WHEELER, BAYARD O., 1948.....Research Associate in the Bureau of Business Research;  
Acting Associate Professor of Economics and Business  
A.B., 1928, California; M.A., 1930, Washington; Ph.D., 1942, California
- WHITE, MARY ELIZABETH, 1946.....Instructor in Music  
B.M.E., 1935, Southern California
- WHITE, MYRON LESTER, 1947.....Acting Associate in the Humanistic-Social  
Division of the College of Engineering  
B.A., 1943, Washington
- WHITELEY, ARTHUR H., 1947.....Assistant Professor of Zoology  
B.A., 1938, Kalamazoo College; M.A., 1939, Wisconsin; Ph.D., 1945, Princeton
- WHITTLESEY, WALTER BELL, 1909 (1929).....Assistant Professor of Romance Languages  
B.A., 1907, M.A., 1909, Washington
- WILCOX, ELGIN ROSCOE, 1921 (1936).....Professor of General Engineering;  
Executive Officer of the General Engineering Department  
B.S., 1915, Met.E., 1919, Washington
- WILKIE, RICHARD FRANCIS, Jr., 1937 (1943).....Instructor in Germanic Languages  
B.A., 1934, M.A., 1936, Washington
- WILKINSON, JOHN N., 1947.....Clinical Instructor in Medicine
- 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 University
- WILLIAMS, ELGIN, 1947.....Assistant Professor of Economics  
A.B., 1942, A.M., 1944, Texas
- WILLIAMS, JOSEPH EARL, 1946.....Assistant Professor of Geography  
A.B., 1930, California; Ph.D., 1932, Vienna
- WILLIAMS, PAUL LELAND, 1947.....Clinical Instructor in Dermatology  
B.S., 1934, M.D., 1937, Oregon
- WILLIS, CLIFFORD LEON, 1946.....Instructor in Geology  
B.S. in Min. Engr., 1939, Kansas
- WILLIS, LEOTA SNIDER, 1943 (1946).....Instructor in English  
B.A., 1923, California; M.A., 1930, Ph.D., 1931, Pennsylvania;  
Cert. of Studies, 1932, Sorbonne, Paris
- WILLISTON, FRANK GOODMAN, 1943.....Associate Professor of Far Eastern History  
A.B., 1922, Ohio Wesleyan; M.A., 1926; Ph.D., 1935, Chicago

- WILSON, CLOTILDE MARCONNIER, 1928 (1937).....Assistant Professor of Romance Languages  
B.A., 1926, M.A., 1927, Ph.D., 1931, Washington
- WILSON, FLORENCE BERGH, 1929 (1947).....Associate Professor of Music  
B.M., 1917, B.A., 1924, Washington; M.A., 1925, Columbia
- WILSON, GALE EDWARD, 1948.....Lecturer in Forensic and Legal Medicine  
B.S., 1926, Washington; M.D., 1930, Harvard
- WILSON, ROLAND EDWARD, 1947.....Instructor in Architecture  
B.S. in Arch., 1932, Michigan
- WILSON, RUTH MARIAN, 1936 (1945).....Associate Professor of Physical Education;  
Executive Officer of the Department of Physical Education for Women  
B.S., 1931, Utah; M.S., 1936, Wisconsin
- WILSON, WILLIAM CHARLES EADE, 1926 (1947).....Professor of Romance Languages  
A.B., 1922, Montana; M.A., 1925, Ph.D., 1928, Washington
- WILSON, WILLIAM RONALD, 1919 (1929).....Professor of Psychology  
B.A., 1917, M.S., 1920, Ph.D., 1925, Washington
- WINGER, ROY MARTIN, 1918 (1925).....Professor of Mathematics  
A.B., 1906, Baker; Ph.D., 1912, Johns Hopkins
- †WINKENWERDER, HUGO AUGUST, 1909 (1912).....Professor of Forestry;  
Dean Emeritus of the College of Forestry  
B.S., 1902, Wisconsin; M.F., 1907, Yale
- WINN, ROMA TUELLER, 1947.....Acting Associate in the Nursery School  
B.S., 1939, California
- WINSLOW, ARTHUR MELVIN, 1918 (1927).....Professor of Mechanical Engineering  
Ph.B., 1903, Brown; B.S., 1906, Massachusetts Institute of Technology
- WINTHER, SOPHUS KEITH, 1925 (1940).....Professor of English  
B.A., 1918, M.A., 1919, Oregon; Ph.D., 1926, Washington
- WITHEY, STEPHEN BASSETT, 1947.....Acting Associate in Psychology  
B.A., 1940, Asbury College; M.A., 1947, Northwestern
- WITTFOGEL, KARL AUGUST, 1947.....Acting Professor of Chinese History  
Ph.D., 1928, Hamburg (Germany)
- WOLLETT, DONALD HOWARD, 1946 (1947).....Acting Assistant Professor of Law;  
Assistant to the Dean of the Law School  
B.A., 1941, Chicago; LL.B., 1942, Indiana
- WOODCOCK, EDITH, 1930 (1945).....Associate Professor of Music  
B.M., 1925, Rochester; M.M., 1936, Washington
- WOODWARD, RICHARD ROBERT, 1947.....Assistant to the Dean;  
Assistant Professor of Economics and Business  
B.A., 1939, Dartmouth; M.A., 1941, Harvard
- WOODS, NELLIE ANGELINA, 1947.....Acting Associate in Microbiology  
B.S., 1945, M.S., 1948, Washington
- WOOLSTON, HOWARD BROWN, 1919 (1947).....Professor Emeritus of Sociology  
and Research Consultant  
A.B., 1898, Yale; S.T.B., 1901, Chicago; M.A., 1902, Harvard; Ph.D., 1909, Columbia
- WORCESTER, DEAN AMORY, Jr., 1946.....Assistant Professor of Economics  
A.B., 1939, M.A., 1940, Nebraska; Ph.D., 1943, Minnesota
- WORKS, AMY LOU, 1946.....Associate in Economics and Business  
A.B., 1941, MacMurray College
- WRIGHT, KENNETH ARLING, 1947.....Research Associate in the Graduate School  
B.S., 1932, Ph.D., 1938, Washington
- YAGGY, ELINOR MAY, 1943 (1946).....Instructor in English  
B.A., 1929, M.A., 1939, Idaho; Ph.D., 1936, Washington
- YAGI, FUMIO, 1946 (1947).....Instructor in Mathematics  
B.S., 1938, M.S., 1941, Washington; Ph.D., 1943, Massachusetts Institute of Technology
- YAMAMURA, DOUGLAS SHIGEHARU, 1947.....Acting Associate in Sociology  
Ed.B., 1938, Ed.M., 1941, University of Hawaii
- YANG, CHING-KUN, 1944 (1945).....Assistant Professor of Chinese History  
B.A., 1932, M.A., 1934 Yenching; Ph.D., 1939, Michigan
- YANG, RICHARD FU-SEN, 1948.....Acting Associate on the Community Forum  
Program in the Division of Adult Education and Extension Services  
B.A., 1943, Yenching

- YATES, ELMER HOWARD, 1943.....Acting Instructor in Mathematics  
A.B., 1913, Whitman
- YOUNG, OTTO CHRISTIAN, 1947.....Lecturer in Fisheries  
B.S., 1927, B.E., 1929, M.E., 1934, Saskatchewan
- YOUNGKEN, HEBER WILKINSON, 1942 (1946).....Assistant Professor of Pharmacy  
A.B., 1935, Bucknell University; B.S., 1938, Massachusetts College of Pharmacy;  
M.S., 1940, Ph.D., 1942, Minnesota
- ZECH, RAYMOND L., 1947.....Senior Consultant in Surgery  
B.S., 1919, M.D., 1920, Northwestern
- ZETLIN, EMANUEL ROMAN, 1947.....Professor of Music  
Graduate, 1916, Imperial Conservatory (Petrograd)
- ZILLMAN, LAWRENCE JOHN, 1930 (1943).....Associate Professor of English  
B.A., 1928, Ph.D., 1936, Washington
- ZIMMERMAN, BRUCE McCLUNG, 1947.....Assistant Professor of Medicine  
B.S., 1935, North Dakota; M.D., 1937, Northwestern
- ZUCKERMAN, HERBERT SAMUEL, 1939 (1947).....Associate Professor of Mathematics  
B.S., 1932, California Institute of Technology; M.S., 1934, Chicago;  
Ph.D., 1936, California
- ZUNDEL, HELEN LINDFORS, 1947.....Acting Associate in Home Economics
- ZWERMANN, CARL HENRY, 1939 (1947).....Associate Professor of Ceramic Engineering  
B.S., 1929, M.S., 1937, Ph.D., 1939, Illinois

#### WALKER-AMES PROFESSORS AND LECTURERS

- CLOSS, AUGUST, 1948.....Walker-Ames Lecturer in German  
Head of the Department of German, University of Bristol, England
- FRECHET, MAURICE, 1947.....Walker-Ames Lecturer in Mathematics  
Professor of Mathematics, The Sorbonne, France
- LANCZOS, CORNELIUS, 1947.....Walker-Ames Lecturer in the College of Engineering  
Research Engineer, Physical Research Unit, Boeing Aircraft Company, Seattle

## THE UNIVERSITY OF WASHINGTON

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

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

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

From that first ten-acre campus has grown the great, modern University of Washington. From the first pioneer frame building has developed a plant valued at more than \$30,000,000.

Its faculty has increased from one man in 1861 to 1,420 and its student body from an original 37 to more than 16,000.

### Interesting Facts

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

**Library Facilities.** Containing 610,994 bound volumes and receiving currently about 9,923 serial publications, the University Library houses the basic collection of books and provides facilities for students and faculty. The Henry Suzzallo Library building is considered by many to be the most beautiful structure on the campus.

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

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

The Law Library, with 104,800 volumes (December, 1947), contains the decisions of all English and American courts of last resort, and the reported decisions of all the lower courts. Extensive runs of the English, American, and colonial statutes are available, and all legal periodicals published in the English language are received.

Especially noteworthy in the Drama Library collection (12,940 bound volumes) are 3,000 acting editions of nineteenth-century plays; 500 original manuscript plays; and 1,000 volumes in various fields of drama from the private library of Barrett H. Clark, the well-known editor, critic, and historian. A considerable number of theatrical prints, programs, and masks, and other material of historical importance are available at the library.

These libraries of the University, together with the Seattle Public Library and other Seattle library agencies, provide more than 1,250,000 volumes for the use of students and research workers.

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

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

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

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

*Engineering and Mines Experiment Stations.* Maintained by the Department of Interior at the School of Mineral Engineering on the campus, the Northwest Experiment Station serves the Pacific Northwest and coast regions of Alaska.

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

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

*Structural Research Laboratories.* Another "first" at the University is the only large wind tunnel in the country for the aerodynamic testing of bridges. Its recently completed structural materials laboratory houses a 2,400,000-pound universal testing machine with 120 inches between screws, a number of smaller machines ranging in capacity from 60,000 to 300,000 pounds, and complete electronic apparatus for stress and strain measurement.

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

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

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

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

*Hydraulics Laboratory.* Latest facilities for investigation of a large number of problems in experimental hydraulics and water power are offered by the Hydraulics Laboratory, situated on the shore of Lake Union.

*Pack Forest and Lee Field Laboratory.* A tract of approximately 2,000 acres located at LaGrande, Washington, in the Rainier National Park area, the Charles

Lathrop Pack Forest, is used as an experiment station by the College of Forestry to demonstrate the various methods of scientific forestry.

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

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

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

**University Health Center.** Housed in a modern building with offices for doctors and nurses, 75 beds, and a diet kitchen, the University Student Health Center's facilities consist of an infirmary and a dispensary.

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

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

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

**Foundations.** A gift from Sigmund Schwabacher and the executor of the will of Abraham Schwabacher established the Bailey and Babette Gatzert Foundation for Child Welfare in 1910. It 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.

**Far Eastern Institute.** The Far Eastern Institute was established at the University of Washington in 1946 to provide additional opportunities for study in a field which continually is growing more important, both economically and culturally, to the Pacific Northwest and the country as a whole.

Publication of *Soviet Press Translations* by the Institute has been highly received and praised for its value in bringing to Americans information on what is going on in the Soviet press. These bi-weekly publications were originated to aid students in the Far Eastern Department; but have been taken up by political science and history students, and even the State Department and news commentators. More than 200 other institutions are subscribing to the translations.

**Institute of Labor Economics.** To provide facilities for the study of questions and problems in the field of Labor Economics and Industrial Relations the Institute of Labor Economics was established. Personnel and equipment of the Institute are available at all times for assisting those who desire aid in the solution of their problems.

**Washington Public Opinion Laboratory.** This non-profit scientific institute is operated jointly by the University of Washington and Washington State College. Interested exclusively in scientific accuracy, the laboratory polls public opinion on all issues of civic interest including issues of state, national, and international importance. Dr. Stuart C. Dodd of the University and Dr. Joseph E. Bachelder of the State College

are co-directors. The organization is staffed and controlled from the social science departments of the University and the State College.

Its purposes are to find the facts and amplify the voice of the people on current issues and problems, to learn how to predict and guide social behavior, to improve methods of polling, and to advance science and train scientists in social research. Results of polls will be published in bulletins by the University and Washington State College. Information on popular issues will be furnished newspapers and the radio.



## THE UNIVERSITY ORGANIZATION

Five institutions compose the state's system of public higher education. They are the University of Washington, 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, dentistry, fisheries, forestry, journalism, law, librarianship, marine engineering, and medicine.

Concurrent authority is held by the University and 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 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 semiprofessional schools:

The School of Architecture

The School of Home Economics

The School of Art

The School of Journalism

The School of Drama

The School of Music

The School of Fisheries

The School of Physical Education

General Studies—for students with interdepartmental major

- B. *The College of Business Administration*

- C. *The College of Education*

- D. *The College of Engineering*, which includes the School of Mineral Engineering

- E. *The College of Forestry*

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

- G. *The School of Law*

- J. *The School of Dentistry*

- H. *The College of Pharmacy*

- K. *The School of Nursing and Russian*

- I. *The School of Medicine*

- L. *The Far Eastern Institute*

*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* (see footnote, p. 67) is applied to work taken in high school; *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.

For further definitions see page 67.

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

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

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

## SECTION I—GENERAL INFORMATION

### ADMISSION TO THE UNIVERSITY

It is impossible to guarantee how long the admission regulations here stated will be maintained, since it is necessary to make frequent changes to meet changing conditions. *Prospective students should determine the admission requirements in effect at the time they are ready to apply.* Applicants who come to the University before their credentials have been submitted and approved do so at their own risk.

#### Who Is Eligible

The University wishes to make certain that all qualified Washington students are assured of admission. The Admissions Board has, therefore, continued a modification of the standard entrance requirements by:

1. Suspending the provision for admission on probation. *Only rare exceptions are made to this regulation. An applicant who wishes reconsideration may petition the Admissions Board for a review of his case.*
2. Extending first preference to legal residents of the State of Washington and the Territory of Alaska, and to sons and daughters of University of Washington alumni.

While most of the divisions of the University of Washington are now able to accept a limited number of out-of-state students, certain colleges, such as Engineering, Forestry, and Pharmacy, are already congested to the extent that they can accommodate only a few high-scholarship students from other states.

The College of Engineering makes its selection on the basis of good scholarship records and satisfactory scores in the Engineering Aptitude Test.

#### How to Obtain Information

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

#### Admission Procedure

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

#### Admission Requirements (Subject to Limitations Stated Above)

1. *All entering freshmen* are required to:

- a. Submit an official application-for-admission blank from an accredited<sup>†</sup> high school (obtainable from any high school principal or from the Registrar) which includes a certification of high school graduation. A high school diploma may not be substituted for the official blank.
- b. Meet the minimum unit\* admission requirements (16 units, or 15 units exclusive of activity credit in physical education, debate, etc.) with grades certifiable for college entrance and a 2.0 grade-point average.<sup>‡</sup> See chart, page 69.

\* 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.

<sup>†</sup> A 2.00 grade point means a "C" average in terms of the standard grading system of the State of Washington. Students in other states who are recommended to their own state universities on a three-point grading system will find their scholarship average adjusted to our four-point system. See item (2), above.

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

In administering this requirement the following reservations and exceptions are made:

- (1) The 16 units cannot include any unit which received a grade lower than the minimum passing grade as defined by the high school itself.
- (2) Less than a unit in one foreign language will not be counted.
- (3) Students who are unable to meet the specific subject requirements of the college to which they seek entrance may petition the Board of Admissions for permission to enter, with *provisional standing*, provided that they offer at least 3 units in English and 6 additional units in academic fields. A student having an entrance deficiency shall register for it each quarter until it is removed. In special cases permission to postpone the removal may be granted by the dean of the college concerned. *Provisional standing* continues until the student has satisfied the entrance requirements of the college in which he is enrolled. A student in this classification will not be permitted to file an application for a degree. Deficiencies may be made up with university credit if college courses covering the high school material are available; 10 college credits shall be considered the equivalent of one high school unit, except that for foreign languages (a) 15 quarter credits of college work shall be considered the

### MINIMUM UNIT ADMISSION REQUIREMENTS

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

For other recommendations see statement of college concerned.

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

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

1a The pre-aviation course will be accepted as academic credit in science, but will not be counted as a laboratory science. It may not be substituted for physics in those curricula which specify physics as a part of the entrance requirements.

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

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

<sup>4</sup> The College of Engineering includes the School of Mineral Engineering. A student who is deficient in chemistry will be expected to earn 15 credits in chemistry in his freshman year instead of the usual nine.

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

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

‡ Students interested in teaching enter College of Arts and Sciences. They may request transfer to the College of Education when they have earned 45 credits in academic subjects with a grade average of 2.2 or better. An entrance deficiency in foreign language may be removed by substituting 15 credits in English literature.

equivalent of 2 units (4 semesters) of high school credit, and (b) no student may receive credit for repetition of work at the same or at a more elementary level, if credit were granted in the earlier course. This rule shall apply whether the earlier course was taken in high school or in college, and whether, in the latter case, course numbers are duplicated or not. University credits earned by removing a deficiency cannot be used to satisfy group requirements (see page 90). First year algebra and plane geometry are offered by the Division of Adult Education and Extension Services (fee \$12 per course) and do not carry college credit. Students deficient in both first-year algebra and plane geometry are seldom admitted to provisional standing.

- †(4) A graduate from an *accredited* high school in Washington or Alaska may be admitted on *probation* if his grade-point average is below 2.0, provided he meets other requirements for regular admission to freshman standing. The student who is *admitted on probation* may continue his attendance at the University at the discretion of the dean of his college but may not (1) be pledged to or initiated into a fraternity or sorority, or engage in those other student activities in which his right to participate is restricted by the regulations of the Committee on Student Welfare; (2) engage in those athletic activities in which his right to participate is restricted by the regulations of the University Athletic Committee. He shall be removed from probation when he has earned a minimum of twelve academic credits with a 2.0 grade average. Provided that if such a student carries less than twelve hours in one quarter, he may not be removed from probation unless he has earned a minimum 2.0 average for the current quarter, as well as a minimum cumulative average of 2.0 for his total quarters in attendance. A student removed from probation under these provisions shall henceforth be subject to the regular scholarship rules. See page 82.
- (5) A graduate from a *nonaccredited* high school in Washington or Alaska, if he has the recommendation of his principal, may petition the Board of Admissions for permission to enter; before granting such permission the Board may require the student to pass certain examinations.
- (6) No student may be accepted for admission who would not be officially recommended to the university of his own state. See page 67, item 2.
- (7) Students who are *not graduated from high school* must pass College Entrance Board Examinations and meet entrance requirements without deficiency. An inquiry addressed to the College Entrance Examination Board, P. O. Box 592, Princeton, N. J., will bring complete information.

2. *Advanced Undergraduate Standing.* Students who present complete transcripts and letters of honorable dismissal from other colleges of recognized rank will be granted whatever credit is acceptable to the University. No credit will be allowed in the senior year. See Senior Residence Rule, page 78.

- a. The admission of an applicant who has completed a year or more of college work shall be contingent upon the presentation of a minimum 2.0 grade-point average which shall be computed on the basis of his college work only. If the applicant has completed less than a year of college work, his admission shall be contingent upon presentation of a minimum 2.0 grade-point average in college work and the same minimum in high school work.
- b. No advanced credit will be given for work done in institutions whose standing is unknown, except upon examination. For fee, see page 77.
- c. Transfer of credit from institutions accredited for less than four years will not be accepted in excess of the accreditation of the school concerned.
- d. No credit shall be granted to a student for courses taken in another collegiate institution while the student is in residence at the University, unless written permission to register for such courses is obtained by the student from the University department giving such instruction in the subject, from his major department, and

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† Suspended until further notice. See page 67.

from the dean of his college. The prescribed written permission shall be effective only if secured prior to such registration. Nothing in this rule shall make mandatory the granting of any credit by the University.

3. *College of Education and School of Law.* See pages 129 and 148.
4. *Graduate Standing.* A bachelor's degree from a college or university of recognized rank is required for admission to the Graduate School. A graduate student should submit official transcripts of all undergraduate and graduate work and should provide himself with a duplicate record for his own use. For details as to admission to the School of Librarianship and the Graduate School of Social Work, see pages 150 and 173. To be recognized as a candidate for a degree a graduate student shall secure the approval of a committee appointed by the dean of the Graduate School. See page 159.
5. *Foreign Students* must satisfy the same general requirements as those from American schools and must demonstrate a satisfactory command of the English language. The official record of Canadian students is the matriculation certificate or university admission certificate of their province. A student who is graduated from a school system which provides for less than 12 years of instruction may be held for additional high school work.
6. *Special Students.* Mature individuals (21 years of age or over) not eligible for admission as regular students may apply to the Board of Admissions for special standing. They must (1) be classified as legal residents of the State of Washington or the Territory of Alaska and (2) submit all available records of previous work in secondary schools and colleges.  
A special student may take such regular courses as the dean of the college may determine. A special student may not participate in student activities, nor shall he be eligible for any degree, but by fulfilling the requirements for admission to the college or department in which he is enrolled, he may become a regular student.
7. *Auditors.* A mature person may register as an auditor in nonlaboratory courses or the lecture parts of laboratory courses by securing the consent of his dean and the instructor of the course and then paying a fee of \$12.\* He may not participate in class discussion or laboratory work. He may receive credit in audited courses only by enrolling in them as a regular student in a subsequent quarter.

#### Advanced Credit

1. *By transfer* of credits earned in residence. See above.
2. *By transfer* of credits earned in extension courses.  
The University accepts such credit only from accredited institutions whose extension departments appear on the membership lists of the National University Extension Association, but *none* of it may be used in the senior year. It is subject to the same restrictions which apply to the Division of Adult Education and Extension Services of the University of Washington.
3. *By examination.* (For advanced credit in Music, see page 170.)
  - a. Examinations for advanced credit in courses offered by the University may be taken by a currently registered regular student on work done by private study, or on class work for which no credit has been granted by an institution of either secondary or collegiate grade, provided that such examinations may be taken if credit has been granted for work covered after high school graduation in a regularly organized thirteenth and fourteenth year program as authorized by the Washington State Board of Education.
  - b. No duplication of credit shall be permitted, and no student may take an advanced credit examination for a course in which he has been registered as an auditor or in which he has received a failing grade.
  - c. The maximum number of credits obtainable by advanced credit examination shall be forty-five.

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

- d. After examination for advanced credit no credit shall be granted unless the applicant has earned a minimum of forty-five residence credits with a minimum grade-point average of 2.5. In all other cases credit shall be withheld until these requirements are met.
- e. Within a given field of study no student shall receive advanced credit in subject matter more elementary than that for which he has previously received credit.
- f. No student shall be permitted to repeat any examination for advanced credit.
- g. Permission for advanced credit by examination, for which preparation has been made while in residence during the quarter in which the examination is given, shall not be granted for credits in excess of twenty hours minus the number of hours for which the applicant is currently registered. This restriction shall not apply to an applicant who has prepared for examination while not in residence, provided that suspension of the restriction be approved by an instructor responsible for the course in which the examination is to be taken, the executive officer of the department concerned, and the dean of the college or school concerned.
- h. During any one quarter no student shall be permitted to take examinations for advanced credit in excess of fifteen credit hours.
- i. A student who wishes to qualify for advanced credit shall apply to the registrar for a certificate of eligibility. If this certificate is issued, the student shall then present it for signed approval to an instructor responsible for the course in which the examination is to be taken, to the executive officer of the department concerned, and to the dean of the college or school concerned. If such approval is granted the student shall then pay a fee of two dollars per credit to be gained by examination. The department or school shall prepare appropriate tests for advanced credit and transmit them, together with the certificate, to the secretary of the Graduation Committee. The Graduation Committee shall designate one day of each quarter upon which all approved examinations shall be given, and such examinations shall be supervised by this committee or by an agency which it designates. A minimum time of three hours shall be allowed for completion of an examination in any one course. The completed examination papers shall be transmitted to the proper departments for grading. Grade reports shall be sent to the Graduation Committee for recording.

#### The Division of Adult Education and Extension Services

Through a Department of Correspondence and Extension Classes, the Division of Adult Education and Extension Services provides means for persons to earn college credit by attending Saturday or evening classes in Seattle and other cities in the State, or by home study. Such credit is acceptable toward a degree only when all other requirements have been met and after the student has satisfactorily completed one year in residence at the University. No more than ninety extension credits may be counted toward the requirements for the bachelor's degree in any school or college. No more than ten credits of the total extension credits may be counted in the forty-five credits of the senior year. (See Senior Residence Rule, page 78.) For the purpose of this rule, all credits secured by examination for advanced standing shall be counted as extension credits and shall be included in the above maximum of ninety credits.

For use of such credit for an advanced degree, see page 161. See Senior Year Residence Rule, page 78.

No resident student may take an extension course without the consent of his dean. This permission, on forms furnished for the purpose, shall be filed with the Department of Extension Classes or the Department of Correspondence Study, whichever is appropriate. Registration in extension courses at University level shall be open only to high school graduates and to persons eighteen years of age or over who are not attending high school.

### Registration

(See page 8 for registration dates for each quarter.)

Because of the large enrollment, all students (except those in Dental, Medical, and Law Schools, and in the Graduate School of Social Work) *must* have a definite appointment each quarter for obtaining registration books and going through Sections (108 Education Hall). See page 8 for dates and means of obtaining appointments.

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

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

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

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

No student shall be registered for more than twenty credits of work exclusive of required physical education activity courses.

Work taken in noncredit courses or to remove entrance deficiencies shall count as part of the schedule allowed.

No change of registration involving entrance into a new course shall be permitted after the first seven days following the beginning of instruction.

### 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. Those entering in Autumn Quarter are expected to take the test before registration is completed.

### Medical Examinations

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

As an additional service to and protection of its students, the University rules provide that all students, resident or nonresident, at any time that it is deemed advisable by the Director of the University Health Service, as a condition precedent to entrance to and/or continuance in the University, must pass a medical examination with reference not only to physical but also to mental diseases or serious nervous disorders. As a part of such examination, contributing evidence from the past history of any case shall be pertinent.

### Welcome Week

The week in which instruction for the autumn quarter begins is designated as Welcome Week. This program is planned jointly by the University Administration and the Student Body. New students will find an opportunity to meet other students and become familiar with the campus. Attendance is optional. Attendance at the convocation on the first Friday of school is expected.



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

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

*Notice: The right is reserved to change any or all fees without notice to present or future students. Consult University Calendar for fee payment dates. See page 76 regarding late registration fines.*

See page 75 for Summer Quarter Fees

Type of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. FEE <sup>2</sup>			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$25	\$12.50	**	\$5	\$5	\$5	\$42.50	\$42.50	\$42.50
Fresh. and new soph.....	25	12.50		5	5	5	42.50	42.50	42.50
Graduate.....	25	12.50		*	*	*	37.50	37.50	37.50
Medical School.....	100	12.50	3.50 <sup>3</sup>	5	5	5	121.00	121.00	121.00
Dental School.....	100	12.50	9.00 <sup>4</sup>	5	5	5	126.50	126.50	126.50
Law School.....	25	12.50	† 10	5	5	5	52.50	52.50	52.50
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service personnel of World War I.....		12.50		5	5	5	17.50	17.50	17.50
† Undergraduate nurses in approved hospital.....	5			*	*	*	5.00	5.00	5.00
† Graduate nurses in approved hospital.....	10			*	*	*	10.00	10.00	10.00
Part time. (Max. 6 credit hrs. excl. of R.O.T.C.)....	25	2.50		*	*	*	27.50	27.50	27.50
† Persons registered for thesis only.....		12.50		*	*	*	12.50	12.50	12.50
†¶ Nursery School.....	15								

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

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

<sup>2</sup> Athletic admissions ticket, \$2.50, optional; good for entire year but must be validated each quarter at time of payment of fees.

<sup>3</sup> Microscope fee.

<sup>4</sup> Microscope fee, laboratory case rental, dental engine rental.

<sup>5</sup> Optional. If membership in A.S.U.W. is desired, the A.S.U.W. fee should be added to the total fee as shown for this type of registration.

<sup>6</sup> \$25 uniform deposit for those who register for military science. Refund upon return of U. S. Army issued property.

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

¶ The fee for children in the Nursery School is \$35 per child per quarter for 3-hr. per day attendance; \$50 per child per quarter for 6-hr. per day attendance. Special audit fee for both residents and nonresidents is \$15. Nursery School begins September 29, 1948.

† Law library fee.

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

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

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

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

See page 75 for Summer Quarter Fees

Type of Registration	Tuition Fee	Incidental Fee	Misc. Fees	A.S.U.W. FEE <sup>2</sup>			TOTAL FEES		
				Aut. Qtr.	Win. Qtr.	Spr. Qtr.	Aut. Qtr.	Win. Qtr.	Spr. Qtr.
Undergraduate.....	\$75	\$12.50	**	\$5	\$5	\$5	\$92.50	\$92.50	\$92.50
Fresh. and new soph.....	75	12.50		5	5	5	92.50	92.50	92.50
Graduate.....	75	12.50		*	*	*	87.50	87.50	87.50
Medical School.....	165	12.50	3.50 <sup>3</sup>	5	5	5	186.00	186.00	186.00
Dental School.....	165	12.50	9.00 <sup>4</sup>	5	5	5	191.50	191.50	191.50
Law School.....	75	12.50	† 10	5	5	5	102.50	102.50	102.50
Auditors.....	12			*	*	*	12.00	12.00	12.00
Ex-service personnel of World War I.....	37.50	12.50		5	5	5	55.00	55.00	55.00
†Undergraduate nurses in approved hospital.....	5			*	*	*	5.00	5.00	5.00
†Graduate nurses in approved hospital.....	10			*	*	*	10.00	10.00	10.00
Part time. (Max. 6 credit hrs. excl. of R.O.T.C.)....	75	2.50		*	*	*	77.50	77.50	77.50
†Persons registered for thesis only.....		12.50		*	*	*	12.50	12.50	12.50
††Nursery School.....	50								

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

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

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

<sup>2</sup> Athletic admissions ticket, \$2.50, optional; good for entire year but must be validated each quarter at time of payment of fees.

<sup>3</sup> Microscope fee.

<sup>4</sup> Microscope fee, laboratory case rental, dental engine rental.

<sup>5</sup> Optional. If membership in A.S.U.W. is desired, the A.S.U.W. fee should be added to the total fee as shown for this type of registration.

\*\* \$25 uniform deposit for those who register for military science. Refund upon return of U. S. Army issued property.

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

† The fee for children in the Nursery School is \$35 per child per quarter for 3-hr. per day attendance; \$50 per child per quarter for 6-hr. per day attendance. Special audit fee for both residents and nonresidents is \$15. Nursery school begins September 29, 1948.

‡ Law library fee.

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

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

**EXPENSES****Payment of Fees**

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

**Exemptions**

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

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

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

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

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

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

**Summer Quarter Fees**

Total fees for regular enrollment in the Summer Quarter, either full or part time, resident or nonresident, for enrollment as a transient student, a special student, or an auditor in the summer are:

Full quarter .....	\$46.00*
First term .....	31.00*
Second term .....	31.00*
Addition of second term .....	15.00

(After first term registration is completed)

Law students have an additional Library Fee of \$10.00.

There are special fees which may be found by consulting the Summer Quarter Bulletin for:

- (a) Nurses in residence at approved hospitals.
- (b) For children attending the Nursery School.
- (c) Person employed in social agencies certified by The Graduate School of Social Work.
- (d) Persons registered for thesis only.
- (e) Persons registered for individual and group instruction in applied music.
- (f) Various summer conferences and institutes.

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\* Includes A.S.U.W. fee of \$1.00.

### 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.

**Athletic Admissions Fee.** A ticket which admits to all athletic events for the entire year is optional to A.S.U.W. members only. The cost is \$2.50 (\$2.00 plus 50¢ federal and city tax).

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

**Special Examination Fee.** A fee of one dollar (\$1) is charged for each examination outside the regular schedule. This also applies to the examination for foreign language reading, required of certain students. In the case of examination for *advanced credits*, a fee of two dollars (\$2) per credit hour is charged. (See page 71.)

A fee of two dollars and fifty cents (\$2.50), payable to the Division of Adult Education and Extension Services, 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 each quarter, \$5; two hours a day, \$10; three hours a day, \$12. Reed organ practice: one hour a day each quarter, \$3; two hours a day, \$5.

**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 degree is required to pay a graduation fee of ten dollars (\$10). Each graduate receiving an advanced degree is required to pay a graduation fee of five dollars (\$5). The fee for a three-year secondary certificate is two dollars and fifty cents (\$2.50). The fee for other professional certificates is one dollar (\$1). The three-year secondary certificate fee does not include the legal registration fee of one dollar (\$1) which must be paid to the county school superintendent who first registers a teacher's certificate.

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

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

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

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

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

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

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

**Military Uniform.** See page 145 for details.

### Financial Obligations

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

### Living Costs

Board and room expense varies according to the type of accommodation desired. (See section on Housing, page 84.)

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

Meal tickets are available for those wishing service in the main University Dining Room located in Raftt Hall.

## SCHOLASTIC REGULATIONS

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

### I. REQUIREMENTS FOR GRADUATION

#### Physical Education Requirements for Men

1. Six quarters of physical education activity\* courses are required of all male students except those who are twenty-three years of age or over at the time of original entrance into a college or university, those entering with junior or senior standing, those registered for six credits or less, or special students.

- a. This requirement must be completed during the first six quarters of University residence.
- b. Students who pass the medical examination may elect any activity course with the provision that they participate in one group activity and two individual "carry over" activities during the six quarters of work.
- c. Naval Science Physical Education requirements are the same as the University's requirements except that Naval Science students are required to pass the 1st Class Swimmer's Test once each year.

2. A two-credit academic course in personal health (Physical Education 15) is required of all male students who have not satisfied this requirement in an accredited university or college.

- a. This requirement should be completed during the first year of University residence.
- b. A student may be exempted from the health education course by passing a health knowledge test given the first week of each quarter.

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\* See footnote next page.

### Physical Education Requirements for Women

1. Six quarters of physical education activity\* courses are required of all women students except those who are twenty-three years of age or over at the time of original entrance into a college or university, those entering with junior or senior standing, those registered for six credits or less, or special students. This requirement must normally be completed during the first six quarters of University residence.

2. A two-credit academic course in health education (Physical Education 10) is required of all entering women but shall be waived for any woman student who entered the University before July, 1944, and who had not fulfilled this requirement before that date. It shall also be waived for all women transfer students beyond freshman standing. For women transfer students with less than a normal year's

credit (45 academic quarter credits), the question of imposing this requirement shall be referred to the Department of Physical Education. All women for whom the health education course is prescribed shall be required to complete it within the first three quarters of residence.

### Senior Year Residence

Senior standing is attained when one hundred and thirty-five credits and the required credits in physical education have been earned. Of the work of the senior year (forty-five credits) at least thirty-five credits shall be earned in a minimum of three quarters in residence. The remaining ten credits shall be earned either in residence or through the University of Washington Division of Adult Education and Extension Services.

### Financial Obligations

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

### Thesis

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

The College of Engineering has the further requirement that the candidate file a third copy with the head of his department.

### Grade Points and Credits

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

A candidate for the bachelor's degree whose grade average is below 2.0 and who has more than one hundred eighty academic credits on his permanent record may attain the minimum required grade average by presenting for graduation the one hundred and eighty credits in which he received his highest grades, plus the required credits in physical education. In such a case the procedure shall be as follows: the student, with the advice of his major department and college dean, shall notify the Committee on Graduation of the courses he intends to present for graduation. He shall accomplish this by filing with the Registrar a written statement, signed by the

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

major department and the college dean, listing the registered hours he wishes not counted toward his degree. If the courses to be counted produce a 2.0 average or above and meet all other college and University requirements, the student shall be eligible for graduation.

For the purpose of computing grade-point averages, the first two years of Army and Navy subjects shall be excluded.

In the Colleges of Arts and Sciences, Education, Pharmacy, and Economics and Business (except for students in the Supply Corps) no more than 18 quarter credits in advanced Army and Navy subjects may be applied towards graduation.

In the Colleges of Engineering and Forestry no more than 9 quarter credits in advanced Army and Navy subjects may be applied to satisfy unrestricted elective credits appearing in a curriculum.

Any college may make additional requirements for graduation.

See *Senior Scholarship rule for last quarter in residence* (8), under "General Scholarship Rules," page 82.

For rule regarding repetition of courses in which grades of "D" or "E" were obtained, see "Repeating of Course," page 80.

### Upper-Division Credits

A minimum of sixty credits in upper-division courses, exclusive of those earned in Army or Navy R.O.T.C. subjects, shall be an all-University requirement for graduation.

### Application for Degree

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

NOTE: A student with *provisional standing* is not permitted to file an application for a degree. See page 68.

Details concerning issuance of teaching certificates may be obtained from the College of Education. See page 129.

### Degrees—Additional Regulations

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

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

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

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

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

## II. SCHOLARSHIP REGULATIONS

### Grading System

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

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

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

The grade of E shall be final. A student receiving the grade of E in a course may obtain credit for it only by re-registering for the course and repeating it.

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

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

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

N—Satisfactory without grade, used in hyphenated courses in which the grade is dependent upon the work of a final quarter; it indicates that the work has been completed to the date at which the N is given, but carries with it no credit or grade until the entire course is completed.

S—Passing grade for *graduate* courses; it may be used as a final grade.

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

UW—Unofficial withdrawal; this grade is given if the student's standing has been "C" or above; if his standing has been less than "C" an "E" must be given.

### Change of Grade

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

### Repeating of Course

Students who have received grades of "D" or "E" may repeat the courses in which these grades were obtained, or may with the approval of the dean of their college substitute other courses in their place, and in such cases the grade received the second time, either in the repeated or the substituted course, shall be the one counted in computing the average required for graduation. A substituted course shall be one in the same department as the original course, and shall be closely related to the subject matter thereof. 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 shall be required to take final examinations, provided that in a course for which an examination is not an appropriate test of the work covered, the instructor, with the consent of the dean of the school or college concerned, may dispense with the final examination.

2. An examination schedule of two- or three-hour examination periods shall be provided by the Schedule and Registration Committee. This schedule shall not replace any special schedule such as that of the Law School.

3. The regular class exercises shall end at four o'clock on the fourth, fifth, or sixth day before the end of the quarter. The Schedule and Registration Committee shall determine whether three, four, or five days are necessary for scheduling the final examinations and shall publish the examination schedule in or before the seventh week of each quarter.

4. The scheduled examination period shall be the last meeting of the class. If, during the regular class periods, an instructor gives a test or tests which he wishes to credit as the final examination, he shall meet his class during the regularly scheduled examination time, shall take the roll, and shall hold the class for the full examination period.

5. 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 if his work in that course has been satisfactory until the time of his absence. He may remove this Incomplete in the manner provided for removing Incomplete grades. In all other cases of absence from the scheduled final examination a student shall be given a grade of "E," except that if his standing in the course has been "C" or above until he ceased to attend class, he may be given the grade of "UW."

6. Special early examinations, given to individual students or groups of students as substitutes for final examinations, are prohibited.

7. Each instructor shall be responsible for the supervision of his tests and examinations in accordance with the rules of good conduct and fairness.

### **Cheating**

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

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

2. A student who is accused of cheating shall be reported to the Registrar, who shall inform the Office of Student Affairs and the dean of the college concerned of the facts of the case. The offender shall automatically be placed on academic probation unless he appeals his case to the Student Discipline Committee within one week. In the event of such appeal, the committee may take whatever action it deems suitable. A student placed on probation under this rule shall continue in that status until removed therefrom by the dean of the college.

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

### **Tutoring**

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

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

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

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\* Faculty members may obtain forms at the Registrar's office. When proper signatures have been obtained by the tutor, the form should be filed in the office of the dean of the college concerned.

### General Scholarship Rules

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

2. A student who at any time in a quarter is reported to the Registrar as doing work below passing grade 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 shall take appropriate action which may be to place him on probation or to require him to withdraw from the college. Satisfactory progress shall 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. When a student has been placed on *probation* because of low scholarship, the dean of the college concerned shall have complete authority over his academic and activity program. The dean of the college concerned shall 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.

5. *Reinstatement* of a student disqualified under the provisions of paragraph 4 above shall be allowed only by the dean of the college concerned. 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.

6. In the administration of these rules, required physical education activity courses shall be on the same basis as the academic subjects except as provided for in (8).

7. Beginning autumn quarter, 1946, for the purpose of computing grade-point averages for high and low scholarship and for graduation, the first two years of Army and Navy subjects shall be excluded.

8. Colleges and schools may require higher standards of scholarship than those above stated and may exclude courses carrying plus credit from computation of grade-point averages. See announcement of the college or school concerned, pages 89-174.

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

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

#### Honorable Dismissal

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

#### Withdrawal

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

*Withdrawal from a course* is voluntary severance by a student of his connection with the course. The withdrawal is *official* if it is approved by the dean of the college and by the instructor of the course concerned, and if the Registrar's office is properly informed; otherwise it is *unofficial*. A student may withdraw from a course at any time up to the end of a quarter provided that he does so before the scheduled final examination in the course. See page 80 for the grades which may be given.

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

#### Leaves of Absence

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

A student absent because of sickness or for personal reasons, who has not made previous arrangements for excuse, shall explain the cause of his absence to his instructor. His instructor shall decide whether this verbal explanation constitutes a legitimate excuse.

### IV. STUDENT ACTIVITIES

Student activities shall be defined, interpreted, and governed by the Committee on Student Welfare.

#### General Eligibility Rules

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

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

To be eligible to participate in any major activity a student shall:

- (a) have earned a grade-point average of 2.0 in his last quarter in college attendance and over his entire college record;
- (b) be registered as a full-time student, i.e., be enrolled for a minimum of seven credits;
- (c) have complied with any additional requirements of the particular activity;
- (d) not have been declared ineligible by the dean of his college on the grounds that participation in the activity is detrimental to his scholarship.

To be eligible for any minor activity, a student shall not have been declared ineligible by the dean of his college on the grounds that participation in the activity is detrimental to his scholarship.

#### Meetings, Assemblies, and Speakers

1. The buildings and campus of the University shall be primarily devoted to education; they may also be used for cultural and recreational purposes incidental to the work of the University.
2. The University buildings and grounds shall not be available for commercial or other outside uses except that assembly halls may be used for graduation exercises and other special assemblages of the public schools by arrangement with the President's office.
3. Meetings of student organizations upon the campus may be permitted for educational, cultural, and recreational purposes 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 to the Office of Student Affairs in accordance with the *Code for Student Campus Organizations*. Application shall be made at the beginning of each school year except that such student groups organized during the school year shall make application before arranging for any meeting on the campus.
5. Arrangements and programs for meetings held under the sponsorship of a college or department of the University and open to the public shall first be 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. If the application is granted, any necessary arrangements for rooms should be made through the Registrar's office. Special lectures should be held in the afternoon in order not to disrupt regular morning classes.
6. Only all-University functions for which classes are generally dismissed may be designated as assemblies.

### Student Publications

1. Only those publications approved by a committee appointed by the President of the University may use the good will of the University in soliciting advertising.
2. Permission to issue student publications shall be obtained from the President's office.
3. The editor of any student publication shall be held responsible for all matter which appears in that publication. A correspondent of any other publication shall be held similarly responsible for all items contributed by him to that publication.
4. No edition of *The University of Washington Daily* by special editors shall be permitted except by express permission of the Publications Committee of the Board of Control.

## STUDENT WELFARE

### The Office of High School Student Relations and Orientation

The Office of High School Student Relations and Orientation has a two-fold purpose. The first is to offer detailed information to prospective college students who are in high school; the second is to assist the colleges, schools, and departments of the University in developing a coordinated orientation program for students already on the campus. Pre-college guidance is offered through detailed bulletins, lectures, interviews, audio-visual materials, and personal, independent contacts by interested individuals.

### Housing

The University offers a variety of housing accommodations for men, women, and couples. Attractive residence halls on the campus for women students are staffed by competent counselors, dieticians, and a resident graduate nurse. Temporary dormitories on the campus offer rooms for single men (veterans only). Residence in the halls or dormitories is arranged on the basis of the school quarter. A limited number of accommodations for the families of married veteran students are also available.

Rooms, room and board, housekeeping rooms, and a few apartments are listed by the Housing Service, 303 Clark Hall. Complete information is available on group living accommodations; the student cooperatives, independent organized houses, religious organizations, and fraternities and sororities. Residence in the last two mentioned awaits invitation to membership but reservations in all other group houses are made by application to the group, either directly or through the Housing Service.

Inspection and approval of living accommodations for students is maintained through the Housing Service of the Office of Student Affairs and the University Health Center. Bulletins giving detailed information on the nature and cost of accommodations of every type will be mailed upon request.

Women students under twenty-one years of age not living in their own homes, with immediate relatives, in nurses' residences, or in homes where they are earning

their board and room, are required to live in some type of organized group house, i.e., sorority houses, or independent organized houses approved by the University. If circumstances warrant, exceptions shall be made by the Office of Student Affairs upon request of the parents.

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

### **Employment**

Part-time work for both men and women may be obtained through the University Employment Office at 317 Clark Hall. Part-time off-campus jobs include office work, clerking, restaurant, manual labor, entertainment, odd jobs, and board and room.

Applications for part-time work on the campus may be made at the Comptroller's Office, 202 Education Hall, and at the University Employment Office, 317 Clark Hall.

Application by University graduates for full-time off-campus work may be made at 317 Clark Hall.

For further information write Norman D. Hillis, University Employment Office, 317 Clark Hall, University of Washington.

### **Loans**

The University administers several loan funds available to worthy students who have successfully completed at least one quarter in the University. Students desiring loans should file applications at least ten days prior to the beginning of instruction in the quarter during which the loan is required. For information, consult the Office of Student Affairs, which keeps complete information on the availability of loan funds within and without the University. Loans from funds administered off-campus should be applied for approximately six weeks in advance of need. For short-term emergency loans see the Office of Student Affairs.

### **University Health Center**

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

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

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

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

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

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

### Personal and Vocational Guidance

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

### Information for Veterans

*Admission.* The University welcomes veterans under the G. I. Bill and the Vocational Rehabilitation Act, provided they can meet the University of Washington entrance requirements. (See pages 67-72.) Students who are not high school graduates should make every effort to secure diplomas for entrance or later use. It must be borne in mind that many professional degrees, certificates, and the like presuppose possession of a high school diploma. Certain students who are not high school graduates may be able to enter under the "special student" category. (See Sec. 6, page 70.)

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

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

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

*Credit for Armed Service Training Courses.* The American Council on Education has provided colleges and universities of the United States with recommended values for armed services training courses offered on college campuses as well as at the Army and Navy camps. In accordance with these recommendations, such study, if equivalent to degree courses at standard universities, will be given proportionate credit, which will be applied, as far as possible, on requirements of the University of Washington. Basic military training provides 12 quarter credits and will be applied on lower-division physical education requirements. Specialized training courses for enlisted men, such as those which qualify a man to be Airplane Engine Mechanic or Airplane Instrument and Electrical Specialist, carry from 6 to 18 quarter credits. Credits allowed for such training are applied, if possible, on University requirements, but they are not readily applicable to the requirements of the set curricula in the College of Engineering, in premedicine, and elsewhere.

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

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

*Physical Education.* Veterans who have had one year's active service are excused from physical education courses according to the following schedule:

1. An ex-serviceman who had his entire period of training prior to August 15, 1945, will be exempt from physical education activity and P.E. 15 requirements.
2. An ex-serviceman who had part of his training after August 15, 1945, should consult the Physical Education Department regarding his allowance of credit.
3. An ex-serviceman who had his entire period of training after August 15, 1945, will not be allowed exemption from physical education activity and P.E. 15 requirements.

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

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

## ALUMNI ASSOCIATION

All graduates of the University of Washington, as well as all persons who have completed satisfactorily one year of collegiate work, are eligible for membership in the Association. The membership fee is five dollars (\$5) for one year (twelve months from date of payment). Members receive a one-year subscription to the *Washington Alumnus*, with library, football, swimming, voting, and other privileges. A dual membership for man and wife, or for two persons living at the same address, is six dollars (\$6) per year; this includes one annual subscription to the *Washington Alumnus* and all other privileges of a single membership. A Board of Trustees, consisting of twenty-three members, is the governing body of the Association.

## SCHOLASTIC HONORS

### Honor Awards

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

### Honor Societies

Phi Beta Kappa  
Sigma Xi

Tau Beta Pi  
Order of the Coif

## FELLOWSHIPS, SCHOLARSHIPS, PRIZES, AND AWARDS

The University offers many rewards for outstanding academic achievement. Some are given by the University, but many are available through the generosity of friends and alumni of the University. Some bear the names of those in whose memory the funds were given. These awards take varying forms.

Fellowships are awarded to graduate students who show promise of success in research in both theoretical and applied studies. These are granted by the Dean of the Graduate School and by individual departments. Teaching fellowships are those which require duty as a teaching assistant.

Scholarships are granted on application and on a competitive basis. Usual requirements include scholarly achievement and promise, excellence of character, and financial need. Awards are made principally to upperclass and graduate students. The University has a few scholarships available to entering freshmen and invites inquiry concerning them.

Prizes are financial awards which total less than tuition and are generally awarded for some specific competition, such as an essay contest on an assigned subject.

Awards consist of recognition other than by financial reward and are generally given for a combination of scholarly achievement and participation in activities.

Application for scholarship information should be made to the University Scholarship Committee, Office of Student Affairs, 204 Clark Hall, University of Washington, Seattle 5, Washington.

Following is a partial list of those available:

**Scholarships and Fellowships**

Alpha Chi Omega Alumnae  
 American Foundation for Pharmaceutical Education  
 Seattle Branch, American Association of University Women  
 Women's Auxiliary of American Institute of Mining & Metallurgical Engineers  
 Agnes Healy Anderson Research Fellowships  
 Arboretum (State Federation of Garden Clubs)  
 A.S.U.W.  
 Isabella Austin Memorial  
 R. C. Beezley  
 Borden Company Foundation, Inc.  
 Julius & Louisa Bornstein  
 Chinese Ministry of Education  
 City Panhellenic Association  
 Consolidated Dairy Products Company  
 Consolidated Vultee Aircraft Corporation  
 May Frances Crosno Memorial  
 Daughters of American Revolution  
 Arthur A. Denny Fellowships  
 Sara Loretta Denny Fellowships  
 Frances Dickey Memorial  
 Bob Doble Memorial  
 School of Drama Scholarships  
 Engineering Fellowships  
 Evergreen Theatres  
 Family Society of Seattle Fellowships  
 Foreign Exchange Scholarships

Frederick and Nelson  
 Gamma Phi Beta Alumnae  
 Inter-Fraternity Council  
 Iota Sigma Pi  
 Arlien Johnson Scholarship  
 Kappa Alpha Theta Alumnae  
 Kappa Kappa Gamma Alumnae  
 King County Welfare Department Fellowships  
 Kellogg Foundation  
 William Mackay Memorial  
 Charles E. Merrill  
 Mines Research Fellowship  
 Mu Phi Epsilon  
 T. F. Murphy  
 National Research Fellowships  
 E. C. Neufelder  
 Phi Mu Alpha  
 Pi Lambda Theta  
 Rhodes Scholarships  
 Wealthy Ann Robinson Memorial  
 Ryther Child Center Fellowships  
 Sears, Roebuck & Co.  
 University Memorial Scholarships  
 University of Washington Alumnae Association  
 Washington Children's Home Society Fellowship  
 Livingston Wernecke Memorial  
 Westinghouse Electric Corporation  
 Emma S. Yule

**Prizes and Awards**

Advertising Club  
 Alpha Kappa Psi  
 Alpha Rho Chi  
 American Institute of Architects  
 Architecture Alumni  
 A.S.U.W. (Discussion Squad)  
 Frank W. Baker  
 Philo Sherman Bennett  
 Beta Gamma Sigma Alumnae  
 Nathan Burkan Memorial  
 Vivian M. Carkeek  
 Chi Omega  
 Delta Phi Alpha  
 Delta Phi Mu  
 Honor Basic Military Student Prizes  
 Italian Club  
 Paul H. Johns, Jr., Memorial  
 Junior Military Medals  
 Junior Military Prize  
 Sebastian Karrer  
 Beecher Keifer Memorial  
 Lehn & Fink Medal  
 McKesson & Robbins Drug Company

W. G. McLaren (Law)  
 Colonel Mear's Award (Coast Artillery)  
 Military Science Leadership Prizes  
 Ruth Nettleton Memorial  
 Charles Lathrop Pack Memorial  
 Phi Delta Kappa  
 Phi Lambda Upsilon  
 Phi Mu Gamma  
 Phi Sigma  
 Pi Alpha  
 Robert T. Pollard Memorial  
 Quartermaster Association Certificate  
 Quartermaster Corps Award  
 Rho Chi Society  
 Helen Nielson Rhodes Memorial  
 Scabbard and Blade  
 Sigma Delta Chi  
 Sigma Epsilon Sigma  
 Women's Auxiliary of Washington State  
 Pharmaceutical Association  
 Western Printing Company  
 Howard Brown Woolston  
 Zeta Phi Eta

**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. Through the A.S.U.W. Board of Control and its various committees and boards, students assume major responsibility in the government of student life under authority delegated by the University. Membership is required of all regularly enrolled undergraduate students. For fees, see pages 73-74. The fee gives each student a membership in the corporation, including a free subscription to the University of Washington *Daily*, and helps to finance the program of athletics, debates, concerts, lectures, and other activities of the A.S.U.W. as well as the Student Union Building now under construction. Any member of the A.S.U.W. has the privilege of purchasing an athletic ticket for \$2.50, including federal and city admission taxes. This ticket, when properly validated, will admit owner to all regularly scheduled Pacific Coast Conference inter-collegiate athletic events during the school year.



## SECTION II—ANNOUNCEMENT OF CURRICULA

### COLLEGE OF ARTS AND SCIENCES

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

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

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

#### Student Counseling

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

#### Entrance Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 67-77. In addition to the all-University entrance requirements, the College of Arts and Sciences requires two units of one foreign language, one unit of laboratory science, and one unit of a social science.

#### General Requirements

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

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

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

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

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

NOTE: In *all* curricula, the 180 academic credits required for graduation must include a minimum of sixty credits in upper-division courses, exclusive of those earned in Army or Navy R.O.T.C. subjects.

## CURRICULA

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

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

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

*Courses taken to remove entrance deficiencies shall not be used to satisfy group requirements.*

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

### 1. Prescribed Departmental Curricula

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

### 2. Elective Departmental Curricula

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

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

### 3. Nondepartmental Curricula

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

*B. 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 102, for detailed requirements.)

Students majoring in General Studies are assigned to faculty advisers for guidance and planning programs. The degree will be bachelor of arts or bachelor of science, depending upon the relative preponderance of scientific or nonscientific subjects in the curriculum.

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

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

For requirements for advanced degrees, see Graduate School section, page 158.

## ANTHROPOLOGY

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

### DEGREE: Bachelor of Arts

The following courses are required: 51, 52, 53; 60 or 63; 65 or 66; 101, 105 or 107; 111, 112, 113 or 114; 120; 142; 143; 150; 160; 185. A 2.5 grade-point average in anthropology is also required; electives must be approved by the department and should include two foreign languages chosen from French, German, or Spanish if graduate work is contemplated.

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

## ARCHITECTURE

**ARTHUR P. HERRMAN, Director, 301 Physiology Hall**

Member of Association of Collegiate Schools of Architecture

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

### Curriculum in Architecture

#### DEGREE: Bachelor of Architecture

#### PRE-ARCHITECTURE REQUIREMENTS

FIRST YEAR	Credits	SECOND YEAR	Credits
Arch. 1, 2. Appreciation.....	4	Arch. 10, 11, 12. Arch. Drawing.....	12
Arch. 3. The House.....	2	Art 32, 33. Freehand Drawing.....	4
Engl. 1, 2, 3. Composition.....	9	Art 34. Sculpture.....	2
Math. 54, 55, 56. Arch. Math.....	9	Physics 1 or 4.....	5
Soc. 1. Survey, for Arch.....	5	Physics 12, 13. Arch. Physics.....	10
Soc. 16. Amer. Housing.....	5	Psychology 1.....	5
P. E. 10 or 15.....	2	E.B. 4. Survey of Economics.....	5
Electives.....	8	Electives.....	3

## ARCHITECTURE REQUIREMENTS

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

## Curriculum in City Planning

## DEGREE: Bachelor of Architecture in City Planning

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

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

\* Courses with prerequisites which must be adjusted.

## ART

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

## DEGREE: Bachelor of Arts

Advanced standing in the school is granted only on presentation of credentials from art schools or university art departments whose standards are recognized by this school. Ordinarily, the presentation of samples of work done will be required before advanced standing will be considered. In the curricula which follow, the laboratory science requirement may be satisfied with botany, zoology, chemistry, physics (except photography), or geology. The work of the first year is the same for all majors except those in Art Education and Pre-Industrial Design.

## REQUIRED FOR THE FIRST YEAR

Autumn Quarter		Winter Quarter		Spring Quarter	
	Credits		Credits		Credits
Art 5. Drawing.....	3	Art 6. Drawing.....	3	Art 7. Drawing.....	3
Art 9. Design.....	3	Art 10. Design.....	3	Art 11. Design.....	3
Engl. 1. Composition.....	3	Engl. 2. Composition.....	3	Engl. 3. Composition.....	3
Mod. Foreign Language.....	5	Mod. Foreign Language.....	5	Mod. Foreign Language.....	5
P.E. 10 or 15.....	2			Electives.....	2
	16		14		16

## General Curriculum

## FIRST YEAR

(Same as listed above.)

## SECOND YEAR

Autumn Quarter		Winter Quarter		Spring Quarter	
	Credits		Credits		Credits
Art 53. Adv. Design.....	3	Art 54. Adv. Design.....	3	Art 55. Adv. Design.....	3
Art 56. Painting.....	3	Art 57. Painting.....	3	Art 58. Painting.....	3
Art 12. History of Art through the Renaissance.....	5	Art 72. Sculpture.....	3	Electives.....	9
Electives.....	4	Electives.....	6		
	15		15		15

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Arch. 1. Appreciation.....	2	Arch. 2. Appreciation.....	2	Approved Design.....	3
Art 160. Life.....	3	Art 161. Life.....	3	Art 162. Life.....	3
Art 103. Ceramics or		Art 104. Ceramics or		Laboratory Science.....	5
Art 157. Metal.....	3	Art 158. Jewelry.....	3	Electives.....	4
Econ., Pol. Sci., or Soc.....	5	Laboratory Science.....	5		
Electives.....	2	Art 126. History of Paint- ing since the Renaissance	2		15
	15		15		

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 101. Elementary Inter- ior Design.....	2	Art 150. Illustration or		Art 20. History of Mod- ern Sculpture.....	2
Art 163. Composition.....	3	Art 151. Printmaking.....	5	Art 197. Senior Seminar..	1
Art 195. Senior Seminar..	1	Art 164. Composition.....	3	Electives.....	12
Electives.....	9	Art 196. Senior Seminar..	1		15
	15	Electives.....	6		
			15		

Costume Design courses: Art 169, 170, 171, 179, 180, 181; Home Economics 132, 12, 25, 101, 102, 112, 113, 133.

## Art Education

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

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 5. Drawing.....	3	Art 6. Drawing.....	3	Art 7. Drawing.....	3
Art 9. Design.....	3	Art 10. Design.....	3	Art 11. Design.....	3
Engl. 1. Composition.....	3	Engl. 2. Composition.....	3	Engl. 3. Composition.....	3
P.E. 10 or 15.....	2	Econ., Pol. Sci., or Soc.....	2	Electives.....	7
Electives.....	4		14		16
	15				

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Arch. 1. Appreciation.....	2	Arch. 2. Appreciation.....	2	Art 55. Adv. Design.....	3
Art 53. Adv. Design.....	3	Art 54. Adv. Design.....	3	Art 58. Painting.....	3
Art 56. Painting.....	3	Art 57. Painting.....	3	Psychology 1. General.....	5
Art 12. History of Art through the Renaissance.	5	Laboratory Science.....	5	Electives.....	4
Educ. 1. Orientation.....	2	Electives.....	2		15
	15		15		

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 103. Ceramics, or		Art 104. Ceramics, or		Art 102. Book-binding....	2
Art 157. Metal.....	3	Art 158. Jewelry.....	3	Art 162. Life.....	3
Art 105. Lettering.....	3	Social Science.....	5	Laboratory Science.....	5
Art 72. Sculpture, or		Art 100. Elem. Crafts....	2	Electives.....	5
Art 169. Costume Design (credits 2 or 3)		Educ. 70. Procedures.....	5		15
Educ. 9.....	3		15		
Electives.....	2 or 3				
	13 to 15				

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>
Art 101. Elementary Interior Design .....	2
Art 163. Composition .....	3
Art 195. Senior Seminar ..	1
Educ. 75A. Methods .....	2
Electives .....	7
	<hr/> 15

<i>Winter Quarter</i>	<i>Credits</i>
Art 126. History of Painting since the Renaissance ..	2
Art 164. Composition .....	3
Art 196. Senior Seminar ..	1
Art 166. Commercial Design ..	5
Electives .....	4
	<hr/> 15

<i>Spring Quarter</i>	<i>Credits</i>
*Art 150. Illustration, or Art 152. Printmaking ..	5
Art 197. Senior Seminar ..	1
Art 20. History of Modern Sculpture .....	2
Educ. 90. Measurements ..	2
Electives .....	5
	<hr/> 15

## FIFTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>
Educ. 71. Cadet Teaching ..	5
Philosophy 129 .....	5
Electives .....	5
	<hr/> 15

<i>Winter Quarter</i>	<i>Credits</i>
Educ. 72. Cadet Teaching ..	3
Educ. 120. Educ. Sociology ..	3
Electives .....	9
	<hr/> 15

<i>Spring Quarter</i>	<i>Credits</i>
History 164. Wash. State ..	5
Educ. 60. Principles of Secondary Education ...	3
Electives .....	7
	<hr/> 15

## Teaching Major and Minor in the College of Education

The curriculum in *Art Education* described above provides a teaching major with the first minor in Art. The courses credited to the minor are: Art 20, 101, 102, 103, 104 or 157, 158; 105, 126, 166—a total of twenty-two credits.

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

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

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

## Commercial Art

## FIRST YEAR

(Same as listed above.)

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>
Art 53. Advanced Design ..	3
Art 56. Painting .....	3
Arch. 1. Appreciation .....	2
Art 12. History of Art through the Renaissance ..	5
Electives .....	3
	<hr/> 16

<i>Winter Quarter</i>	<i>Credits</i>
Art 54. Advanced Design ..	3
Art 57. Painting .....	3
Arch. 2. Appreciation .....	2
Art 51. Figure Sketching ..	1
Econ. 4. Survey .....	5
	<hr/> 14

<i>Spring Quarter</i>	<i>Credits</i>
Art 55. Advanced Design ..	3
Art 58. Painting .....	3
Art 20. History of Modern Sculpture .....	2
Laboratory Science .....	5
Electives .....	2
	<hr/> 15

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>
Art 105. Lettering .....	3
Journ. 130. Fundamentals of Advertising .....	3
Laboratory Science .....	5
Electives .....	4
	<hr/> 15

<i>Winter Quarter</i>	<i>Credits</i>
Art 126. History of Painting since the Renaissance ..	2
Journ. 131. Display Adver. ..	3
Econ., Pol. Sci., or Soc. ...	5
Electives .....	5
	<hr/> 15

<i>Spring Quarter</i>	<i>Credits</i>
Art 129. Apprec. of Design ..	2
Art 162. Life .....	3
Journ. 132. Typography .....	3
Psychology 1. General .....	5
Electives .....	2
	<hr/> 15

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>
Art 163. Composition .....	3
Art 169. Costume Design ..	2
Art 195. Senior Seminar ..	1
Electives .....	9
	<hr/> 15

<i>Winter Quarter</i>	<i>Credits</i>
Art 166. Commercial Design ..	5
Art 151. Printmaking .....	5
Art 170. Costume Design ..	2
Art 196. Senior Seminar ..	1
Electives .....	2
	<hr/> 15

<i>Spring Quarter</i>	<i>Credits</i>
Art 167. Commercial Design .....	5
Art 197. Senior Seminar ..	1
Electives .....	9
	<hr/> 15

\* Winter quarter.

**Industrial Design\*****FIRST YEAR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 5. Drawing.....	3	Art 6. Drawing.....	3	Art 7. Drawing.....	3
Art 9. Design.....	3	Art 10. Design.....	3	Art 11. Design.....	3
Engl. 1. Composition....	3	Engl. 2. Composition....	3	Engl. 3. Composition....	3
Lang.† .....	5	Lang.† .....	5	Lang.† .....	5
	<u>14</u>	P.E. 10 or 15.....	2	G.E. 7. Engr. Drawing...	3
			<u>16</u>		<u>17</u>

**SECOND YEAR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 53. Adv. Design.....	3	Art 54. Adv. Design.....	3	Art 55. Adv. Design.....	3
Arch. 1. Appreciation....	2	Arch. 2. Appreciation....	2	M.E. 55 .....	1
M.E. 53 .....	1	Arch. 11. Arch. Drawing..	4	M.E. 104 .....	2
Arch. 10. Arch. Drawing..	4	M.E. 54 .....	1	Arch. 12. Arch. Drawing..	4
Physics 1 or 4.....	5	Physics 12. ....	5	Physics 13. ....	5
	<u>15</u>		<u>15</u>		<u>15</u>

**THIRD YEAR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 12. History of Art through the Renaissance	5	Art 157. Metal.....	3	Art 20. History of Mod- ern Sculpture .....	2
Art 80. Furniture Design.	3	Home Econ. 24.....	2	Art 103 .....	3
Chem.† .....	5	Psych. 4 .....	3	E.B. 4 .....	5
Elective .....	1	Chem.† .....	5	M.E. 109 .....	3
	<u>14</u>		<u>13</u>	Art 122 .....	3
					<u>16</u>

**FOURTH YEAR**

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 101. Essentials of Interior Design .....	2	Art 126. History of Paint- ing since the Renaissance	2	Art 129. Appreciation of Design .....	2
Art 195. Senior Seminar..	1	Art 196. Senior Seminar..	1	Art 197. Senior Seminar..	1
Journ. 130. Fundamentals of Advertising .....	3	Journ. 131. Display Adver.	3	Econ. 57. Business Law...	3
E.B. 133 .....	5	E.B. 106 .....	5	Journ. 132. Advertising ..	3
Electives .....	4	Electives .....	4	Art 116. Design in Industry	3
	<u>15</u>		<u>15</u>	Electives ..	3
					<u>15</u>

**Suggested Electives (U.D. Credit)**

Art 105, Lettering.  
Art 158, Jewelry.  
Art 151 or 152, Printmaking.  
Art 166, 167, Commercial Design.  
Philosophy 129, Philosophy of Art.

\* For more complete preparation in this field a postgraduate year of specialized professional training (not offered at the University of Washington), supplemented by practical experience, is recommended.

† The foreign language requirement should include at least 9 credits upper division (beyond 2 years high school). This means continuing the same language presented for admission.

‡ Electives may be substituted for chemistry if the student presents one year of high school chemistry for entrance. Suggested electives: Art 5, 81, 82; Engineering English 40, 81, 101; Speech 40; Architecture 1, 2; E. & B. courses in marketing.

**Interior Design****FIRST YEAR**

(Same as listed above.)

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 80. Furniture Design.. 3		Art 81. Furniture Design.. 3		Art 82. Furniture Design.. 3	
Art 83. History of Furniture and Interior Styles.. 2		Arch. 2. Appreciation.... 2		Arch. 3. Appreciation.... 2	
Arch. 1. Appreciation.... 2		Arch. 11. Arch. Drawing.. 4		Arch. 12. Arch. Drawing.. 4	
Arch. 10. Arch. Drawing.. 4		Electives .....	6	Art 62. Essentials of Interior Design .....	2
Electives .....	4		15	Electives .....	4
	15				15

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 110. Interior Design.. 5		Art 111. Interior Design.. 5		Art 112. Interior Design.. 5	
Art 12. History of Art through the Renaissance 5		Art 126. History of Painting since the Renaissance 2		Econ., Pol. Sci., or Soc... 5	
Laboratory Science .....	5	Laboratory Science .....	5	Electives .....	5
	15	Electives .....	3		15
			15		

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 172. Advanced Interior Design .....	5	Art 173. Advanced Interior Design .....	5	Art 174. Advanced Interior Design .....	5
Art 195. Senior Seminar.. 1		Art 196. Senior Seminar.. 1		Art 197. Senior Seminar.. 1	
Electives .....	9	Home Economics 146 .....	5	Art 20. History of Modern Sculpture .....	2
	15	Electives .....	4	Electives .....	7
			15		15

## Painting

## FIRST YEAR

(Same as listed above.)

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Arch. 1. Appreciation.... 2		Arch. 2. Appreciation.... 2		Art 20. History of Modern Sculpture .....	2
Art 56. Painting..... 3		Art 57. Painting..... 3		Art 58. Painting..... 3	
Art 12. History of Art... 5		Art 72. Sculpture..... 3		Laboratory Science .....	5
Art 65. Painting..... 3		Art 66. Painting..... 3		Art 67. Painting..... 3	
Electives .....	2	Electives .....	4	Electives .....	2
	15		15		15

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 160. Life..... 3		Art 161. Life..... 3		Art 162. Life..... 3	
Art 175. Adv. Painting... 3		Art 176. Adv. Painting... 3		Art 177. Adv. Painting... 3	
Laboratory Science .....	5	Sociology, Economics, or Political Science .....	5	Approved Design .....	6
Electives .....	4	Electives .....	4	Electives .....	3
	15		15		15

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 107. Portrait Painting 3		Art 108. Portrait Painting 3		Art 109. Portrait Painting 3	
Art 163. Composition.... 3		Art 164. Composition.... 3		Art 165. Composition.... 3	
Art 195. Senior Seminar.. 1		Art 196. Senior Seminar.. 1		Art 197. Senior Seminar.. 1	
Electives .....	8	Electives .....	8	Electives .....	8
	15		15		15



## Sculpture

## FIRST YEAR

(Same as listed above.)

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 72. Sculpture.....	3	Art 73. Sculpture.....	3	Art 74. Sculpture.....	3
Art 56. Painting.....	3	Art 57. Painting.....	3	Art 58. Painting.....	3
Arch. 1. Appreciation.....	2	Arch. 2. Appreciation.....	2	Art 20. History of Modern	
Art 12. History of Art		Laboratory Science.....	5	Sculpture.....	2
through the Renaissance	5	Electives.....	2	Laboratory Science.....	5
Electives.....	2		—	Electives.....	2
	<u>15</u>		15		<u>15</u>

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 122. Sculpture.....	3	Art 123. Sculpture.....	3	Art 124. Sculpture.....	3
Art 160. Life.....	3	Art 161. Life.....	3	Art 162. Life.....	3
Art 103. Ceramics.....	3	Art 104. Ceramics.....	3	Economics, Political Sci-	
Electives.....	6	Art 126. History of Paint-		ence, or Sociology.....	5
	<u>15</u>	ing since the Renaissance	2	Electives.....	4
		Electives.....	4		<u>15</u>
			<u>15</u>		

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 132. Adv. Sculpture... 3		Art 133. Adv. Sculpture... 3		Art 134. Adv. Sculpture... 3	
Art 136. Sculpture Comp. 3		Art 137. Sculpture Comp. 3		Art 138. Sculpture Comp. 3	
Art 195. Senior Seminar.. 1		Art 196. Senior Seminar.. 1		Art 197. Senior Seminar.. 1	
Electives.....	8	Electives.....	8	Electives.....	8
	<u>15</u>		<u>15</u>		<u>15</u>

## Ceramic Art

DEGREE: Bachelor of Science (at end of fourth year)  
and

DEGREE: Bachelor of Science in Ceramic Art (at end of fifth year)

## FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 5. Drawing.....	3	Art 6. Drawing.....	3	Art 7. Drawing.....	3
Art 9. Design.....	3	Art 10. Design.....	3	Art 11. Design.....	3
Engl. 1. Composition.....	3	Engl. 2. Composition.....	3	Engl. 3. Composition.....	3
Chem. 1. Gen. Inorganic†. 5		Chem. 2. Gen. Inorganic.. 5		Chem. 23. Gen. Inorganic. 5	
P.E. 10 or 15. Health		Electives.....	2		—
Educ. ....	2		<u>16</u>		<u>14</u>
	<u>16</u>				

## SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 53. Advanced Design. 3		Art 54. Adv. Design..... 3		Art 55. Adv. Design..... 3	
Art 53. Adv. Design..... 3		Art 57. Painting..... 3		Art 58. Painting..... 3	
Modern Foreign Language 5		Modern Foreign Language 5		Modern Foreign Language 5	
Math. or Physics..... 3 or 5		Math. or Physics..... 3 or 5		Math. or Physics..... 3 or 5	
	<u>14 or 16</u>		<u>14 or 16</u>		<u>14 or 16</u>

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 103. Ceramic Art.... 3		Art 104. Ceramic Art.... 3		Art 130. Ceramic Art.... 3	
Art 72. Sculpture..... 3		Art 73. Sculpture..... 3		Art 74. Sculpture..... 3	
Ceramic Engr. 100..... 3		Ceramic Engr. 101..... 3		Ceramic Engr. 90..... 3	
Art 12. History of Art		Econ., Pol. Sci., or Soc.. 5		Art 20. Hist. of Sculpture 2	
through the Renaissance 5		Art 126. History of Paint-		Art 101. Essentials of	
	<u>14</u>	ing since the Renaissance 2		Interior Design..... 2	
		Electives.....	<u>16</u>	Electives.....	<u>2</u>
					<u>15</u>

† Not required if one year of high school chemistry is offered.

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 153. Adv. Ceramic Art	3	Art 154. Adv. Ceramic Art	3	Art 155. Adv. Ceramic Art	3
Art 160. Life.....	3	Art 161. Life.....	3	Art 162. Life.....	3
Art 157. Metal.....	3	Art 158. Jewelry.....	3	Art 197. Senior Seminar..	1
Ceramic Engr. 104.....	3	Art 196. Senior Seminar..	1	Electives .....	8
Art 195. Senior Seminar..	1	Social Science .....	5		
Electives .....	2		15		15
	15				

## FIFTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Art 163. Composition.....	3	Art 164. Composition.....	3	Art 165. Composition.....	3
Art 185. Adv. Ceramic Art	5	Art 186. Adv. Ceramic Art	5	Art 187. Adv. Ceramic Art	5
Electives .....	7	Electives .....	7	Electives .....	7
	15		15		15

## BOTANY

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

DEGREE: Bachelor of Science

The elective major requires 40 credits, including courses 1, 2, 3, 108, and 143 or 144.

Teaching Major or Minor in the College of Education

The major requirement is the same as in the College of Arts and Sciences, except that 24, 25, and 101 are required. A minor requires 25 credits including courses 1, 2, 3, 25, 101, and 8 or 108.

## CHEMISTRY

H. V. TARTAR, *Executive Officer*, 101 Bagley Hall

Upon completion of the first 90 credits or on transfer from another school, every student will be passed upon by a departmental committee to determine whether or not the department desires to sponsor the student in further work in his curriculum.

## Elective Curriculum

DEGREE: Bachelor of Science

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

## Prescribed Curriculum

DEGREE: Bachelor of Science in Chemistry

The minimum requirements of the prescribed curriculum and the normal sequence of courses are:

First Year: Chem. 21-22 (or 1-2), 23; Math. 4, 5, 6; English 1, 2, 3; P. E. 10 or 15.

Second Year: Chem. 109, 110, 101; Math. 107, 108, 109; Physics 1, 2, 3 (or 4, 5, 6).

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

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

All electives must be approved by the department. For graduation under the prescribed curriculum the student must present (1) a grade-point average of 2.5 in the required chemistry courses, with a grade of "C" or better in each course, (2) a grade-point average of 2.5 in all academic courses.

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

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

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

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

### CLASSICAL LANGUAGES AND LITERATURE

(Greek and Latin)

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

DEGREE: Bachelor of Arts

For an undergraduate major at least 36 credits in either Greek or Latin and a satisfactory showing in the Senior Examination are required; one-half of the credits must be in upper-division courses and the Latin major must include Latin 106, 160, 161, 162. In addition Latin 3 or equivalent is required for a major in Greek, and Greek 3 or equivalent is required for a major in Latin. Greek 1-2, Latin 1 to 6, and courses in Classical Antiquities do not count for a major or minor in the department.

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

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

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

### DRAMA

GLENN HUGHES, *Director*, 410 Denny Hall

DEGREE: Bachelor of Arts

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

A major requires 63 credits, made up of the following courses: 1, 2, 46, 47, 48, 51, 52, 53, 103, 104, 105, 106, 114, 121, 122 (or 123), 127, 128, 129, 151, 152, 153, 181 (or 182 or 183), and 197. A senior comprehensive examination is also required. An additional requirement is 25 credits in literature, including English 64, 65, 170, and either 171 or 172.

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

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\* The foreign language should be continued through courses in scientific German or French.

## College of Arts and Sciences

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

DEGREE: Bachelor of Arts

A major requires 50 credits including E.B. 1-2, Principles of Economics; E.B. 60, Statistical Analysis; E.B. 105, Economics of Labor; E.B. 185, Advanced Economics; E.B. 187, History of Economic Thought; and 20 additional credits from the following: E.B. 103, 104, 106, 107, 108, 120, 121, 125, 131, 141, 142, 161, 162, 163, 164, 171, 172, 175, 181, 182, 183, 186, 188.

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

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

**ENGLISH****Composition and Creative Writing—English Language and Literature**ROBERT B. HEILMAN, *Executive Officer*, 115 Farrington Hall

DEGREE: Bachelor of Arts

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

A major in English requires 50 credits: for those majors concentrating in literature these include courses 58, 151, 170, 168 or 144, 177 or 174, 161 or 162, and twenty elective credits of which fifteen are earned in upper-division literature or creative writing courses; for those concentrating in composition, courses 58, 64 or 170, 177 or 174, 148 or 149, 104 or 106 or 166, at least six credits from the sequences 51-52-53, 61-62-63, 74-75-76, 77-78-79, and twenty-one elective credits, fifteen of which must be in writing courses numbered over 100.\*

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

Two minors are offered students desiring certification for a secondary certificate. The first minor requires thirty-six credits: viz., Speech 79; English 117, or 187, or advanced composition; and electives to complete the requirements. The second minor requires twenty-four credits: viz., Speech 79; and twenty elective credits, preferably including one of these sequences: (1) 64, 65, 66; (2) 57, 58, 117 or 187.

**FAR EASTERN**GEORGE E. TAYLOR, *Executive Officer*, 338 Thomson Hall

DEGREE: Bachelor of Arts

Majors of three types are offered:

1. A general major requires Far Eastern 10; an additional 45 credits in Far Eastern subjects (not including language courses, which are optional); and a strong concentration of elective credit in some one of the social sciences or humanities.

2. A major in a special Far Eastern field requires Far Eastern 10; 30 credits in either the Japanese, Korean, Chinese, or Russian language; 15 credits in other Far

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

Eastern subjects; and a concentration of 20 or more credits in some one of the social sciences or humanities.

3. A linguistic major requires Far Eastern 10; 58 credits in either Japanese, Chinese, Russian, or Korean; and 40 credits in courses dealing with the civilization and history of the people by whom the elected language is spoken and of the Far East in general.

#### Teaching Minor in the College of Education

For a teaching minor in Far Eastern the following courses must be presented: Far Eastern 10; five credits selected from Far Eastern 147, 157, 167; five credits selected from Far Eastern 40, 41, 143, 168; three credits of approved electives—a total of eighteen credits.

A grade-point average of 2.5 in the Far Eastern courses is required for a teaching minor.

### FISHERIES

W. M. CHAPMAN, *Director*, 1 Fisheries Building

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

#### Elective Curriculum

##### DEGREE: Bachelor of Science

The requirements, other than those here specified, will be as for elective departmental majors in the College of Arts and Sciences, page 90, subject to the approval of the School.

At least forty-two credits must be completed in fisheries courses for the major.

#### Prescribed Curriculum

##### DEGREE: Bachelor of Science in Fisheries

#### FIRST YEAR\*

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Engl. 1. Composition.....	3	Engl. 2. Composition.....	3	Engl. 3. Composition.....	3
Zool. 1. Animal Biology....	5	Zool. 2. General Zoology... 5		Chem. 23. Qual. Anal.....	5
Chem. 1 or 21. General... 5		Chem. 2 or 22. General... 5		Fish. 110 .....	1
Fish. 108 .....	1	Fish. 109 .....	1	Electives .....	7
P.E. 10 or 15. Health Educ. 2		Electives .....	2		
	<u>16</u>		<u>16</u>		<u>16</u>

#### SECOND YEAR\*

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
†German or French.....	5	†German or French.....	5	Zool. or Fish. (See Options	
Zool. or Fish. (See Options		Zool. or Fish. (See Options		A, B, or C).....	5
A, B, or C).....	5	A, B, or C).....	5	Math. 13. Chem. 144, or	
Math. 4 or Chem. 131 (Or-		Math. 5 or 7, or Chem.		Chem. 111 (See Options	
ganic). (See Options A,		132 .....	5	A, B, or C).....	5
B, or C).....	5		<u>15</u>	Electives .....	5
	<u>15</u>				<u>15</u>

#### THIRD AND FOURTH YEARS

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

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

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

All options require ten credit hours in the Social Sciences, not more than 102 hours in any two departments, and a minimum of 42 credit hours in fisheries among which shall be included Fish. 101, 108, 109, 110, 195, 196, and 197.

Option A. *Commercial Fishery Management*. Fish. 105 or 106, 125, 126, 127, 156, and 157. Math. 4, 5, 41, 42 (or 107, 108, 109), 13 or 185; Zool. 105, 106.

Option B. *Freshwater Fishery Management*. Fish. 105 or 106, 151, 152, 153, 160, 161; Chem. 144 or 161-162; Microbiology 101; Zool. 105, 108; Math. 4, 5, 13 or 185.

Option C. *Commercial Fishing Industry*. Fish. 105 or 106, 180, 184, 185, 186; Chem. 111, 132, 161-162; Microbiology 101, 130, 131.

*Recommended Electives*: In all options any fisheries, zoological, or oceanographical course may be counted as an elective. The following additional electives are recommended: Econ. and Bus. 1-2 (or 3 or 4) (General Economics), 54, 55 (or 57) (Bus. Law); Chem. 109, 110, or 111 (Quantitative Analysis); 132, 133 (Organic); 161-162 (Biological); Math. 185 (Biometrics), 41, 42, 43 or 107, 108, 109 (Calculus); Microbiology 101 (General), 130, 131 (Industrial); Physics 1, 2, 3, or 4, 5, 6 (General); Geology 1 (Survey), or 6 (Physiography), or 7 (Historical); Botany 1, 2, or 3 (Elementary); Geography 7 (Economic), 11 or 111 (Weather and Climate).

### GENERAL LITERATURE

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

DEGREE: Bachelor of Arts

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

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

### GENERAL STUDIES

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

DEGREE: Bachelor of Arts or Bachelor of Science

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

The requirements for graduation in General Studies are:

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

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

3. A senior study giving evidence of the student's competence in his major field.

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

**Latin-American Studies.** The major in Latin-American Studies is directed by an interdepartmental committee (C. García-Prada, chairman). It normally includes the following courses: Anthropology 52 (Social), 65 (South America); Economics 4 (Survey), 130 (Foreign Trade of Latin America); Geography 7 (Economic), 105 (South America); History 41, 42 (Latin America and the Caribbean); Political Science 123 (International Relations of the Western Hemisphere); Spanish 101, 102, 103 (Composition and Conversation, Commercial), 104, 105, 106 (Survey), or Portuguese 100; and 12 elective credits in Latin-American literature, including Spanish 115, 116, 117.

## GEOGRAPHY

HOWARD H. MARTIN, *Executive Officer*, 406 Smith Hall

DEGREE: Bachelor of Arts

Major in Geography

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

Teaching Major or Minor in Geography in the College of Education

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

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

## GEOLOGY

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

Students may offer either the elective curriculum or the prescribed curriculum. A grade-point average of at least 2.5 shall be required in our beginning sequence, 5, 6, 7, and 8, and for admission to any other advanced course in geology. A grade-point average of 2.5 in all courses in geology shall be required of majors for graduation. Majors will be required each quarter to read two books of outstanding merit from a list prepared by the department.

### Elective Curriculum

DEGREE: Bachelor of Science

Majors offering the elective curriculum must fulfill the group requirements of the College of Arts and Sciences and should conform closely with respect to background courses as listed under the prescribed curriculum. The following courses are required, unless the department grants permission to offer substitutes. In general the distribution should be as follows:

Second Year	Credits	Third Year	Credits	Fourth Year	Credits
Geol. 5. Rocks & Minerals	5	Geol. 108. Structural	5	Geol. 100. History of Geol.	3
Geol. 6. Elem. Physiog.	5	Geol. 123. Optical Miner.	5	Geol. 131. Stratig.	5
Geol. 7. Historical Geology	5	Geol. 124. Petrog.-Petro.	5	Geol. 132. Invert. Paleon.	5
Geol. 121. Mineralogy	5	Geol. 125. Petrog.-Petro.	5	Geol. 112 or 113. Physiog.	5
	20		20	U. S.	5
					18

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

Third Year	Credits	Fourth Year	Credits
Geol. 130. General Paleon.	5	Geol. 126. Sediment. Petrog.	5
Geol. 133. Mesozoic Geol.	5	Geol. 135. Ammonites	2
Geol. 134. Tertiary Geol.	5	Geol. 144. Field Methods	5
Geol. 143. Advanced Structure	5		
	20		12

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

<i>Third Year</i>	<i>Credits</i>	<i>Fourth Year</i>	<i>Credits</i>
Mining 151. Elementary Mining.....	3	Geol. 127. Ore Deposits.....	5
Met. 101. Fire Assaying.....	3	Geol. 129. Advanced Ore Deposits.....	5
Geol. 144. Field Methods.....	5	Geol. 143. Advanced Structure.....	5
	<u>11</u>		<u>13</u>

### Prescribed Curriculum

#### DEGREE: Bachelor of Science in Geology

##### FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Chem. 1 or 21. General... 5		Chem. 2 or 22. General... 5		Chem. 23. Qual. Analysis. 5	
Math. 31. Engr. Freshman 5		Math. 32. Engr. Freshman 5		Math. 33. Engr. Freshman 5	
G.E. 1. Engr. Drawing... 3		G.E. 2. Engr. Drawing... 3		G.E. 3. Draft. Problems... 3	
English 1. Composition... 3		English 2. Composition... 3		G.E. 21. Plane Surveying. 3	
	<u>16</u>		<u>16</u>		<u>16</u>

##### SECOND YEAR

Geol. 5. Rocks & Minerals 5	Geol. 6. Elem. Physiog... 5	Geol. 7. Hist. Geology... 5
Physics 1. General... 5	Physics 2. General... 5	Physics 3. General... 5
Zoology 8. Survey... 5	English 3. Composition... 3	Geol. 121. Mineralogy... 5
	P.E. 15. (Men)... 2	
	<u>15</u>	<u>15</u>

##### THIRD YEAR

Geol. 123. Optical Miner.. 5	Geol. 124. Petrography... 5	Geol. 125. Petrography... 5
Geol. 108. Structural Geol. 5	Geol. 130. Paleontology... 5	Geol. 144. Field Methods.. 5
Group II Elective..... 5	Geol. 131. Stratigraphy... 3	Geol. 132. Invertebrate
	Group I Elective..... 3	Paleontology ..... 5
	<u>16</u>	<u>15</u>

Summer Field Course—Geology 200—15 credits

##### FOURTH YEAR

Geol. 100. Hist. of Geol... 3	Geol. 127. Ore Deposits... 5	Professional Electives ..... 10
Group I Elective..... 5	Group I Elective..... 2	Foreign Language ..... 5
Group II Elective..... 3	Group II Elective..... 2	
Foreign Language ..... 5	Foreign Language ..... 5	
	<u>14</u>	<u>15</u>

Adherence to this program, including the Summer Field Course, enables a student to graduate at the end of the winter quarter of the fourth year. It is further suggested that Group I and Group II requirements be met during the summer school between the first and second (or the second and third) years, in order to allow time for additional professional electives which would apply towards graduate work.

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

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

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



## GERMANIC LANGUAGES AND LITERATURE

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

DEGREE: Bachelor of Arts

For the major 36 credits are required, including courses 117, 118, 119, 120, 121, 122, and 128; 31 credits must be chosen from the departmental offerings numbered 117 or above. Majors are not permitted to count scientific German, courses in English translation, or the first 18 credits of elementary German.

For the minor 26 credits are required beyond the first 18 credits of elementary German. At least 20 credits must be in departmental offerings numbered 117 or above, and must include the courses required for the major.

Students preparing for library or other work not requiring knowledge of the spoken language may substitute literary courses in German (not courses offered in translation, however) in lieu of the departmental major requirements, German 117, 118, 119, 120, 121, 122, 128. These latter are demanded of prospective teachers.

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

For the major and minor the requirements are the same as for the major in the College of Arts and Sciences.

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

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

## HISTORY

WILLIAM STULL HOLT, *Executive Office*, 308B Smith Hall

DEGREE: Bachelor of Arts

Majors in history shall offer for the Bachelor of Arts degree 50 credits in history, of which at least 25 credits must be in upper-division courses. History 1 and 2, Medieval and Modern European History, and a survey in American history, History 7, are the only required courses.

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

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

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

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

## HOME ECONOMICS

JENNIE I. ROWNTREE, *Director*, 201 Raitt Hall

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

A minimum of 44 credits in the humanities and social sciences is necessary for graduation in all curricula. This includes specified courses listed in the prescribed curricula.

### Courses for Students in Other Departments

Recommended electives for nonmajors are: 25, 41, 83, 84, 104 or 107, 109, 141, 144, 145, 146 or 147.

*For a Home Economics Minor* at least 32 credits in home economics, including the following, are required: 15 or 83, 12 or 84, 104 or 107, 109, 112, 115, 145, 146 or 147, 190.

*For a Textiles and Clothing Minor:* 12, 25, 109, 112, 113, 114, 145, 147, and prerequisites.

For each of these minors a grade-point average of 2.5 in home economics is required.

### Nonprofessional Curricula

#### DEGREE: Bachelor of Science

*General Major.* Those who wish a broad background in home economics without specialization will include the following with electives approved by the School.

FIRST YEAR		SECOND YEAR	
	Credits		Credits
English 1, 2, 3. Composition.....	9	H.E. 112. Costume Design.....	3
H.E. 7. Orientation.....	1	H.E. 147. Home Furn.....	5
H.E. 12. Clothing.....	5	Soc. 1. Survey.....	5
H.E. 15. Food.....	3	Psych. 1. General.....	5
H.E. 25. Textiles.....	5	Econ. 4. Survey.....	5
P.E. 10. Health Ed.....	2	Chem. 137. Organic.....	5
Chem. 3-4 or 5-6. General.....	10	Electives.....	17
Art 9. Design.....	3		45
Electives.....	7		
	45		
THIRD YEAR		FOURTH YEAR	
	Credits		Credits
H.E. 107. Nutrition.....	5	Electives.....	45
H.E. 144. Family Econ.....	5	Suggested electives:	
H.E. 141. House. Mgmt.....	3	Home Economics, Physics 90, N.S. 101,	
H.E. 145. Family Relationships.....	3	Micro. 101, Journalism, Psych. 2 or 101,	
H.E. 148. Home Mgmt. House.....	2	Education, Art.	
H.E. 115. Adv. Food.....	5		
H.E. 190. Child Care.....	3		
Zool. 7. Physiology.....	5		
N.S. 101.....	3		
Electives.....	11		
	45		

#### DEGREE: Bachelor of Arts

##### *Textiles, Clothing, and Art Major:*

FIRST YEAR		SECOND YEAR	
	Credits		Credits
Engl. 1, 2, 3. Composition.....	9	H.E. 112. Costume Design.....	3
H.E. 7. Orientation.....	1	Hist. 1, 2. Medieval Europe.....	10
H.E. 12. Clothing.....	5	Soc. 1. Survey.....	5
H.E. 25. Textiles.....	5	Psych. 1. General.....	5
Chem. 3-4 or 5-6. General.....	10	Econ. 4. Survey.....	5
Art 5. Drawing.....	3	Art 6. Drawing.....	3
Art 9, 10. Design.....	6	Art 11. Design.....	3
P.E. 10. Health Ed.....	2	Art 51. Figure Sketching.....	1
Electives.....	4	Electives.....	16
	45		45
THIRD YEAR		FOURTH YEAR	
	Credits		Credits
H.E. 113, 114. Costume Design.....	6	H.E. 133. Hist. of Cos.....	5
H.E. 144. Fam. Econ.....	5	H.E. 188. Adv. Textiles.....	3
H.E. 145. Family Relationships.....	3	6 credits from:	6
Phil. 1. Introduction.....	5	H.E. 101 (2), 102 (2) Needlecraft	
Art 169, 170. Costume Design and		H.E. 189 (2) Hand Weaving	
Illustration.....	4	H.E. 198 (3) Hist. Tex.	
Electives.....	22	Option.....	10
	45	10 further credits in art	
		or	
		10 credits in upper-division economics	
		Suggested electives.....	21
		H.E. 160, 161.....	
			45

## Professional Curricula

## TEACHER TRAINING FOR VOCATIONAL EDUCATION

## DEGREE: Bachelor of Science in Home Economics

In this curriculum a major and one minor are included in home economics and a second minor is selected in another department. For a Three-Year Secondary Certificate a teacher must have 225 credits with 28 in education and 15 in contemporary social problems including Washington State history. Students must maintain a 2.5 grade-point average.

FIRST YEAR		SECOND YEAR	
	Credits		Credits
Engl. 1, 2, 3. Composition.....	9	H.E. 112. Costume Design.....	3
H.E. 7. Orientation.....	1	H.E. 115. Adv. Food.....	5
H.E. 12. Clothing.....	5	H.E. 147. Home Furn.....	5
H.E. 15. Food.....	3	Econ. 4. Survey.....	5
H.E. 25. Textiles.....	5	Soc. 1. Survey.....	5
Art 9. Design.....	3	Educ. 1. Orientation.....	2
Chem. 3-4 or 5-6. General.....	10	Nurs. Ed. 5. Home Nursing.....	3
P.E. 10. Health Ed.....	2	Chem. 137. Organic.....	5
Psych. 1. General.....	5	Zool. 7. Physiology.....	5
Electives.....	2	Physics 90. Home.....	5
	45	Electives to include minor.....	2
			45
THIRD YEAR		FOURTH YEAR	
	Credits		Credits
H.E. 107, 108. Nutrition.....	8	H.E. 114. Costume Design.....	3
H.E. 113. Costume Design.....	3	H.E. 190. Child Nutrition.....	3
H.E. 116. Meal Planning.....	3	Nurs. School 101. Child Development.....	3
H.E. 141. Home Management.....	3	Educ. 75NA. Special Methods.....	3
H.E. 144. Family Economics.....	5	Hist. 164. History of Washington.....	5
H.E. 145. Family Relationships.....	3	Electives (minor).....	28
Educ. 9. Psych. Sec. Ed.....	3		45
Educ. 70. H. S. Intro.....	5		
Educ. 90. Meas. Sec. Ed.....	2		
Micro. 101. Bacteriology.....	5		
Electives (minor).....	5		
	45		
FIFTH YEAR			
	Credits		Credits
Educ. 71-72. Cadet Teaching.....	5-3		
H.E. 148. Home Management House.....	3		
H.E. 195. Special Problems.....	*		
Educ. 30. State Manual.....	0		
Educ. 60. Prin. Sec. Ed.....	3		
Educ. 120. Ed. Soc.....	3		

Exceptions to the above curricula will be made for certain students who wish to teach clothing and home furnishing but not foods and nutrition and also for those who prefer foods and management but not clothing. Beginning work in both foods and clothing is required and the same total number of home economics credits as for the above curricula.

## INSTITUTION ADMINISTRATION

## DEGREE: Bachelor of Science in Home Economics

FIRST YEAR		SECOND YEAR	
	Credits		Credits
Engl. 1, 2, 3. Composition.....	9	Chem. 137. Organic.....	5
H.E. 7. Orientation.....	1	Soc. 1. Survey.....	5
H.E. 15. Food.....	3	Econ. 4 (Survey) or 1-2 (Prin.).....	5 or 10
H.E. 26. Textiles.....	3	H.E. 115. Adv. Food.....	5
Chem. 3-4 or 5-6. General.....	10	H.E. 131. Cloth. Sel.....	2
Art 9. Design.....	3	H.E. 141. Home Mgmt.....	3
P.E. 10. Health Ed.....	2	H.E. 147. Home Furn.....	5
Psych. 1. General.....	5	Zool. 7. Physiology.....	5
Electives.....	9	Physics 90. Home.....	5
	45	Electives.....	5
			45

\* Credits to be arranged.

## THIRD YEAR

	Credits
H.E. 107, 108. Nutrition.....	8
H.E. 116. Meal Planning.....	3
H.E. 144. Family Economics.....	5
H.E. 145. Family Relationships.....	3
H.E. 148. Home Management House.....	2
Micro. 101. Bacteriology.....	5
Electives.....	19
	<hr/> 45

## FOURTH YEAR

	Credits
H.E. 121, 122, 123, 124.....	16
H.E. 190. Child Nutrition.....	3
H.E. 191. Diet Therapy.....	3
Educ. 75NB. Teach. Inst. Admin.....	5
N.S. 101. Child Development.....	3
Chem. 144. Biology.....	5
Electives.....	10
	<hr/> 45

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

## TEXTILES, CLOTHING, AND ART

## DEGREE: Bachelor of Arts in Home Economics

## FIRST YEAR

	Credits
Engl. 1, 2, 3. Composition.....	9
H.E. 7. Orientation.....	1
H.E. 12. Clothing.....	5
H.E. 25. Textiles.....	5
Chem. 3-4 or 5-6. General.....	10
Art 5. Drawing.....	3
Art 9, 10. Design.....	6
P.E. 10. Health Ed.....	2
Electives.....	4
	<hr/> 45

## SECOND YEAR

	Credits
H.E. 112. Costume Design.....	3
Hist. 1, 2. Medieval Europe.....	10
Soc. 1. Survey.....	5
Psych. 1. General.....	5
Econ. 4. Survey.....	5
Art 6. Drawing.....	3
Art 11. Design.....	3
Art 51. Figure Sketching.....	1
Electives.....	10
	<hr/> 45

## THIRD YEAR

	Credits
H.E. 113, 114. Costume Design.....	6
H.E. 144. Family Economics.....	5
H.E. 145. Family Relationships.....	3
Art 169, 170, 171. Costume Design and Illustration.....	6
Phil. 1. Introduction.....	5
Electives.....	20
	<hr/> 45

## FOURTH YEAR

	Credits
H.E. 133. History of Costume.....	5
H.E. 160, 161. Advanced Costume Design.....	10
H.E. 188. Advanced Textiles.....	3
H.E. 198. Historic Textiles.....	3
Electives.....	24
Art to complete 30 credits; Home Economics chosen from 101, 102, 189.	
	<hr/> 45

## APPAREL DESIGN AND MERCHANDISING

## DEGREE: Bachelor of Arts

A curriculum which correlates work in the School of Home Economics, the School of Art, and the College of Economics and Business is offered to qualified students to equip them with the knowledge and skills essential to the designing and merchandising of clothing and textiles. Practical experience secured by working in stores and factories is required.

Freshman and sophomore requirements same as for Textiles, Clothing, and Art Major.

## THIRD YEAR

	Credits
H.E. 113, 114. Costume Design.....	6
H.E. 144. Family Economics.....	5
H.E. 145. Family Relationships.....	3
Art 169, 170. Costume Design and Illustration.....	4
Econ. 106, 133. Marketing and Retailing.....	10
Art 129. Apprec. Des.....	2
Electives (soc. sci. and humanities).....	15
	<hr/> 45

## FOURTH YEAR

	Credits
H.E. 133. History of Costume.....	5
H.E. 160, 161. Adv. Costume Design.....	10
H.E. 188. Advanced Textiles.....	3
H.E. 198. Historic Textiles.....	3
Economics.....	10 to 15
From Econ. 62, Acct. Prin. (5); 101, Ind. Mgmt. (5); 135, Adv. Retail. (2); 138, Mkt. Anal. (5)	
Electives.....	9 to 14
	<hr/> 45

## FOODS, NUTRITION, AND HOME MANAGEMENT

## DEGREE: Bachelor of Science in Home Economics

For the fields of work below, the required home economics courses with their science prerequisites and supporting subjects are: 7, 15, 107-108, 115, 116, 141, 144, 145, 147, 148, 181, and 190.

*Home Economics and Business.* Students interested in this field will select 12 additional credits from the following: H.E. 126, 187, 191; Chem. 144, 161, 162; Speech 40; and journalism (6-11 credits).

*Journalism and Home Economics.* For this field, Journalism 1, 51, 84, and at least 15 credits to be designated by agreement with the Director of the School of Journalism are required.

*Nutritionist with Social or Public Health Agency.* The requirements for this field are: H.E. 121, 191; Nursery School (2 credits); and at least 9 credits from the following courses in the Graduate School of Social Work: 192, 193, 195, 196.

## JOURNALISM

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

## DEGREE: Bachelor of Arts

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

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

*Transfers.* Students planning to transfer to the School of Journalism from other schools are urged to do so at the beginning of their last quarter as sophomores. This will enable them to satisfy premajor requirements and enroll as regular third-year majors the following fall. Those unable to do this will be asked to satisfy premajor requirements and take senior electives in the junior year and to take the third-year non-elective professional sequence as seniors. Rarely will they be permitted to enter the third-year sequence their first quarter in the University.

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 may not be counted toward an advanced degree.

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

## Curriculum

A professional major in journalism is required to meet the College of Arts and Sciences lower-division requirements and to offer nine credits of specified prejournalism; 45 credits of additional journalism; 15 credits of English (11 of which must consist of English 1, 2, and 65. English 67 and 69 are recommended); and 20 credits in one of the fields of sociology, political science, psychology, history, home economics, geography, or economics. By special arrangement with the head of the department concerned, a student may elect his minor in a field other than these seven above specified. If a student so desires he will find it possible to elect more than one minor, although only one is required.

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

The required courses for the first two years are: Journ. 51, 84, 130; Engl. 1, 2, 65; Geog. 70; Psych. 1; Pol. Sci. 1; E.B. 4; Hist. 2, 7; Speech 20; Soc. 1; Science courses (10 cr.) one of which (5 cr.) must be a laboratory science (Physics 10 is recommended for survey science); Physical Education 10 or 15 and an activity course each quarter.

*Third Year—nonelective.* The required courses are Journ. 147, 148, 149, 150, 151, 152, 153, 154, and 181, or 182 or 183, and Geog. 177.

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

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

Those specializing in advertising and business are required to take Econ. 106, Marketing, and Art 5, Drawing, in lieu of the regular prejournalism requirement of Geog. 70. They are also urged to take Econ. 57, Business Law. There is no exception to these requirements without the special permission of the Director of the School of Journalism. Econ. 133, Retailing, is required of seniors electing the advertising sequence.

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

*Fourth Year.* At least one quarter of Journalism 199 (2 credits per quarter) is required. The major and his adviser will determine the schedule of courses.

Students wishing to minor in Journalism regardless of major (except in the College of Education) must include the following courses in their minor: Journ. 51, 84, and eleven credits to be designated by agreement with the Director of the School of Journalism.

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

Major students in the College of Education may obtain a major in journalism (33 cr.) by completing the following courses: Journ. 51, 84, 130, 181, 125a (or Educ. 75J), 165, and History of Journalism (3), Law of the Press (3), Social Implications of Journalism (2), Newspaper Management (2), Printing Processes (2), Photography (1), Printing Lab. (1), to be scheduled by arrangement with the Director of the School of Journalism.

A teaching minor (18 cr.) may be obtained by completing the following courses: Journ. 51, 84, 130, 181, 125a (or Educ. 75J) and Printing Processes (2) to be scheduled by arrangement with the Director of the School of Journalism.

A grade-point average of 2.5 in all journalism courses must be maintained.

### MATHEMATICS

R. M. WINGER, *Executive Officer*, 237 Physics Hall

DEGREES: Bachelor of Arts or Bachelor of Science

For a major, forty-two credits are required, including courses 4, 5, 6, 107, 108, 109, and twelve credits in upper-division electives. Prerequisite,  $\frac{1}{2}$  unit advanced algebra,  $\frac{1}{2}$  unit solid geometry in high school or university.

DEGREES: Bachelor of Science in Mathematics

Bachelor of Arts in Mathematics

For the degree of Bachelor of Science in Mathematics, fifty credits are required, including courses 4, 5, 6, 107, 108, 109, and twenty credits in upper-division electives. In addition the following credits must be earned: in physics or chemistry, 15; in astronomy, botany, geology, or zoology, 15; in Groups I and II (see page 90), 15 each. For the degree of Bachelor of Arts in Mathematics, the requirements are

the same except that a minimum of 15 credits in science is allowed and the preponderance of the student's free electives shall be from Groups I and II.

**DEGREE: Bachelor of Science in Mathematical Statistics**

The work in mathematical statistics has a threefold purpose:

- (a) The training of professional statisticians.
- (b) Instruction of students who wish to broaden their mathematical studies, or who seek a mathematical background for their work in economics, sociology, genetics, psychology, education, etc.
- (c) To conduct research in statistics and provide competent consultation on statistical problems.

To coordinate the three parts of this program and to effect the work of part (c), there has been established within the Department a Laboratory of Statistical Research, of which Z. W. Birnbaum is Director.

For the degree of Bachelor of Science in Mathematical Statistics courses 4, 5, 6, 107, 108, 109, 180, 181, 182, 183, 184 are required. The additional requirements are the same as for the degree of Bachelor of Science in Mathematics.

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

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

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

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

**METEOROLOGY AND CLIMATOLOGY**

**PHIL E. CHURCH, Acting Executive Officer, 404B Smith Hall**

**DEGREE: Bachelor of Science**

Majors in the department shall offer for the Bachelor of Science degree 50 credits including 112, 113, 114, 115, 121, 122, 150, 151, 152, and 160. In addition college mathematics through calculus plus Math. 13, one year of college physics, and at least one regional geography course are required. Recommended foreign language is German.

**MUSIC**

**STANLEY CHAPPLE, Director, Music Building**

The School of Music offers five curricula for its majors, one nonprofessional and four professional: (1) Elective; (2) Vocal and Instrumental; (3) Composition; (4) Music History and Literature; (5) Music Education. In addition music courses are offered for students who major in other fields.

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

**Admission Requirements**

The first two years of the state course of study for high school credits in piano, or the equivalent, are required of all entering music majors. Freshmen deficient in

piano may be accepted conditionally in music by demonstrating through examination marked proficiency on other approved instruments or in voice. Entrance tests in basic skills will determine the acceptance of a student as a major or as a conditional music major. In Theory the major begins with Music 24. Those with inadequate preparation should plan for additional time to complete the degree.

New students 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 warrant advanced standing, must make application during their first quarter of residence. In no case will more than 18 credits in vocal or instrumental music be allowed students entering with advanced standing.

### Elective Curriculum

#### DEGREE: Bachelor of Arts

In addition to the general requirements of the College of Arts and Sciences (see pages 89-91) fifty-two credits in approved music courses are required. Eighteen of these shall be in Music Literature and History, including 4 and 54, 55, 56; seventeen in Materials and Composition beginning with Music 24; six in Vocal or Instrumental Study; and three in Ensemble.

### Prescribed Curricula

#### DEGREE: Bachelor of Arts in Music

At the end of the second year students may, with the approval of the faculty, choose a major from the following four curricula:

- I. Major in Vocal or Instrumental Music
- II. Major in Composition
- III. Major in Music History and Literature
- IV. Major in Music Education

In addition to the general requirements of the College of Arts and Sciences (see pages 89-91) the following courses are required for all four majors:

FIRST YEAR	Credits	SECOND YEAR	Credits
Music 4. Intro. to Music Literature.....	3	†Music 9ex. Voice.....	3
Music 24, 25, 26. First Year Theory.....	12	†Music 41-42-43. Orchestral Instruments Laboratory.....	4
*Music 27, 28, 29. Eurhythmics.....	3	Music 54-55-56. Survey of Music Literature and History.....	9
Vocal or Instrumental Music.....	6 or 9	†Music 83, 84, 85. Repertory I.....	6
Ensemble.....	3	Music 98. Choral Music I.....	2
Engl. 1, 2, 3. Composition.....	9	Music 99. Counterpoint.....	5
P.E. 10 or 15.....	2	§Music 101. Advanced Harmony.....	5
Electives.....	7 or 10	§Music 112. Forms.....	5
		Vocal and Instrumental Music.....	6 or 9
		Ensemble.....	3
		Physics 50. Sound.....	5
		†Education 1.....	2
		†Psychology 1.....	5
		Electives.....	10

\* Special requirement for Piano and Voice Majors.

† Special requirement for Music Education majors

‡ Special requirement for Piano and Vocal majors

§ Composition majors

Further requirements for the respective majors are as follows:

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

A student must show marked talent for performance before proceeding further. Students will be examined upon entrance and at the end of each year by a committee. Of the 36 credits required in Vocal or Instrumental study, 30 must be in the Major branch (e.g., piano) and 6 in another instrument or in voice. No credit below Music 50 may be included in these 30 credits.



Specific requirements in each field are as follows:

#### A. PIANO

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 101. Advanced Harmony.....	5	Music 157 or 163. Composition or Counterpoint II.....	3 or 5
Music 112. Forms.....	5	Music 173, 174, 175. Keyboard Transposition and Improvisation.....	6
Music 124, 125, 126. Chamber Music.....	3	Music 199. Senior Recital.....	2
Music 133, 134, 135. Repertory II.....	6	Vocal and Instrumental.....	9
Music 138. Accompanying.....	2	Electives.....	25 or 23
Music 139. Piano Ensemble II.....	1		
Vocal and Instrumental.....	9		
Electives.....	14		

#### B. VIOLIN

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 93, 94, 95. Symphony Orchestra.....	3	Music 93, 94, 95. Symphony Orchestra.....	3
Music 101. Advanced Harmony.....	5	Music 124, 125, 126. Chamber Music.....	3
Music 112. Forms.....	5	Music 143. Orchestration.....	3
Music 124, 125, 126. Chamber Music.....	3	Music 157. Composition.....	3
Violin.....	9	Music 199. Senior Recital.....	2
Electives.....	20	Violin.....	9
		Electives.....	22

#### C. VOICE

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 101. Advanced Harmony.....	5	Music 138. Accompanying.....	2
Music 112. Forms.....	5	Music 157. Composition.....	3
Music 133, 134, 135. Repertory.....	6	Music 199. Senior Recital.....	2
Vocal and Instrumental.....	9	Vocal and Instrumental.....	9
English 57. Poetry.....	5	Electives.....	29
Language.....	15		

#### D. VIOLONCELLO: See Violin

#### E. ORGAN

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 101. Advanced Harmony.....	5	Music 143. Orchestration.....	3
Music 112. Forms.....	5	Music 145. Church Music.....	2
Music 136. Conducting.....	3	Music 157. Composition.....	3
Music 138. Accompanying.....	2	Music 163. Counterpoint II.....	4
Vocal and Instrumental.....	9	Music 199. Senior Recital.....	2
Electives.....	21	Vocal and Instrumental.....	9
		Electives.....	22

#### II. MAJOR IN COMPOSITION

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 136. Conducting.....	3	Music 163. Counterpoint.....	4
Music 143. Orchestration.....	3	Music 177, 178, 179. Composers' Lab. (any two).....	6
Music 157, 158, 159. Composers' Lab.....	9	Music 180. Advanced Conducting.....	3
Vocal and Instrumental.....	6	Music 190, 192. Literature and History.....	6
Electives.....	24	Electives.....	24

#### III. MAJOR IN MUSIC HISTORY AND LITERATURE

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 101. Advanced Harmony.....	5	Music 143. Orchestration.....	3
Music 112. Forms.....	5	Music 193. Music History Reading Course.....	3
Electives, Music History.....	6	Electives, Music History.....	6
Language, German or French.....	15	Electives.....	31
Electives.....	14		

#### IV. MAJOR IN MUSIC EDUCATION

(A) *Piano*. Students who have offered piano for instrumental entrance requirement shall complete six credits in Music 50A of the piano course (see bulletin) before graduation. Students who have substituted corresponding proficiency on another instrument shall complete six credits in 9AX or in 20A before graduation.

(B) *Voice*. Two years of study are required or the ability to demonstrate attainment equal to Music 9CX (6 cr.). As a prerequisite to cadet teaching proficiency in both piano and voice must be demonstrated not later than the junior year.

(C) *Academic Minor.* To qualify for the Three-Year Secondary Certificate, students will, during the senior year, choose a teaching minor in an academic subject.

THIRD YEAR	Credits	FOURTH YEAR	Credits
Music 112. Forms .....	5	Music 155. Supervision .....	5
Music 116. Junior High School Music .....	3	Music 156. Instrumental School Music .....	2
Music 128. Choral Music II .....	2	Music 180. Orchestral Conducting .....	3
Music 136. Choral Conducting .....	3	Vocal and Instrumental .....	6
Vocal and Instrumental .....	6	Education 70, 90 .....	7
Education 75R. Senior H. S. Music .....	2	History 164. History of the Northwest .....	5
Education 9 .....	3	Electives .....	17
Electives .....	21		

The bachelor's degree will be awarded upon the completion of the requirements of the fourth year. A Three-Year Secondary Certificate (see College of Education, page 130), will be awarded upon the successful completion of the requirements as outlined below:

FIFTH YEAR	Credits
Education 30. Washington State Manual ..	0
Education 71, 72. Cadet Teaching .....	8
Education 60. Principles of Secondary Education .....	3
Education 120. Educational Sociology .....	3
Vocal or Instrumental Music .....	6
Music Elective .....	5
Electives .....	20

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

For the teaching major the departmental requirements for the five years are the same as IV above.

#### Minor (for majors in music)

Music 43. Instrument Laboratory .....	2
Music 112. Forms .....	5
Music 128. Choral Music II .....	2
Music 156. Instrumental Music in the Schools .....	2
Music 180. Orchestral Conducting .....	3
Vocal or Instrumental Study .....	6
Education 75R. High School Music .....	2
	<hr/> 22

#### Vocal Minor (for nonmusic majors)

Music 25. Theory II .....	4
Music 98. Choral Music I .....	2
Music 128. Choral Music II .....	2
Music 136. Choral Conducting I .....	3
Music 195. Choral Conducting II .....	3
Vocal Music 50C .....	6
Education 75R. High School Music .....	2
	<hr/> 22

#### Instrumental Minor (for nonmusic majors)

Music 41-42-43. Orchestral Instruments Laboratory (repeated) .....	8
Music 25. Theory II .....	4
Music 98. Choral Music I .....	2
Music 136. Choral Conducting .....	3
Music 180. Orchestral Conducting .....	3
Instrumental Music 50B, F or G and above .....	6
Education 75R. High School Music .....	2
	<hr/> 28

#### Theory Minor (for nonmusic majors)

Music 25. Theory II .....	4
Music 26. Theory III .....	4
Music 98. Choral Music I .....	2
Music 99. Counterpoint .....	5
Music 136. Choral Conducting .....	3
Music 180. Orchestral Conducting .....	3
Vocal or Instrumental Music 50 .....	6
Education 75R. High School Music .....	2
	<hr/> 29

## PHILOSOPHY

EVERETT J. NELSON, *Executive Officer*, 266 Savery Hall

### DEGREE: Bachelor of Arts

A major must offer (1) 50 credits in philosophy including Phil. 2 or 3, 5, 101-102, and 104-105-106; and (2) one approved course in each of the following fields of sciences: biological, physical, and social.

## PHYSICAL AND HEALTH EDUCATION FOR MEN AND WOMEN

EDWARD H. LAUER, *Acting Director*RUTH M. WILSON, *Executive Officer for Women*, 105 Hutchinson HallR. E. BELSHAW, *Executive Officer for Men*, 210 Edmundson Pavilion

DEGREE: Bachelor of Arts

The School of Physical and Health Education includes five main divisions: (1) physical education activity program, (2) health instruction, (3) intramural sports and recreation, (4) professional education in teacher training and recreational leadership, (5) prephysical therapy (for women).

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, prephysical therapy, recreational leadership, and health education. Application for admission to professional curricula occurs after completion of 75 credits. The required foundation courses and professional 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 130.

## Lower-Division Requirements for All Major Curricula

## Required foundation and related courses:

	Credits		Credits
Zool. 1. Animal Biology.....	5	Soc. 1. Survey of Sociology.....	5
Zool. 2. General Zoology.....	5	Psych. 1. General Psychology.....	5
Zool. 7. Elementary Human Physiology....	5	Speech 40. Essentials of Speaking.....	5
Zool. 16. Evolution.....	2	†P.E. 11, 12, 13. Physical Education Activities for Freshman Majors.....	+6
Zool. 17. Eugenics.....	2	†P.E. 16, 17, 18, 19. Physical Education Backgrounds.....	4
†Chem. 3-4. General Chemistry.....	10	*P.E. 7, 8, 9, 10, 11, 12. Physical Education Activities for Majors.....	+6
(or one unit of high school chemistry)		Military or Naval Science.....	+6
Anat. 103. Anatomy Lectures and Laboratory.....	5	†P.E. 75, 85, 87. Archery, Canoeing, Golf.....	+3
†P.E. 10. Health Education.....	2		
English 1, 2, 3. Composition.....	9		
			163 + 9
			*57 + 6

\* Required of men only.

† Not required of men in Curriculum B.

‡ Required of women only.

## Major Requirements

## Group A. Major in Physical Education

(For the nonprofessional student)

## Required professional courses:

MEN	Credits	WOMEN	Credits
102. Problems in Physical and Health Education and Recreation.....	2	¶101. Methods and Materials in Gymnastics, Stunts, and Tumbling.....	3
107. Personal and General Hygiene.....	3	102. Problems in Physical and Health Education and Recreation.....	2
109. School Dance Program.....	2	111. Rhythmic Activities for Small Children.....	2
115. Physiology of Muscular Exercise.....	3	112. Elementary school Athletics Program.....	3
116. First Aid and Safety.....	3	115. Physiology of Muscular Exercise.....	3
P.E. 124. Playground Program.....	3	116. First Aid and Safety.....	3
145. Principles of Physical Education.....	3	118. Analysis of Rhythm.....	3
150. Section B—School Physical Education Program.....	3	128. Organization and Administration of Camp Programs.....	3
163. Methods and Materials in Teaching Sports.....	2	145. Principles of Physical Education.....	3
165. The School Health Education Program.....	3	¶156. Methods and Materials in Teaching Modern Dance.....	2
193. Problems in Athletics.....	3	¶162. Methods and Materials in Teaching Folk, Tap, and Clog Dancing.....	2
Six credits selected from the following:		¶163. Methods and Materials in Teaching Sports.....	3
170. Football Coaching.....	2	¶164. Methods in Teaching Swimming.....	3
171. Basketball Coaching.....	2	165. The School Health Education Program.....	3
172. Track Coaching.....	2		
173. Baseball Coaching.....	2		
Total credits required.....	36	Total credits required.....	35-36

¶ Must select 4 of 5.

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

*Required related courses:*

	<i>Credits</i>
Art 100. Elementary Crafts for Schools..	2
Librarianship 252. Story Telling.....	3
Thirteen approved credits from Sociology..	13

	<i>Credits</i>
Five credits from the following:	5
Drama 107, 108, 109. Puppetry	
Forestry 6. General Forestry	
Forestry 156. Forest Recreation	
Music 22, 23, 24. Music Appreciation	
†P.E. 159-60. Dance Production	

Total credits required.....23

† Required of women only.

*Required professional courses:*

<b>MEN</b>	<i>Credits</i>
102. Problems in Physical and Health Education and Recreation.....	2
107. Personal and General Hygiene.....	3
109. The School Dance Program.....	2
115. Physiology of Muscular Exercises.....	3
116. First Aid and Safety.....	3
124. Playground Program.....	3
126. Observation and Practice Teaching.....	2
128. Organization and Administration of Camp Programs.....	3
145. Principles of Physical Education.....	3
150B. The School Physical Education Program.....	3
158. Methods of Teaching Apparatus, Tumbling, and Stunts.....	2
163. Methods and Materials in Teaching Sports.....	2
164. Methods in Teaching Swimming.....	2
193. Problems in Athletics.....	3
Total credits required.....	36

<b>WOMEN</b>	<i>Credits</i>
101. Methods and Materials in Gymnastics, Stunts, and Tumbling.....	3
102. Problems in Physical and Health Education and Recreation.....	2
111. Rhythmic Activities for Small Children	2
112. Elementary-school Athletic Program.....	3
115. Physiology of Muscular Exercise.....	3
116. First Aid and Safety.....	3
118. Analysis of Rhythm.....	3
124. Playground Program.....	3
126. Observation and Practice Teaching.....	4
128. Organization and Administration of Camp Programs.....	3
145. Principles of Physical Education.....	3
156. Methods and Materials in Teaching Modern Dance.....	2
162. Methods and Materials in Teaching Folk, Tap, and Clog Dancing.....	2
163. Methods and Materials in Teaching Sports.....	3
164. Methods in Teaching Swimming.....	3
165. The School Health Education Program	3
166. Coaching (Registration for 3 quarters)	0
Total credits required.....	45

**Group C. Major in Prephysical Therapy**  
(For Women)

*Required foundation and related courses:*

	<i>Credits</i>
Physics 70. Physics for Nurses.....	5
Psychology 2. General Psychology.....	5

	<i>Credits</i>
Psychology 131. Child Psychology.....	5
Total credits required.....	15

*Required professional courses:*

	<i>Credits</i>
101. Methods and Materials in Gymnastics, Stunts, and Tumbling.....	3
102. Problems in Physical and Health Education and Recreation.....	2
111. Rhythmic Activities for Small Children	2
112. Elementary school Athletic Program.....	3
115. Physiology of Muscular Exercise.....	3
116. First Aid and Safety.....	3
118. Analysis of Rhythm.....	3

	<i>Credits</i>
122. Kinesiology.....	3
145. Principles of Physical Education.....	3
162. Methods and Materials in Teaching Folk, Tap, and Clog Dancing.....	2
163. Methods and Materials in Teaching Sports.....	3
164. Methods in Teaching Swimming.....	3
165. The School Health Education Program	3
166. Coaching (Registration for 3 quarters)	0
Total credits required.....	36

**Professional Teacher Training**  
(For the professional student in health and physical education)

**Group D. Teaching Major in Physical Education***Required professional courses:*

<b>MEN</b>	<b>Credits</b>
102. Problems in Physical and Health Education and Recreation.....	2
107. Personal and General Hygiene.....	3
109. The School Dance Program.....	2
115. Physiology of Muscular Exercise.....	3
116. First Aid and Safety.....	3
122. Kinesiology.....	3
124. Playground Program.....	3
127. Tests and Measurements.....	3
135. Adapted Activities.....	3
145. Principles of Physical Education.....	3
150. Section B. School Physical Education Program.....	3
158. Methods in Teaching Apparatus, Tumbling, and Stunts.....	2
161. Methods in Teaching Boxing and Wrestling.....	2
163. Methods and Materials in Teaching Sports.....	2
164. Methods in Teaching Swimming.....	2
165. The School Health Education Program	3
193. Problems in Athletics.....	3
Six credits from the following:	6
170, 171, 172, 173. Athletic Coaching	
Home Econ. 104. Nutrition.....	2
<b>Total credits required.....</b>	<b>53</b>

<b>WOMEN</b>	<b>Credits</b>
101. Methods and Materials in Gymnastics, Stunts, and Tumbling.....	3
102. Problems in Physical and Health Education and Recreation.....	2
111. Rhythmic Activities for Small Children	2
112. Elementary school Athletic Program.....	3
115. Physiology of Muscular Exercise.....	3
116. First Aid and Safety.....	3
118. Analysis of Rhythm.....	3
122. Kinesiology.....	3
127. Tests and Measurements.....	3
128. Organization and Administration of Camp Programs.....	3
145. Principles of Physical Education.....	3
150. The School Physical Education Program.....	2
156. Methods and Materials in Teaching Modern Dance.....	2
162. Methods and Materials in Teaching Folk, Tap, and Clog Dancing.....	2
163. Methods and Materials in Teaching Sports.....	3
164. Methods in Teaching Swimming.....	3
166. Coaching (3 quarters).....	0
Three credits in physical education electives.....	3

*If not accompanied by health education minor, add:*

153. Methods and Materials in Health Teaching.....	3
165. The School Health Education Program	3
Home Economics 104. Nutrition.....	2

**Total credits required.....46 or 54**

**Group E. Teaching Major in Health Education**

For curriculum information, consult School of Physical and Health Education for men, or for women.

**Group F. Teaching Minor in Physical Education***Required foundation and related courses:*

	<b>Credit:</b>
Zoology 7. Elementary Human Physiology.....	5
*Physical Education 7, 8, 9, 10, 11, 12.....	+6
†Physical Education 11, 12, 13.....	+6
<b>Total credits required.....</b>	<b>5+6</b>

\* Required of men only.

† Required of women only.

*Required professional courses:*

<b>MEN</b>	<b>Credits</b>
109. The School Dance Program.....	2
116. First Aid and Safety.....	3
145. Principles of Physical Education.....	3
150. The School Physical Education Program.....	3
158. Methods in Teaching Apparatus, Tumbling, and Stunts.....	2
161. Methods in Teaching Boxing and Wrestling.....	2
163. Methods and Materials in Teaching Sports.....	2
193. Athletic Problems.....	3
Four credits from the following:	4
170, 171, 172, 173. Athletic Coaching	
<b>Total credits required.....</b>	<b>23</b>

<b>WOMEN</b>	<b>Credits</b>
109. The School Dance Program.....	2
112. Elementary School Athletic Program.....	3
116. First Aid and Safety.....	3
145. Principles of Physical Education.....	3
150. The School Physical Education Program.....	2
153. Methods and Materials in Health Teaching.....	3
163. Methods and Materials in Teaching Sports.....	3
165. The School Health Education Program	3
Three credits from physical education electives.....	3
<b>Total credits required.....</b>	<b>25</b>

**Group G. Teaching Minor in Health Education***Required foundation and related courses:*

	<i>Credits</i>
Zoology 7. Elementary Human Physiology.....	5
Zoology 17. Eugenics.....	2
Total credits required.....	7

*Required professional courses:*

Home Economics 104. Nutrition.....	2
*107. Personal and General Hygiene.....	3
116. First Aid and Safety.....	3
§145. Principles of Physical Education....	3
153. Methods and Materials in Health Teaching .....	3
165. The School Health Education Program .....	3
Public Health 119. Introductory Epidemi- ology .....	3
Public Health 120. Introduction to Public Health .....	3
Sociology or Graduate School of Social Work (approved electives).....	3
Total credits required.....	23-26

\* Required of men only.

§ If taken with a major other than physical education.

**PHYSICS****CLINTON L. UTTERBACK, Executive Officer, 206 Physics Hall****Elective Curriculum****DEGREE: Bachelor of Science**

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

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

<b>FIRST YEAR</b>				<b>SECOND YEAR</b>			
	<i>Autumn</i>	<i>Winter</i>	<i>Spring</i>		<i>Autumn</i>	<i>Winter</i>	<i>Spring</i>
	<i>Qtr.</i>	<i>Qtr.</i>	<i>Qtr.</i>		<i>Qtr.</i>	<i>Qtr.</i>	<i>Qtr.</i>
English ...	1	2	3	Chemistry 1, 21	2, 22	23	General
Mathematics 4	5	6	{Trig., Alg.,	Mathematics 107	108	109	Calculus
			{An. Geom.	Physics ... 101	102	..	Int. Mod. Phys
Physics ... 1	2	3	General	Physics ... ..	..	150	Heat
P.E. ....	..	10 or 15	Health Ed.	Physics ... 105	106	..	Elec. & Mag.
				Electives .. ..	..	x	
<b>THIRD YEAR</b>				<b>FOURTH YEAR</b>			
Mathematics 114	115	116	Diff. Equa.	Physics ... 191	192	..	Theo. Mech.
Chemistry . 111	..	..	Quant.	Physics ... ..	195	196	Exper. Atomic
Physics ... ..	..	185	Nuclear Phys.	Physics ... 180	..	..	Hist. Phys.
Physics ... 160	161	..	Optics	Chemistry 181	182	183	Physical
Physics ... ..	..	154	High Freq.	Electives .. x	x	x	
Physics ... ..	140	..	Sound				
Mech. Engr. ..	55	..	Shop				
Electives .. x	x	x					

x Electives should include French or German.

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

The requirements for a major are the same as those for the elective major; for a minor 33 credits, including the courses required for a major, must be offered.

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

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

## POLITICAL SCIENCE

CHARLES E. MARTIN, *Executive Officer*, 206A Smith Hall

DEGREE: Bachelor of Arts

Four elective curricula are offered. They consist of (1) a general major in political science designed for the student who desires a flexible liberal arts program; (2) a preprofessional program in international relations for those who desire to begin preparation for the Foreign Service, the State Department, or international agencies; (3) a preprofessional program in public administration; and (4) a teaching major and minor in the College of Education for students preparing for high school teaching. Specific requirements are as follows:

## General Major

In addition to the general requirements of the College of Arts and Sciences, the following are required:

Lower-division courses: 1, and one of the intermediate courses (52, 54, 56, 58, and 74).

Upper-division courses: 111 or 118, 127 or 136, 145, 153, 155; and in addition, 15 credits of electives preferably in the field of concentration.

## International Relations

*First and Second Years.* In addition to the general requirements of the College of Arts and Sciences, the student should elect Political Science 1; either 52, 56, or 58; Economics 1 and 2; Geography 1; and Sociology 1. A reading and translating knowledge of at least one modern foreign language is essential. To develop the necessary degree of language proficiency, not less than 30 University credits, or the equivalent in high school and University work, will be needed.

*Third and Fourth Years.* The upper-division program should be developed in consultation with the adviser and should include:

1. Basic Political Science: 111 or 118, 145, 153, and 155.
2. International Relations: 121, 122, 127, 136; at least three of 123, 124, 129, 130, and 132; and Law 122.
3. Supporting Fields: Courses selected with the consultation of the adviser from among Geography 103, 104, 105; Economics 107, 131, 132, and 187; Sociology 155; and History 130, 131, and 159.

## Public Administration

*First and Second Years.* In addition to the general requirements of the College of Arts and Sciences, students should elect Political Science 1 and 52; Economics 1-2 and 62, 63; Economics 60 or Mathematics 13; Psychology 1 and History 7. Remaining courses should be selected in consultation with the adviser.

*Third and Fourth Years.* During these years the student should select:

1. Basic Political Science: Political Science 112, 127, 145, 153, and 161.
2. Public Administration: Political Science 154, 155, 162, 163, 167, and 168.
3. Economics: Economics 171, 172, and 187.
4. At least four other courses in the social sciences selected in consultation with the adviser.

## Teaching Major or Minor in the College of Education

Major: 40 credits in Political Science including courses 1, 56, 101, 121, 151, and 163.

Minor: 20 credits in Political Science including courses 1, 101, 163.

## PRE-EDUCATION

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

(See College of Education section, page 129, for detailed information.)

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

## PRELAW

DAVID THOMSON, *Adviser*, 203 Denny Hall

*General.* The minimum requirements for admission to the Law School appear on page 121. A student planning to meet those requirements in the College of Arts and Sciences will register under the supervision of the prelaw adviser.

*Combined Arts-Law Curriculum with a Major in Law.* This curriculum requires that the student earn 138 credits in the College of Arts and Sciences together with the required credits in physical education activity courses, and that he satisfy the regular requirements of the College. See pages 148-149. Of the 138 credits 25 must be in a special field and 20 in a related secondary field; 28 must be in upper-division courses. On fulfilling these requirements with a grade-point average of at least 2.5, the student may enter the School of Law and will be granted the Bachelor of Arts degree when he has earned 42 credits in Law.

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

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

## PRELIBRARIANSHIP

ROBERT L. GITLER, *Adviser*, 112 Library

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

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

An undergraduate curriculum developed in the division of General Studies (College of Arts and Sciences) provides a flexible program for a candidate planning to enter the School of Librarianship. A study of at least one modern foreign language is essential.

Attention is called to the all-university nonprofessional course, Librarianship 1: *The Use of Books and Libraries*. This course, open to any student and primarily designed for lower-division and new students, serves, also, to orient those interested in librarianship as a career.

For admission requirements of the school, see page 150.



# PREMEDICINE, PRE DENTISTRY, AND BASIC MEDICAL SCIENCE

Office of the Dean, 121 Education Hall

## PREMEDICINE

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

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

## Curriculum for Premedicine

### FIRST YEAR

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

### SECOND YEAR

Chemistry 131.....	5	Chemistry 132.....	5	Lit. 67 or 72.....	3
†Physics 1 or 4.....	5	†Physics 2 or 5.....	5	†Physics 3 or 6.....	5
Electives.....	5	Electives.....	5	Electives.....	7
	15		15		15

### THIRD YEAR

Chemistry 111.....	5	Foreign Language or		Foreign Language or	
Foreign Language or		Elective.....	5	Elective.....	5
Elective.....	5	Electives.....	5	Electives.....	5
Zoology 105.....	5	Zoology 127.....	5	Zoology 128.....	5
	15		15		15

## PRE DENTISTRY

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

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

## Curriculum for Pre dentistry

### FIRST YEAR

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

### SECOND YEAR

Zoology 105.....	5	Chem. 131.....	5	†Physics 3 or 6.....	5
†Physics 1 or 4.....	5	†Physics 2 or 5.....	5	Chem. 132.....	5
Electives.....	5	Electives.....	5	Electives.....	5
	15		15		15

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

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

**BASIC MEDICAL SCIENCE****DEGREE: Bachelor of Science in Basic Medical Science**

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

The requirements for this degree are that the student shall complete the University of Washington "Premedical Curriculum," and the first year of a medical school or dental school curriculum. The student must take at least the third year of his premedical, and the first year of his medical course in residence at the University of Washington, and shall present an over-all grade-point average of 2.5 or above, including the work at the medical school. A student who takes at least the second and third years of the premedical course at the University of Washington and then enters another medical school may also qualify for this degree.

Credit in subjects taught in the first year's curriculum of any Class A medical school, as rated by the A. M. A. may be applied toward the degree. Since some upper-division courses in anatomy, physiology, microbiology, and chemistry are considered to duplicate similar courses in medical school, credit gained in these courses at the University of Washington will not be accepted toward the degree. Students should work closely with their advisers on this matter.

**PRENURSING****ELIZABETH STERLING SOULE, Adviser, 1 Nursing Building**

Students planning to enter the School of Nursing are required to complete six quarters (90 credits of academic work) in the College of Arts and Sciences. Required courses include: English 1, 2, 3 (9 credits); Chemistry 3-4 or 5-6, 137 (15 credits); Psychology 1 (5 credits); Sociology 1 (5 credits); Microbiology 101 (5 credits); Home Economics 9 (5 credits); P.E. 10 (2 credits).

Throughout the prenursing program all students should confer with their faculty adviser in the School of Nursing for assistance in preparing for their professional work.

Students who desire to enter this School of Nursing and who wish to take prenursing courses in another educational institution should write to the Dean of the School of Nursing for advice in planning their programs.

For information regarding curricula in the School of Nursing, see page 154.

**PRE-SOCIAL WORK****GRACE B. FERGUSON, Adviser, 500 Thomson Hall**

For detailed information, see page 173; see also *Education for Social Work* bulletin.

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

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

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

## PSYCHOLOGY

STEVENSON SMITH, *Executive Officer*, 338 Savery Hall

DEGREE: Bachelor of Science

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

### Teaching Minor in the College of Education

Students who wish to offer a teaching minor in psychology must have Psych. 1 and 2, and eight credits elected from Psych. 51, 108, 111, 112, 116, 118, 121, 123, 124, 126, 135, 140—a total of eighteen credits.

## RADIO EDUCATION

EDWIN H. ADAMS, *Executive Officer*, Radio Hall

This department coordinates the courses pertaining to radio broadcasting offered in various departments and schools, but does not offer a major or minor and does not grant degrees. A general pattern of training in radio, covering the several areas of specialization and leading to the degree of Bachelor of Arts, is available through the Department of General Studies (see page 102).

Those wishing to specialize in radio drama, radio education, radio engineering, radio journalism, radio music, or radio speech should consult the department concerned (Drama, Education, Electrical Engineering, Journalism, Music, Speech).

## ROMANCE LANGUAGES AND LITERATURE

(French, Italian, Portuguese, and Spanish)

HOWARD L. NOSTRAND, *Executive Officer*, 202 Denny Hall

DEGREE: Bachelor of Arts

Majors are offered in French, Spanish, and Italian. Majors and minors for the Three-Year Secondary Certificate are offered in French and Spanish; these majors are the same as for the B.A. (For Latin-American Studies see General Studies.) The requirement in each case is (a) proficiency in the language, and (b) knowledge of its literature and cultural background, as outlined in a syllabus obtainable from the Department. This requirement may normally be met in a French major with 45<sup>1</sup> credits, namely courses 4, 5, 6; 41, 101, 102, 103; 104, 105, 106; 107 or 108<sup>2</sup>; 158, 159; plus 12 elective credits<sup>3</sup> and some directed reading. A Spanish major may be met with 45<sup>1</sup> credits, namely courses 4, 5, 6; 101, 102, 103; 104, 105, 106; 158, 159; plus 14 elective credits<sup>3</sup> and some directed reading.

A teaching minor in French or Spanish requires a minimum of 24 credits in courses above French or Spanish 6.

## SCANDINAVIAN LANGUAGES AND LITERATURE

(Swedish, Norwegian, and Danish)

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

DEGREE: Bachelor of Arts

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

<sup>1</sup> Beyond course 3 or two high school years. A third high school year replaces courses 4, 5, 6; a fourth high school year, if devoted to advanced composition and conversation, replaces courses 101, 102, 103.

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

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

## SOCIOLOGY

GEORGE A. LUNDBERG, *Executive Officer*, 108A Smith Hall

### Degrees and Requirements for Graduation:

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

#### DEGREE: Bachelor of Arts

The degree of Bachelor of Arts with a major in sociology will be conferred on students who complete a minimum of 36 credits in approved courses in sociology and fulfill the group requirements of the College. The required sociology courses for this degree are: 1 or 100, 31, 55 or 155, 60, and 112. A minimum over-all grade-point average of 2.0 must be maintained.

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

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

The minor requires 27 credits, including courses 1 or 100, together with 112 or 155, and 17 credits of approved sociology electives.

## SPEECH

HORACE G. RAHSKOPF, *Executive Officer*, 209 Parrington Hall

#### DEGREE: Bachelor of Arts

The major requires a minimum of 50 credits in approved courses in speech, including Speech 1-2, 10, 20, 100, 198, and one of the workshop courses in public performance or clinical practice, i.e., 39, 49, 69, 174, or 184. In addition, the student will elect certain of his courses in humanities, social science, and natural sciences with approval of the Department.

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

In addition to general University requirements and those of the College of Education, the candidate for a Three-Year Secondary Certificate must complete the following requirements:

##### Major:

(1) Lower-division courses: Speech 1-2, 10, 20, 30, 42, 50, 61. (Total lower-division credits 29.)

(2) Upper-division courses: Speech 100, 170, 180, 198, and Educ. 75X (two of the credits for Educ. 75X are included in the College of Education requirements) plus a minimum of 13 credits of *approved* electives. In choosing these electives the student must take at least one course from the workshop courses in public performance or clinical practice, i.e., 39, 49, 69, 174, or 184. (Total upper-division credits 31.)

(3) *Approved* courses in related fields: Literature and drama, 12 to 15 credits; social science 10 credits; science 10 credits. (The social science and science credits also meet College of Arts and Science requirements.)

(4) The grade-point average in speech courses is the same as that required for professional courses in Education (see College of Education).

First Minor: A total of 30 credits in speech, including Speech 1-2, 10, 20, 42, 50, Educ. 75X, and *approved* upper-division electives. The grade-point average in speech courses is the same as that required for professional courses in Education (see College of Education).

Second Minor: A total of 20 credits in speech, including Speech 1-2, 10, 20, 50, and an *approved* upper-division elective.

## ZOOLOGY

ARTHUR W. MARTIN, *Executive Officer*, 142 Johnson Hall

Students who plan to fulfill the requirements for admission to Medical School while majoring in zoology should also consult the premedical curriculum. Students planning to work for master's and doctor's degrees should note the foreign language requirements for these degrees and complete the basic language work as early as possible.

### Elective Curriculum

#### DEGREE: Bachelor of Science

A minimum of 36 credits in approved courses in zoology and satisfaction of the group requirements of the College are necessary for graduation. Zoology 1 and 2, 105 or 127-128, and a year of college chemistry will be required of students working for this degree. A second year of chemistry, a year of physics, and a reading knowledge of one foreign language are highly recommended.

### Prescribed Curriculum

#### DEGREE: Bachelor of Science in Zoology

Fourteen additional upper-division credits in zoology beyond the 36 credits set forth in the elective curriculum will be required for graduation with this degree. Botany 108 and Fisheries 101, 102, 103 will count toward the 50 credits. Satisfaction of the group requirements of the College and a year of college chemistry will be required for graduation. An over-all grade-point average of 2.5, as well as a 3.0 average in zoology courses, will be required for graduation with this degree.

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

A major requires 36 credits, including Zoology 1 and 2.

A minor requires 25 credits, including the courses enumerated above as well as additional upper-division courses, such as Zoology 108, 111, 129, or 130.

## COLLEGE OF ECONOMICS AND BUSINESS

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

For detailed information concerning University fees, expenses, and admission requirements, see pages 67-77. In addition to the all-University entrance requirements, the College of Economics and Business requires one unit\* each of U. S. history and civics, elementary algebra, plane geometry or advanced algebra.

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

*Fellowships, Scholarships, Prizes.* See pages 87-88.

### Requirements for Graduation

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

1. Students must satisfy the entrance requirements of the University and the College of Economics and Business. Students entering from other colleges, either from this University or other institutions, with junior standing, who have met the lower-division requirements of their former college must present or make up the following courses to meet the minimum lower-division requirements of this college: E.B. 1-2, 54, 55, 60, 62, 63, plus English 1, 2, 3.

\* A "unit" is applied to work taken in high school. To count as a unit a subject must be taught five times a week, in periods of not less than 45 minutes for a school year of 36 weeks.

2. The student must earn 180 credits in subjects required by the University and required or approved by the faculty of the college. In addition, men must meet the general University requirement of Physical Education 15 and six quarters of physical education activities; women must have six quarters of physical education activities, plus Physical Education 10.

3. A minimum of sixty credits in upper-division courses, exclusive of those earned in Army and Navy R.O.T.C. subjects, shall be a requirement for graduation.

4. No more than 18 quarter credits in advanced Army and Navy subjects may be applied toward graduation, except in the case of students in the Supply Corps.

5. For the purpose of computing grade-point averages for high and low scholarship and for graduation, the first two years of Army and Navy subjects shall be excluded.

6. Continuation in the College of Economics and Business will depend upon the student's demonstration of general fitness for work in that college, including the maintenance of satisfactory academic performance. See Scholarship Rules, page 82. The same rules apply to a major in economics in the College of Arts and Sciences.

Students who are admitted upon petition with high school deficiency must register for such courses during their first quarter of residence and complete the work during the first year.

### Lower-Division Requirements

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

\* If E.B. 6, Development of Economic Institutions, 5 credits, is elected, History 7 will not be required in the sophomore year.

† E.B. 55 is required in certain majors; a student in other majors, upon consultation with his adviser, may substitute an approved elective for this course.

### Upper-Division Requirements

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

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

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

### Suggestions for Planning Courses

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

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

For certain major fields, as set forth below, appropriate courses (indicated by parentheses) from the above list of upper-division requirements must be selected as

background courses. The requirement for the field of specialization is at least 15 credits in upper-division courses in addition to six of the above nine courses.

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

1. Accounting\*: E.B. 110, 111, 112, 154, 156, 157, 158.
2. Banking and Finance: (E.B. 103, 121), 18 or more credits approved by the adviser from the following: E.B. 122, 123, 124, 125, 126, 127.
3. Economics: (E.B. 185), E.B. 187, plus 10 additional credits in economics approved by the adviser.
4. Economic Geography: Geog. 102, 103, 104, 105 or 109, and 106 or 107.
5. Foreign Trade and Consular Service: (E.B. 107), 131, plus 10 credits approved by adviser from 127, 130, 132.
6. General Business: 20 credits of approved upper-division courses in E.B., not more than 10 hours of which may be in any one of the fields of specialization.
7. Insurance: E.B. 108, 128, 129, 177.
8. Labor: (E.B. 105), E.B. 161, 164, plus 10 recommended credits.
9. Management:
  - Industrial: E.B. 101, 110, 150, 151, 154, 165.
  - Personnel: E.B. 101, 105, 165, 167; Psych. 2, 123.
10. Marketing: (E.B. 106)
  - General Marketing: E.B. 133, 134, 138, 139; 193A, B, C.
  - Retailing: E.B. 133, 134, 135, 138, 139; 193A, B, C; Home Econ. 25.
  - Advertising: E.B. 133, 134, 136, 138, 139; 193A, B, C.
11. Public Finance: (E.B. 171), 172, 196, plus 10 recommended credits.
12. Public Utilities: E.B. 141, 142, 196, plus 5 recommended credits.
13. Real Estate: E.B. 109, 169, 199B, 199C.
14. Secretarial Training: E.B. 115, 116, 117, 118, 119, 165.
15. Transportation:
  - General: (E.B. 104), E.B. 148, and three courses from E.B. 143, 144, 145, 146.
  - Air: (E.B. 104), E.B. 146, 140, 147; and one course from E.B. 148, 150; Geog. 112; Aeronautical Engineering 100, 101.
  - Water: (E.B. 104), E.B. 144, 149; two courses from E.B. 131, 148, 150; N.S. 101, 102; and choice of Geography 102 through 109.

### Commercial Teaching

Required:

- (a) Satisfaction of the lower-division requirements as outlined on page 126.
- (b) E.B. 12-13-14, Typewriting and Shorthand, and E.B. 16-17-18, Secretarial Training, 12 credits. This requirement may be satisfied in either lower or upper division, or by passing a satisfactory examination. In case of exemption by examination, University credit is not given.
- (c) Fifteen credits of the upper-division general requirements in economics and business, including E.B. 106.
- (d) The special requirements in the upper division must include E.B. 115, 116, 117, and 118.
- (e) Thirty-three credits of education courses, including Educ. 75E and Educ. 75F. See College of Education section, page 129.

NOTE: A teaching major and two teaching minors in commercial education have been provided also in the College of Education. See page 131.

### Prelaw and Combined Law and Business Curriculum

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

**General.** The minimum requirements for admission to the School of Law appear on page 148. A student planning to meet these requirements in the College of Economics and Business will register under the supervision of the prelaw adviser.

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

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

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

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

#### PRELAW REQUIREMENTS

	Credits
English 1, 2, 3.....	9
Philosophy 1, 5.....	10
Political Science 1, 52.....	10
History 5, 6, 106.....	15
Economics and Business 1-2.....	10
	54

#### ADDITIONAL LOWER-DIVISION REQUIREMENTS OF THE COLLEGE OF ECONOMICS AND BUSINESS

	Credits
Economics and Business 62, 63.....	10
Economics and Business 60.....	5
Geography 7.....	5
Mathematics, Approved Laboratory Science, or Foreign Language.....	10
Elective.....	6
	36

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

#### Curriculum for Government Service

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

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

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

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

At the end of the fourth year a bachelor of arts degree in economics and business will be awarded; or, if the student is registered in the College of Arts and Sciences, a bachelor of arts degree in economics, political science, or sociology will be awarded. At the successful conclusion of the fifth year a certificate of completion



of the course in government service will be granted. The work done in the fifth year may be applied toward a master's degree, and those who have met all of the requirements for that degree by the end of the fifth year will receive it at that time.

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

#### FIRST AND SECOND YEAR

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

#### THIRD YEAR

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

#### FOURTH AND FIFTH YEARS

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

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

#### Advanced Degrees

For requirements for advanced degrees, see Graduate School section, page 158.

#### Announcement of Courses

For announcement of courses offered by the College of Economics and Business see page 185.

## COLLEGE OF EDUCATION

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

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

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

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

The professional work in teacher-training begins with Education 1, which is required of all students certifying through the University who have attended nine quarters or more. Education 1 should be taken during the sophomore year as a grade-point is not established before then and credit is not offered for the course

after that year. The professional courses in Education for the teaching certificate must be distributed throughout the junior, senior, and fifth years, as an effort to crowd these courses results in numerous conflicts.

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

*Fellowships, Scholarships, Prizes.* See page 82.

### Requirements for Graduation

During the first two years the candidate must meet certain group requirements as outlined on page 90 of the Arts and Sciences section. At any time after the freshman year a student may enter the College of Education if he has maintained a 2.2 grade average. This change of college does not alter the academic major or degree.

*Specific requirements for graduation:*

1. *English 1, 2, and 3; Physical Education 10 or 15.* These requirements are the same as for the College of Arts and Sciences as listed on page 89.

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

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

4. *Education courses.* A minimum of nine credits of Education are required for graduation from the College of Education. A cumulative grade-point average of at least 2.2 must be maintained for all professional courses in Education which are required for the teaching certificate.

5. *Upper-division courses.* A total of 180 credits are required for graduation, at least 60 of which must be in upper-division courses exclusive of those earned in advanced Army or Navy subjects.

6. *Application.* An application for the bachelor's degree should be on file not later than the beginning of the senior year.

### Advanced Degrees

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

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

### Requirements for the Three-Year Secondary Certificate

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

1. Show evidence of such general scholarship and personal and moral qualities as give promise of success.

2. Earn 225 quarter credits in approved courses, including a degree from this institution.

3. Take a course in the history of the State of Washington (History 164) and earn additional credits in courses dealing with contemporary social problems to make a total of fifteen. These courses must be approved by the College of Education.

4. Earn a minimum of twenty-eight credits in Education (twenty-six if student takes Education 1 for no credit) including the following courses (not more than two credits for Education 75 may be counted toward this requirement):

	<i>Credits</i>
1 Orientation in Education.....	2
9 Psychology of Secondary Education.....	3
70 General Methods .....	5
90 Measurement in Secondary Education.....	2
75 Special Methods .....	2
30 Washington State Manual.....	0
71-72 Cadet Teaching .....	8
60 Principles of Secondary Education.....	3
120 Educational Sociology, or approved substitute.....	3
	<hr/> 28

5. Earn the following grades:

- (a) An all-University grade-point average of 2.2 or better.
- (b) "C" average or better in all Education courses; with "C" or better in Education 71-72, Cadet Teaching.
- (c) "C" average or better in the major and minor teaching subjects, and in contemporary social problems.

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

**Librarianship.** Students who wish to offer Librarianship as a second minor must have eighteen credits, including the following courses: Librarianship 151, 161, 163, 164, 260, 262.

The College of Education offers the following combination majors and/or minors, which are not described under the College of Arts and Sciences, but are included in the above list.

**Biology.** For a major the student must offer sixty credits including the following courses: Microbiology 101; Botany 1, 2, 3, 25, 75, and 108; Zoology 1, 2, 7, 105, 127, and 128.

**Civics.** For a major a student must offer forty credits including Political Science 1, 101, 163; Economics and Business 4; Sociology 1; plus thirteen elective credits in Political Science and five credits in Economics or Sociology.

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

**Commercial Teaching.** Students may prepare for teaching positions in commercial departments in secondary schools by following the program given below.

Students majoring or taking their first minor in commercial education are required to take Economics and Business 1-2, or 4, in partial fulfillment of the requirement of fifteen credits in courses dealing with contemporary social problems. For the teaching major or minor students must include Economics and Business 12, 13, 14 in their program unless comparable credit has been earned elsewhere and approved by the College of Economics and Business. In

addition, the following Economics and Business courses are required: for a major, 16, 17, 18, 54, 62, 63, 106, 115, 116, 117, 118 (forty-nine credits), plus Education 75E and 75F; for a first minor, 16, 17, 18, 62, 63, 106 (twenty-four credits), plus Education 75E or 75F; for a second minor, 16, 17, 18, 62, 63 (nineteen credits). Students who have had work equivalent to Economics and Business 16, 17, 18 may substitute other *approved* courses in Economics and Business to complete the total number of required credits in this field. Teaching minors should select courses from the teaching major requirements as listed above when such a substitution has been approved.

**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 institutions offering such training. Fifteen credits are required for a minor and thirty for a major.

7. Sign an oath of allegiance.

8. Pass a health examination within six months prior to the time the certificate is granted.

9. File an application for the Three-Year Secondary Certificate not later than the beginning of the fifth year. Approval must be secured, by petition, from the College of Education for the complete program and the specific courses when the candidate wishes to take courses at another institution to apply on the fifth year.

#### Requirements for Teacher-Librarians

(For curricula in the School of Librarianship, see page 151.)

A high school librarian's certificate is required of all librarians in accredited high schools. Applicants must hold secondary certificates and must have completed:

- For librarianship in schools with enrollment of 100 or less: A minimum of  $7\frac{1}{2}$  quarter credits in approved courses in Library Science.
- For librarianship in schools with enrollment of 100-200: A minimum of 15 quarter credits in approved courses in Library Science.
- For librarianship in schools with enrollment of 200-500: One year of training in an approved library school recommended. The minimum requirement for schools in this group is the same as requirement (b) above.
- For librarianship in schools with enrollment of 500 or more: One year of training in an approved library school.

#### Special Certificates and Credentials

For information on special types of certificates and credentials, see the State bulletin on "Certification of Teachers and Administrators" which may be obtained from the State Office of Public Instruction at Olympia, Washington.

#### Renewal of Three-Year Secondary Certificates

Renewal of the University Three-Year Secondary Certificate must be made through the State Office of Public Instruction at Olympia some time before the expiration date of the original certificate, since a *lapsed certificate may be reinstated only upon the completion of additional course work.*

#### Transfer Students

##### *Requirements for graduation:*

Upon receipt of transcripts from institutions previously attended, the University of Washington Admissions office will evaluate the student's record and designate deficiencies. From this evaluation the adviser and the student plan the program for a degree and for the secondary teaching certificate.

In addition to the regular departmental requirements in the student's major, he must complete nine credits of Education at the University.

##### *Certification requirements for graduate transfer students:*

Students who have been graduated from institutions within the State of Washington may certify for secondary teaching through the University after they secure a bachelor's or a master's degree from the University.

Transfer students who have been graduated from an approved four-year secondary teacher-training institution are accepted on a graduate basis, but they will be required to meet all the professional undergraduate requirements before the Three-Year Secondary Certificate is issued. Claims for exemption from specific requirements are passed upon by the Registrar and the Dean of the College of Education. Transfer students do not take Education 1 for credit after the beginning of the junior year. However, it must be taken on a noncredit basis by all applicants for this certificate who have attended the University for nine quarters or more if they have not taken an equivalent course. After three quarters at the University of Washington, the student's grade point is based on grades received at this institution and must meet the 2.2 requirement.

It is necessary for a transfer student to earn nine credits in Education courses, ten credits in the academic major, and five credits in each academic minor at the University of Washington.

Students who are out-of-state graduates must certify through the State Department of Public Instruction at Olympia if they have been graduated from an approved secondary teacher-training institution. The required course work may be taken at the University.

### **Bureau of Teacher Service and Placement**

A Bureau of Teacher Service and Placement is maintained to assist qualified students and graduates in obtaining teaching and administrative positions. Students who wish to use this service should have recommendations collected before leaving this University while their work and personal qualities are clear in the minds of their instructors. These records will then be available for use when needed. Students should register with the Bureau during their fifth year.

### **Requirements for Administrators' Credentials in Accredited Districts**

All persons interested in administrative positions should note carefully the basic state requirements given below. Further details concerning administrators' credentials may be secured from the State Office of Public Instruction at Olympia.

Principals of elementary schools with six or more teachers must qualify for elementary principals' credentials; junior high school principals must qualify for junior high school principals' credentials; and high school principals devoting at least two hours per day to intraschedule administrative duties must qualify for high school principals' credentials.

Principals of union high schools and superintendents of districts with one or more elementary schools and an accredited high school must qualify for superintendents' credentials.

A teaching certificate on the proper level is a prerequisite to an administrator's credential. This certificate must be kept in force to keep the credential valid.

### ***Elementary Principal's Credential***

- a. Two or more years of successful experience as principal of an elementary school of six or more teachers prior to September 1, 1936, *or*
- b. At least two years of successful teaching experience in the elementary school or the junior high school, plus twelve quarter credits of professional courses relating to elementary administration and supervision taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A below and must cover at least two of the enumerated fields. The remaining credits may be from either list. Other courses within the field of elementary education may also be offered subject to evaluation. All courses presented toward satisfying the requirements for an elementary principal's credential must have been completed within ten years prior to date of application.

**LIST A:** Elementary Curriculum; Elementary Administration and Supervision; Elementary School Methods; Guidance.

**LIST B:** Tests and Measurements; Kindergarten; Health and Physical Education; Remedial Education.

An elementary certificate is a prerequisite to an elementary principal's credential.

*Junior High School Principal's Credential*

- a. Two or more years of successful experience as principal of a junior high school prior to September 1, 1936, *or*
- b. Completion of not less than four years of professional preparation and at least two years of successful teaching experience in the common schools, plus twelve quarter credits of professional courses relating to junior high school administration and supervision taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A indicated below and must cover at least two of the enumerated fields. The remaining courses may be from either list. Other courses within the field of junior high school education may be offered subject to evaluation. All courses presented toward satisfying the requirements for a junior high school principal's credential must have been completed within ten years prior to date of application.

LIST A: Junior High School Administration and Supervision *or* High School Administration and Supervision; Junior High School Curriculum; Junior High School Methods; Guidance.

LIST B: Adolescence; Extracurricular Activities; Tests and Measurements; Health and Physical Education.

An elementary or secondary certificate is a prerequisite to a junior high school principal's credential.

*Senior High School Principal's Credential*

- a. Two or more years of successful experience as a high school principal prior to September 1, 1934, *or*
- b. At least two years of successful teaching experience on the secondary level, plus twelve quarter credits of professional courses relating to secondary organization, supervision, and administration taken subsequent to at least one year of teaching experience. Not less than six of the required number of quarter credits must be from List A below and must cover at least two of the enumerated fields. The remaining credits may be from either list. Other courses within the field of secondary education may be offered subject to evaluation. All courses presented toward satisfying the requirements for the high school principal's credential must have been completed within ten years prior to date of application.

LIST A: High School Administration and Supervision; High School Curriculum; Guidance; School Finance.

LIST B: Educational Research; Extracurricular Activities; Health and Physical Education; Tests and Measurements.

A secondary certificate is a prerequisite to a high school principal's credential.

*Superintendent's Credential*

The candidate may qualify under any *one* of the headings listed below.

- a. At least two years of successful experience as a superintendent prior to September 1, 1934.
- b. At least four years of successful administrative experience, including two years as principal of an elementary school of six or more teachers and two years as principal of a high school, head of a high school department with six or more teachers, or supervisor. While serving as high school principal, department head, or supervisor, at least two hours per day must have been devoted to administrative duties. (In order to qualify for a superintendent's credential on the basis of the above requirements, it is necessary to be in possession of both the elementary and the high school principal's credentials. It is also necessary to submit proof of having served in an elementary school of six or more teachers; and in the case of the high school experience, proof of having devoted at least two hours per day to administrative duties. Only a candidate who gained his experience prior to September 1, 1934, may qualify under Part b and not be in possession of both the elementary and senior high school principal's credentials.)
- c. At least two years of successful experience as principal of an elementary school of six or more teachers, plus twelve quarter credits of professional courses relat-

ing to organization, administration, and supervision in secondary schools taken subsequent to at least one year of teaching experience. These educational requirements are in addition to the minimum required for initial secondary certification.

- d. A junior high school principal whose training has been on the secondary level may apply for a superintendent's credential on the basis of two years of successful experience as principal of a regularly organized junior high school, plus 24 quarter credits of professional courses relating to organization, administration, and supervision of elementary education taken subsequent to one year of teaching experience; a junior high school principal whose training has been on the elementary level, may apply for a superintendent's credential on the basis of two years of successful experience as principal of a regularly organized junior high school, plus 12 quarter credits relating to organization, administration, and supervision in secondary schools taken subsequent to one year of teaching experience; this provision does not rescind any regulations or requirements already in effect.
- e. At least two years of successful experience as a high school principal, head of a high school department, or supervisor, plus twenty-four quarter credits of professional courses relating to organization, administration, and supervision of elementary education taken subsequent to at least one year of teaching experience. While serving as a high school administrator, at least two hours per day must have been devoted to administrative duties. These educational requirements are in addition to the minimum required for secondary certification. Not less than six of the required number of quarter credits must be from List A and must cover at least three of the enumerated fields, one of which must be school finance. The remaining credits may be from either list. Other courses within the prescribed field may be offered subject to evaluation.

*Elementary Courses in Lieu of Experience:*

LIST A: Elementary Curriculum; Elementary School Administration and Supervision; Elementary School Methods; School Finance; Guidance.

LIST B: Tests and Measurements; Kindergarten; Health and Physical Education; Remedial Education.

*Secondary Courses in Lieu of Experience:*

LIST A: High School Administration and Supervision; High School Curriculum; Guidance; School Finance.

LIST B: Educational Research; Extracurricular Activities; Health and Physical Education; Tests and Measurements.

It should be carefully noted that training may be substituted in lieu of administrative experience on one level or the other but not on both. In other words, a candidate for a superintendent's credential must have had at least two years of successful experience as a teacher, plus two years of successful experience as an elementary, junior, or senior high school principal, or as a supervisor or head of a department in a senior high school and as such have devoted at least two hours per day to administrative duties.

Courses that are not acceptable as graduate credit for the M.A. or Ph.D. degree at the University of Washington or the State College of Washington or at other institutions authorized to grant such degrees and accredited by the State Board of Education shall not be accepted for a superintendent's credential, except that when the teaching certificate has been earned in a secondary teacher-training institution one-half of the twenty-four academic credits in elementary education in lieu of elementary administrative experience required for the superintendent's credential may be secured on the undergraduate level at an elementary teacher-training institution maintaining a laboratory school. Courses completed more than ten years prior to applications are not acceptable. A course in School Finance is required for a superintendent's credential.

The superintendent's credential shall be valid for a principalship in any field of service for which the holder of the credential is properly qualified with a teacher's certificate.

A secondary certificate is a prerequisite to a superintendent's credential, and must be kept in force during the time a person is using a superintendent's credential.

## COLLEGE OF ENGINEERING

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

With minor exceptions, all curricula in the College of Engineering have a common freshman year, which is administered by the general engineering department. The work beyond the freshman year comprises the curricula of six professional divisions, namely, aeronautical, chemical, ceramic, civil, electrical, industrial, mechanical, metallurgical, and mining engineering. Four-year curricula leading to degrees of bachelor of science in the respective professional branches of engineering are offered in each of these except industrial. The curricula consist largely of required technical courses, but enough work is provided in the humanistic-social area to bring the total nontechnical content up to nearly twenty per cent.

In the industrial engineering curriculum, a second bachelor's degree is awarded after five years of study. The first four of these comprise the standard four-year curriculum of one of the major branches of engineering, while the fifth is made up of courses in industrial management and related subjects.

*Secondary Certificate.* Engineering students who plan to prepare for high school teaching should consult with the College of Education as soon as possible.

*Advanced Degrees.* At least a year of graduate study, leading to the master's degree, is available in each major curriculum. Graduate courses are listed in Section III of the Catalogue under "Engineering." Requirements for advanced degrees are discussed in the Graduate School section, page 158.

*Professional Degrees.* For requirements for professional degrees, see page 166.

*Fellowships, Scholarships, Prizes.* See pages 87-88.

### Admission Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 67-77. In addition to the all-University entrance requirements, the College of Engineering requires one unit\* each of elementary algebra, plane geometry, physics†, and chemistry, and one-half unit each of advanced algebra and solid geometry.

Students planning to major in chemical engineering should include two units of German in high school. German is very desirable also for those taking the structural or hydraulic option in civil engineering.

A student is advised not to attempt to enter the University until he is able to register in his chosen college without deficiencies. Under certain circumstances and with the approval of the dean of the college concerned, however, certain deficiencies in specific college requirements may be removed after entrance to the University.

Each applicant for admission to the College of Engineering shall take an examination and file his application at least 30 days before the beginning of the term for which he is applying. The results of the examination together with the grade-point average previously earned in high school and/or in college will be the bases for determining eligibility for admission, provided the applicant meets all other University and College requirements (see pages 67-72). The examination will be given at the University at times to be announced. High schools and colleges may also give the examination by making suitable arrangements with the University. The examination is not required of upper-division students transferring from accredited engineering colleges.

### Preparation in Algebra

It is essential that students in engineering possess a good working knowledge of algebra at the beginning of their course. A test in high school algebra by class work

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

† The high school pre-aviation course may not be substituted for the physics requirement. It will, however, be accepted as academic credit in science.



and by examination will be given shortly after the beginning of the first quarter. Students failing in the test are not permitted to continue with regular freshman engineering mathematics, but are required to take a review of preparatory algebra (Mathematics I, College of Arts and Sciences) during the first quarter.

### Humanistic-Social Studies

Under this heading is included an integrated succession of courses designed to develop facility in comprehensive reading, in analysis of thought, and in oral and written expression. To ensure right establishment and proper maintenance of those skills, the courses are begun in the freshman year, and—in as many as possible of the engineering curricula—will continue in unbroken sequence through the three years following. Stress is laid on the principles of expository writing and on well-written engineering reports, and a year's practice in public speaking is included.

The subject matter covered, basically humanistic, is intended to acquaint the engineering student with the broad outline of human knowledge, setting before him the bases of civilization and introducing him to a few of its great thinkers, artists, and men of action. With this foundation laid, he should be able by the time he graduates to seek out, to attain, and to develop for himself the additional knowledge and fuller understanding that distinguish the cultured citizen of today, whatever may be his specific vocation.

### Scholarship Requirements

The all-University scholarship rule requires that any freshman student whose grade-point average for any quarter is less than 1.8 and any other undergraduate student whose grade-point average for any quarter is less than 2.0 shall be placed on the low scholarship list and referred to the dean for appropriate action.

In addition to the all-University scholarship requirements the scholarship rules of the College of Engineering provide:

1. That as a prerequisite to registration for required junior and senior courses in any engineering curriculum a student must have earned a grade-point average of at least 2.2 in the required subjects of the first two years.

2. That a candidate for a bachelor's degree in engineering must have earned a grade-point average of at least 2.2 in the upper-division subjects of his major department.

### Curricula and Degrees

Four-year curricula are offered by the College of Engineering in aeronautical, chemical, ceramic, civil, electrical, mechanical, and metallurgical and mining engineering, and a fifth year in industrial engineering. With minor exceptions in chemical engineering and the curricula in the School of Mineral Engineering, all curricula have a common freshman year. Successful completion of a four-year curriculum leads to a bachelor of science degree with a designation of the major department or curriculum. Graduates of a four-year curriculum may earn a bachelor's degree in industrial engineering by completing an additional year of prescribed courses. There is also available in each department or school a fifth or graduate year, the satisfactory completion of which leads to the award of the master's degree. For the most part, courses in all curricula are prescribed, but some few electives† are available. *These must be approved in advance of registration by the head of the department.*

### Description of Courses

For descriptions of courses offered by the College of Engineering, see page 191.

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† Army and Navy R.O.T.C. students may use not to exceed 9 quarter credits in advanced Army and Navy subjects to satisfy unrestricted elective credits appearing in an engineering curriculum.

## CURRICULA OF THE DEPARTMENTS OF ENGINEERING

## FRESHMAN

(The same for all curricula.)

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
*Chem. 24. General.....	3	*Chem. 25. General.....	3	*Chem. 26. General.....	3
Math. 31. Analysis.....	5	Math. 32. Analysis.....	5	Math. 33. Analysis.....	5
G.E. 1. Drawing.....	3	G.E. 2. Drawing.....	3	G.E. 3. Drafting Probs... 3	
G.E. 11. Engr. Probs....	3	G.E. 12. Engr. Probs....	3	†G.E. 21. Surveying.....	3
P.E. and Mil. or Naval		†P.E. 15. Hygiene.....	2	Engl. 40. Engr. Report	
Sci. ....	+	P.E. and Mil. or Naval		Writing .....	1
	14+	Sci. ....	+	P.E. and Mil. or Naval	+
			16+	Sci. ....	+
					15+

\* Students without high school chemistry substitute Chem. 1 and 2 (5 cr. each) for Chem. 24 and 25.

Students expecting to take chemical, ceramic, metallurgical, or mining engineering substitute Chem. 21, 22, and 23 (5 cr. each) for Chem. 24, 25, and 26.

† Chemical engineering students omit G.E. 21 and take P.E. 15 in the spring quarter.

## Aeronautical Engineering

DEGREES: Bachelor of Science in Aeronautical Engineering

(at end of fourth year) and

Master of Science in Aeronautical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Engr. Physics..	4	Phys. 98. Engr. Physics..	4	Phys. 99. Engr. Physics..	4
Math. 41. Engr. Calculus.	3	Math. 42. Engr. Calculus.	3	Math. 43. Engr. Calculus.	3
M.E. 81. Mechanism.....	3	A.E. 81. Intr. to Aero....	2	C.E. 92. Mechanics.....	3
M.E. 82. Heat Engines... 3		C.E. 91. Mechanics.....	3	E.E. 101. Direct Currents	5
M.E. 53. Mfg. Methods... 1		M.E. 54. Mfg. Methods... 1		M.E. 55. Mfg. Methods... 1	
H-SS 81. Tech. Writing I. 1		E.B. 3. Economics.....	3	H-SS 83. Tech. Writing	
P.E. and Mil. or Naval		H-SS 82. Tech. Writing II 1		III .....	1
Sci. ....	+	P.E. and Mil. or Naval		P.E. and Mil. or Nav. Sci+	
	15+	Sci. ....	+		17+
			17+		

## JUNIOR

C.E. 93. Mechanics.....	3	A.E. 101. Aerodynamics..	3	A.E. 100. Airc. Engines..	3
C.E. 142. Hydraulics.....	5	M.E. 183. Thermodynamics	5	A.E. 102. Aerodynamics..	3
E.E. 121. Altern. Currents	5	M.E. 167. Engr. Materials	3	A.E. 104. Lab. Methods... 3	
H-SS 123. Human. I.....	3	M.E. 111. Machine Design	3	M.E. 112. Machine Design	3
	16	H-SS 124. Human. II....	3	M.E. 104. Mfg. Methods... 2	
			17	H-SS 194. Reading I.....	1
					15

## SENIOR

A.E. 103. Airpl. Perform..	3	A.E. 111. Airpl. Design..	4	A.E. 112. Design Loads..	2
A.E. 105. Airfoil Test L..	2	A.E. 141. Airc. Propulsion	3	A.E. 174. Airc. Mon.	
A.E. 171. Airc. Struct.		A.E. 172. Airc. Struct.		Struct. ....	3
Anal. ....	4	Anal. ....	4	A.E. 175. Struct. Test....	2
A.E. 188. Seminar.....	0	A.E. 189. Seminar.....	0	A.E. 190. Seminar.....	1
Psych. 4. Industrial.....	3	E.B. 166. Industrial Rel..	3	E.B. 57. Business Law....	3
Electives* .....	3	Electives* .....	1	Electives* .....	4
	15		15		15

\* Students planning graduate work must elect A.E. 161 if they are not taking Math. 114 and 115.

## GRADUATE†

A.E. 201. Theor. Aerodyn. I .....	3
A.E. 217. Grad. Seminar..	0
Math. 115. Adv. Diff. Equations .....	3
Phys. 204. Thermodyn. ....	6
or	
C.E. 221. Elasticity*.....	3
Elective‡ .....	6 or 3
	<hr/> 15

A.E. 202. Compressibility. 3	
A.E. 205. Theor. Aerodyn. II .....	3
A.E. 218. Grad. Seminar..	0
Math. 116. Adv. Diff. Equations .....	2
Elective‡ .....	3
or	
A.E. 222. Elastic Stab.*..	3
Thesis .....	4
	<hr/> 15

A.E. 206. Adv. Airpl. Des. 3	
A.E. 219. Grad. Seminar..	1
A.E. 203. Dyn. Stability..	3
or	
A.E. 223. Airc. Struct. Des.* .....	3
Elective‡ .....	3
Thesis .....	5
	<hr/> 15

† Requirements for advanced degrees will be found in the Graduate School section.

‡ Approved courses in engineering, mathematics, or physics. See Announcement of Courses, page 177.

\* These alternates are for students who wish to emphasize aircraft structures.

## Chemical Engineering

DEGREES: Bachelor of Science in Chemical Engineering (at end of fourth year) and Master of Science in Chemical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

Autumn Quarter	Credits
Physics 98. Engr. Physics. 4	
Math. 41. Engr. Calculus. 3	
Ch.E. 51. Ind. Chem. Calc. 2	
Chem. 107. Quant. Anal. 4	
M.E. 54. Mfg. Methods. 1	
H-SS 81. Tech. Writing I. 1	
P.E., and Mil. or Naval Science .....	+
	<hr/> 15+

Winter Quarter	Credits
Physics 98. Engr. Physics. 4	
Ch.E. 52. Ind. Chem. Calc. 2	
Chem. 108. Quant. Anal. 4	
M.E. 82. Heat Engines. 3	
E.B. 3. General Econ. 3	
H-SS 82. Tech. Writing II. 1	
P.E., and Mil. or Naval Science .....	+
	<hr/> 17+

Spring Quarter	Credits
Physics 99. Engr. Physics. 4	
Ch.E. 53. Ind. Chem. Calc. 2	
Chem. 102. Adv. Qual. Anal. ....	4
C.E. 92. Mechanics. ....	3
M.E. 55. Mfg. Methods. 1	
H-SS 83. Tech Writing III .....	1
P.E., and Mil. or Naval Science .....	+
	<hr/> 15+

## JUNIOR

Chem. 181. Phys. and Theor. Chem. ....	5
Chem. 131. Organic Chem. 5	
M.E. 111. Machine Design 3	
H-SS 123. Human. I. ....	3
	<hr/> 16

Chem. 182. Phys. and Theor. Chem. ....	5
Chem. 132. Organic Chem. 5	
E.E. 101. Direct Currents 5	
	<hr/> 15

Chem. 183. Phys. and Theor. Chem. ....	5
E.E. 121. Alt. Currents. 5	
Chem. E 170 Unit Operations .....	3
H-SS 124. Human. II. ....	3
	<hr/> 16

## SENIOR

Ch.E. 121. Chem. of Engr. Materials .....	5
Ch.E. 171. Unit Operations 4	
Ch.E. 176. Thesis. ....	2
Psych. 4. Industrial. ....	3
H-SS 194. Reading I. ....	1
	<hr/> 15

Ch.E. 122. Inorganic Chem. Industries .....	5
Ch.E. 172. Unit Operations 4	
Ch.E. 177. Thesis. ....	2
E.B. 166. Industrial Rel. 3	
H-SS 195. Reading II. ....	1
	<hr/> 15

Ch.E. 123. Organic Chem. Industries .....	5
Ch.E. 173. Unit Operations 4	
Ch.E. 178. Thesis. ....	1
H-SS 196. Reading III. ....	1
E.B. 57. Business Law. ....	3
	<hr/> 14

## GRADUATE†

Chem. Engr. and Allied Work .....	12
Ch.E. 300. Research. ....	3
	<hr/> 15

Chem. Engr. and Allied Work .....	12
Ch.E. 300. Research. ....	3
	<hr/> 15

Chem. Engr. and Allied Work .....	12
Ch.E. 300. Research. ....	3
	<hr/> 15

† Requirements for advanced degrees will be found in the Graduate School section.

## Civil Engineering

DEGREES: Bachelor of Science in Civil Engineering (at end of fourth year) and  
Master of Science in Civil Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Engr. Phys. ....	4	Phys. 98. Engr. Phys. ....	4	Phys. 99. Engr. Phys. ....	4
Math. 41. Engr. Calc. ....	3	Math. 42. Engr. Calc. ....	3	M.E. 81. Mechanism, or	
C.E. 91. Mechanics. ....	3	C.E. 92. Mechanics. ....	3	M.E. 82. Heat Engr. ....	3
E.B. 3. Gen. Econ. ....	3	Geol. 10/110. Engr. Geol. ....	5	C.E. 93. Mechanics. ....	3
H-SS. Tech. Writing I. ....	1	H-SS. Tech. Writing II. ....	1	E.E. 101. Dir. Currents. ....	5
P.E., and Mil. or Naval		P.E., and Mil. or Naval		H-SS. Tech. Writing III. ....	1
Sci. ....	+	Sci. ....	+	P.E., and Mil. or Naval	
	14+		16+	Sci. ....	+
					16+

## JUNIOR

C.E. 142. Hydraulics ....	5	C.E. 143. Hyd. Engr. ....	5	C.E. 121. Roads & Pvmts. ....	3
C.E. 171. Struct. Anal. ....	3	C.E. 172. Struct. Anal. ....	3	C.E. 173. Struct. Anal. ....	3
C.E. 112. Route Sur. ....	3	C.E. 163. Timb.-Steel Lab. ....	3	C.E. 162. Cem.-Conc. Lab. ....	3
E.E. 121. Alt. Currents. ....	5	C.E. 113. Location and		C.E. 114. Intermed. Surv. ....	3
	16	Earthwork. ....	3	C.E. 150. San. Science. ....	3
		Engr. 194. Reading I. ....	1	Engr. 195. Reading II. ....	1
			15		16

## SENIOR

C.E. 175. Struct. Design. ....	3	C.E. 176. Struct. Design. ....	3	C.E. 177. Struct. Design. ....	3
Tech. Elec. ....	3	Tech. Elec. ....	6	Tech. Elec. ....	5
C.E. 166. Soil Mechanics. ....	3	E.B. 166. Industrial		E.B. 57. Bus. Law. ....	3
Psych. 4. Industrial. ....	3	Relations. ....	3	Engr. 125. Human. III. ....	3
Engr. 123. Human. I. ....	3	Engr. 124. Human. II. ....	3		15
	15		15		

## GRADUATE†

C.E. and Allied Work. ....	9	C.E. and Allied Work. ....	9	C.E. and Allied Work. ....	9
Thesis. ....	3	Thesis. ....	3	Thesis. ....	3
Elective*. ....	3	Elective*. ....	3	Elective*. ....	3
	15		15		15

† Requirements for advanced degrees will be found in the Graduate School section.

\* Electives must in all cases be approved in advance by the head of the department.

## SENIOR AND GRADUATE TECHNICAL ELECTIVE COURSES

All electives must be approved in advance by the department

<i>Credits</i>		<i>Credits</i>	
C.E. 115. Geod. Surv'g. & Photogrammetry	3	C.E. 167. Earthwork Engineering.....	3
C.E. 123. Railway & Waterway Engineering	3	C.E. 181. Advanced Structures I.....	3
C.E. 124. Highway Design.....	3	C.E. 182. Advanced Structures II.....	3
C.E. 126. Airfield Design.....	3	C.E. 183. Advanced Structures III.....	3
C.E. 128. Transportation Administration.....	3	C.E. 191, 193, 195, H, M, S, W, or T.*	
C.E. 145. Hydraulic Machinery.....	3	Special Sr. and Graduate Courses in	
C.E. 147. Hydraulic Power.....	3	Professional Design and/or Analysis	
C.E. 153. Regional Planning.....	3	(each).....	3-5
C.E. 154. Sanitary Design.....	3	E.B. 62. Accounting.....	5
C.E. 155. Water Supply Problems.....	3	Math. 114, 115. Differential Eq.....	3, 3
C.E. 157. Reclamation.....	3	P.H. 124. Industrial Hygiene.....	3
C.E. 158. Sewage Disposal.....	3		

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

## Electrical Engineering

DEGREES: Bachelor of Science in Electrical Engineering (at end of fourth year) and  
Master of Science in Electrical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Physics 97. Engineering..	4	Physics 99. Engineering..	4	E.E. 111. D.C. Mach.....	3
Math. 41. Engr. Calculus.	3	Math. 42. Engr. Calculus.	3	E.E. 112. D.C. Mach. Lab.	4
E.E. 99. D.C. Circuits....	5	E.E. 109. Basic Field		M.E. 81. Mechanism.....	3
C.E. 91. Mechanics.....	3	Theory.....	5	M.E. 82. Steam.....	3
H-SS 81. Tech. Writing I.	1	C.E. 92. Mechanics.....	3	M.E. 53. Foundry.....	1
P.E., and Mil. or Naval		H-SS 82. Tech. Writing II	1	H-SS 83. Tech. Writing	
Sci. ....	+	P.E. ....	+	III.....	1
	16+		16+	P.E. ....	+
					15+

## JUNIOR

E.E. 159. A.C. Circuits..	5	E.E. 161. A.C. Mach.....	4	E.E. 181. Vac. Tubes and	
M.E. 83. Steam Lab.....	3	E.E. 162. A.C. Mach. Lab.	4	Electronics .....	6
M.E. 167. Engr. Materials	3	M.E. 111. Mach. Design..	3	M.E. 112. Mach. Design..	3
M.E. 54. Welding.....	1	M.E. 55. Machine Shop..	1	Elective* .....	3
H-SS 123. Human. I.....	3	H-SS 124. Human. II.....	3	H-SS 125. Human. III...	3
	15		15		15

## SENIOR

E.E. 195. Elec. Transients	4	E.E. Group .....	5	E.E. Group .....	5
E.E. Group .....	5	Phys. 155. Modern Physics	5	E.B. 57. Business Law...	3
C.E. 142. Hydraulics.....	5	E.B. 3. Economics.....	3	E.B. 166. Industrial	
Engl. 194. Reading I.....	1	Psych. 4. Industrial.....	3	Relations .....	3
	15	Engl. 195. Reading II....	1	Elective* .....	3
			16	Engl. 196. Reading III...	1
					15

## GRADUATE†

E.E. and Allied Work....	12	E.E. and Allied Work....	12	E.E. and Allied Work....	12
E.E. 291. Thesis.....	3	E.E. 292. Thesis.....	3	E.E. 293. Thesis.....	3
	15		15		15

\* Students planning a fifth year must take Math. 43 and Math. 114 for these electives.

† Requirements for advanced degrees will be found in the Graduate School section.

## UNDERGRADUATE TECHNICAL ELECTIVES

E.E. group requirements must be satisfied by selection from the following courses:

## POWER

	<i>Credits</i>
E.E. 141. Illumination.....	3
E.E. 152. Machine Design.....	3
E.E. 154. Adv. Machine Design.....	3
E.E. 163. Adv. Alter. Currents.....	6
E.E. 165. Elec. Measurements.....	3
E.E. 170, 172, 174. Individual Projects	
(each) .....	2-5
E.E. 173. Electric Power Systems.....	3
E.E. 197. Industrial Control.....	3

## COMMUNICATION

	<i>Credits</i>
E.E. 183. Vacuum-tube Circuits.....	6
E.E. 185. Communication Networks.....	6
E.E. 187. High-frequency Circuits & Tubes	5
E.E. 189. Radio Design.....	2
E.E. 170, 172, 174. Individual Projects	
(each) .....	2-5

## COURSES FOR GRADUATES ONLY

	<i>Credits</i>		<i>Credits</i>
E.E. 203. Advanced Circuit Theory I.....	3	E.E. 225. Power Transmission.....	5
E.E. 204. Network Analysis.....	3	E.E. 241. Electro-acoustics.....	5
E.E. 205. Advanced Circuit Theory II.....	3	E.E. 251. High-frequency Techniques.....	5
E.E. 220, 222, 224. Seminar.....	0-0-2	E.E. 261. Wave Propagation.....	6
E.E. 221. Advanced Transients.....	5	E.E. 300. Research .....	2-5
E.E. 223. Symmetrical Components.....	3	Graduate Thesis .....	9

## Industrial Engineering

DEGREE: Bachelor of Science in Industrial Engineering

**Requirement for Admission:** A Bachelor of Science degree in some branch of engineering as, for example, aeronautical, chemical, civil, electrical, mechanical, etc.

The degree will be granted following the successful completion of 45 credits in the courses listed below:

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
E.B. 63. Accounting.....	5	M.E. 108. Prod. Mgt.....	3	M.E. 109. Cost Anal.....	3
E.B. 103. Money and Banking .....	5	E.B. 110. Accounting.....	5	E.B. 154. Accounting....	5
Elective .....	5	E.B. 121. Corp. Fin.....	5	Elective .....	6
		Elective .....	3		

Students who plan to take this degree should take E.B. 62, Principles of Accounting, as an elective subject for the first bachelor's degree. Those who fail to do so will need to take E.B. 62 in addition to the courses listed above, during their fifth year. This will require the completion of E.B. 154 by extension or in residence during the fourth quarter.

E.B. 101 may be substituted for M.E. 108 and E.B. 151 for M.E. 109 if conflicts or other schedule difficulties seem to demand it.

## Mechanical Engineering

DEGREES: Bachelor of Science in Mechanical Engineering (at end of fourth year)  
and Master of Science in Mechanical Engineering (at end of fifth year)

## FRESHMAN

(The same for all curricula. See above.)

## SOPHOMORE

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Phys. 97. Engr. Phys.....	4	Phys. 98. Engr. Phys.....	4	Phys. 99. Engr. Phys....	4
Math. 41. Engr. Calculus...	3	Math. 42. Engr. Calculus...	3	C.E. 92. Mechanics.....	3
M.E. 81. Mechanism.....	3	C.E. 91. Mechanics.....	3	M.E. 83. Heat Power Lab...	3
M.E. 82. Heat Engines....	3	M.E. 54. Mfg. Methods....	1	M.E. 55. Mfg. Methods....	1
M.E. 53. Mfg. Methods....	1	E.B. 3. Gen. Econ.....	3	E.B. 57. Business Law....	3
H-SS 81. Tech. Writing I...	1	H-SS 82. Tech. Writing II...	1	H-SS 83. Tech. Writing	III
P.E. and Mil. or Naval Sci. ....	+	P.E. and Mil. or Naval Sci. ....	+	P.E. and Mil. or Naval Sci. ....	+
	15+		15+		15+

## JUNIOR

M.E. 183. Thermodynamics	5	M.E. 111. Machine Design	3	M.E. 112. Machine Design	3
M.E. 167. Engr. Materials	3	M.E. 123. Engines and Boilers .....	2	M.E. 124. Engines and Boilers .....	2
M.E. 105. Adv. Mfg. Methods .....	1	M.E. 151. Experim. Engr..	3	M.E. 152. Experim. Engr..	3
C.E. 93. Mechanics.....	3	M.E. 106. Adv. Mfg. Methods .....	1	M.E. 107. Produc. Planning .....	1
H-SS 123. Human. I.....	3	E.E. 101. Direct Currents	5	E.E. 121. Altern. Currents	5
	15	H-SS 124. Human. II....	3	H-SS 125. Human. III....	3
			17		17

## SENIOR

M.E. 198. Int. Comb. Engines .....	3	M.E. 153. Int. Comb. Eng. Lab. ....	3	Engl. 196. Reading III....	1
C.E. 142. Hydraulics.....	5	M.E. 113. Machine Design	2	Electives*	14
Psych. 4. Industrial.....	3	E.B. 166. Industrial Relations .....	3		15
H-SS 194. Reading I.....	1	H-SS 195. Reading II....	1		
Electives*	3	Electives*	6		
	15		15		

## GRADUATE†

M.E. and Allied Work...12	M.E. and Allied Work...12	M.E. and Allied Work...12
Thesis .....	Thesis .....	Thesis .....
15	15	15

\* Not less than 15 elective credits shall be technical.

† Requirements for advanced degrees will be found in Graduate School section.

## SENIOR AND GRADUATE TECHNICAL ELECTIVE COURSES

All electives must be approved in advance by the department.

<i>Credits</i>		<i>Credits</i>	
M.E. 104. Mfg. Methods, nonferrous metals.....	2	M.E. 187. Naval Architecture.....	3
M.E. 108. Production Management.....	3	M.E. 188. Marine Engineering.....	3
M.E. 109. Factory Cost Analysis.....	3	M.E. 189. Refrigeration.....	3
M.E. 114. Machine Design.....	2	M.E. 191, 192, 193. Research..... (ea.)	2-5
M.E. 161. Quality Control.....	3	M.E. 195. Thesis.....	3
M.E. 162. Methods Analysis.....	3	M.E. 199. Internal Combustion Engine Design.....	3
M.E. 182. Heating and Ventilation.....	3	M.E. 200. Vibrations of Machinery.....	3
M.E. 184. Power Plants.....	5	M.E. 202. Advanced Engineering Materials.....	3
M.E. 185. Naval Architecture.....	3	M.E. 204. Diesel Engines.....	2
M.E. 186. Naval Architecture.....	3	M.E. 211, 212, 213. Research..... (ea.)	3

## MINERAL ENGINEERING

DRURY A. PIFER, *Acting Director*, 328 Roberts Hall

DEGREES: Bachelor of Science in Mining, Metallurgical, or Ceramic Engineering (at end of fourth year) and Master of Science in Mining, Metallurgical, or Ceramic Engineering (at end of fifth year)

## Prospector's Course

The Prospector's Course is open without examination to all men past high school age. The course is repeated each quarter except in summer. An advanced course is offered to those successfully completing the first course. The fee for each term is \$10.00, payable upon registration. The G. I. Bill of Rights applies to this course. The course occupies full time from Monday to Friday, inclusive, with occasional Saturday trips to mines and plants. A certificate is given upon completion of each course. For full information address the Director of the School.

## FRESHMAN

(The freshman year curriculum is the same as for all other curricula in the College of Engineering except that Chemistry 21, 22 and 23, five credit hours each, are required.)

## SOPHOMORE

(The same for all curricula except that ceramic engineers substitute Ceramics 95 for Metallurgy 101.)

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Mining 51. Elements.....	3	Mining 52. Methods.....	3	Met. 53. Elements.....	3
Geol. 5. Rocks and Minerals.....	5	Chem. 111. Quant. Anal.....	5	Geol. 121. Mineralogy.....	5
Physics 97. Engr. Phys.....	4	Physics 98. Engr. Phys.....	4	Physics 99. Engr. Phys.....	4
Math. 41. Calculus.....	3	Cer.E. 90. Industrial Minerals.....	3	Met. 101. Fire Assaying.....	3
H-SS 81. Tech. Writing I.....	1	H-SS 82. Tech. Writing II.....	1	H-SS 83. Tech. Writing III.....	1
P.E., and Mil. or Naval Sci.....	+	P.E., and Mil. or Naval Sci.....	+	P.E., and Mil. or Naval Sci.....	+
	16+		16+		16+

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

## Mining Engineering

## JUNIOR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Mining 101. Milling.....	3	Met. 103. Fuel Technology.....	3	Mining 161. Mineral Dressing.....	4
C.E. 91. Mechanics.....	3	C.E. 92. Mechanics.....	3	C.E. 114. Intermed. Survey.....	3
Geol. 123. Optical Mineral.....	5	Geol. 124. Petrology.....	5	Min. 106. Mine Excursion.....	1
Met. 104. Nonferrous.....	3	E.E. 101. Dir. Currents.....	5	E.E. 121. Alt. Currents.....	5
H-SS 123. Human. I.....	3	Met. 113. Fuels Lab.....	1	H-SS 124. Human. II.....	3
	17		17		16

Mining practice in summer vacation.

## SENIOR

Mining 191. Thesis.....	2
Met. 155. Iron and Steel..	3
Met. 162. Physical.....	3
Met. 154. Wet Assaying..	3
E.B. 3. Gen. Econ.....	3
	<hr/> 14

Mining 192. Thesis.....	2
Min. 103. Rescue Training	1
Min. 162. Economics.....	4
Geol. 127. Ore Deposits...	5
Elective*	3
	<hr/> 15

Mining 193. Thesis.....	1
Min. 107. Mine Excursion	1
Min. 163. Mine Engr.....	4
Min. 182. Min. Ind. Mgt.	3
Elective*	6
	<hr/> 15

## Metallurgical Engineering

## JUNIOR

<i>Autumn Quarter</i>	<i>Credits</i>
Met. 104. Nonferrous.....	3
Met. 102. Met. Lab.....	2
C.E. 91. Mechanics.....	3
Min. 101. Milling.....	3
Met. 154. Wet Assaying..	3
	<hr/> 14

<i>Winter Quarter</i>	<i>Credits</i>
Met. 103. Fuel Technology	3
E.E. 101. Dir. Currents...	5
C.E. 92. Mechanics.....	3
H-SS 123. Human. I.....	3
Met. 113. Fuels Lab.....	1
	<hr/> 15

<i>Spring Quarter</i>	<i>Credits</i>
Min. 106. Excursion.....	1
E.E. 121. Alt. Currents...	5
Min. 161. Ore Dressing..	4
H-SS 124. Human. II....	3
Elective .....	3
	<hr/> 16

Metallurgical practice in summer vacation.

## SENIOR

Met. 155. Iron and Steel..	3
Met. 162. Physical.....	3
Chem. 140. Elem. Physical.	3
Met. 191. Thesis.....	2
E.B. 3. Gen. Econ.....	3
	<hr/> 14

Met. 165. Met. Calculation	3
Met. 163. Metallography..	3
Min. 103. Rescue Training	1
Met. 192. Thesis.....	2
Min. 162. Economics.....	4
Chem. 141. Elem. Physical	3
	<hr/> 16

Met. 166. Adv. Nonferrous	3
Min. 163. Min. Engineering	4
Min. 107. Excursion .....	1
Met. 193. Thesis.....	1
Elective*	6
	<hr/> 15

## Ceramic Engineering

## JUNIOR

<i>Autumn Quarter</i>	<i>Credits</i>
Cer.E. 100. Clays, Plasticity, and Suspensions...	3
Cer.E. 104. Calculations..	3
Min. 101. Milling.....	3
C.E. 91. Mechanics.....	3
Geol. 123. Optical	
Mineralogy .....	5
	<hr/> 17

<i>Winter Quarter</i>	<i>Credits</i>
Cer.E. 101. Firing and Firing Problems .....	3
Cer.E. 105. Drying and Drying Problems .....	3
Met. 103. Fuel Technology	3
C.E. 92. Mechanics.....	3
Chem. 140. Elem. Physical	3
Cer. 108. Pyrometry .....	1
	<hr/> 16

<i>Spring Quarter</i>	<i>Credits</i>
Cer.E. 102. Cer. Coatings.	3
Cer.E. 110. Phys. Chem. Measurements .....	2
Min. 106. Excursion .....	1
E.B. 3. Gen. Economics...	3
Chem. 141. Elem. Physical	3
H-SS 123. Human. I.....	3
	<hr/> 15

Ceramics practice in summer vacation.

## SENIOR

Cer. 115. Phys. Ceramics.	3
Cer. 121. Cer. Bodies Lab.	3
Cer. 191. Thesis .....	2
H-SS 124. Human. II....	3
E.B. 57. Business Law....	3
Elective*	3
	<hr/> 17

Cer. 124. Dryer and Kiln Design .....	3
Cer. 122. Cer. Coating Lab.....	2
Cer. 191. Thesis.....	2
Cer. 163. Refractories...	3
E.E. 101. Dir. Current...	5
	<hr/> 15

Cer. 124. Plant Design...	3
Cer. 191. Thesis .....	1
Min. 107. Excursion .....	1
E.E. 121. Alt. Current...	5
Elective*	6
	<hr/> 16

\* Electives (9 credits) must be approved in advance by the head of the department.



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

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

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

The postwar Reserve Officers' Training Corps program of instruction is divided into two phases, Basic Training and Advanced Training. The basic course consists of formal instruction for three hours per week for two academic years of 32 weeks each. Participation in this course is required on the part of all qualified male students. Qualifications are in accordance with University requirements and Department of the Army directives. Students who have had previous Military Training or service will receive credit toward advanced standing in the R.O.T.C.

The advanced course consists of formal instruction for five hours per week for two academic years of 32 weeks each, plus a summer camp of six weeks duration, which is attended between the first and second years of the advanced course.

Enrollees in the Advanced Course are chosen from among the highest qualified students who have successfully completed the basic course or have equivalent previous military training or service.

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

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

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

For the advanced-course students, the Department of the Army will provide a special officer-type uniform.

Textbooks and equipment are provided for all classes.

Advanced-course students are paid a monetary allowance at a daily rate equal to the value of the commuted ration. Emoluments are in addition to benefits received through the G.I. Bill of Rights.

## DEPARTMENT OF NAVAL SCIENCE

Each fall, candidates previously selected by a nation-wide competitive examination will be enrolled as regular students in the Naval Reserve Officers' Training Corps. An individual enrolled as a regular student in the N.R.O.T.C. shall meet the following requirements. He must:

1. Be eligible for admittance to the N.R.O.T.C. college in accordance with the college's entrance requirements.
2. Agree to accept a commission in the Navy or Marine Corps if offered.
3. Have the consent of a parent, if a minor, to enter into a contractual agreement with the Secretary of the Navy, obligating himself to a period of at least two years of active duty after commissioning.
4. Be a citizen of the United States between the ages of 17 and 21 on July 1 of year of entrance into the program.
5. Be unmarried and agree to remain unmarried until commissioned or disenrolled.
6. Meet the physical requirements, comparable to those required for entry into the Naval Academy.
7. Agree to take courses which require the completion of four additional years of college work if he is already enrolled in an accredited college.
8. Agree to take three practice cruises during summer vacations, each cruise of about eight weeks duration.

Individuals accepted in the program will have such fees as tuition and books paid in addition to a cash remuneration of \$50 per month.

A limited number of contract students will be accepted each fall from the freshman class providing they meet requirements 1, 4, 5, 6, and 7, as listed above. Those accepted under this category will be commissioned in the U.S. Naval Reserve or U.S. Marine Corps Reserve upon completion of the program, and will receive a subsistence allowance during the last two years of the program, but will not receive payment for books or tuition.

## THE FAR EASTERN INSTITUTE

GEORGE E. TAYLOR, *Director*, 406 Thomson Hall

The Far Eastern Institute has been established to integrate the graduate and undergraduate instruction and research in Far Eastern studies, to provide adequate library facilities, and to cooperate with other institutes in America and abroad. The undergraduate degrees will be taken in the Far Eastern or a related department. Graduate degrees will be sponsored by the Institute in cooperation with the colleges and departments concerned. Faculty members working in Far Eastern studies, although they may belong to departments other than the Far Eastern department, will be members of the Institute. For full information, address an inquiry to the director of the Institute.

## COLLEGE OF FORESTRY

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

The College of Forestry is fully accredited by the Society of American Foresters and offers four-year curricula leading to the degree of Bachelor of Science in Forestry with specialization in forest management, logging engineering, and forest products. The curriculum for the first two years is the same for all fields of specialization, with special curricula for each in the junior and senior years.

*Advanced Degrees.* At least a year of graduate study, leading to the degree of Master of Forestry or Master of Science in Forestry, is available in each major curriculum. Under certain conditions, students may be accepted as candidates for the degree of doctor of philosophy. Requirements for advanced degrees are discussed in the Graduate School sections, page 158.

### Admission Requirements

For detailed information concerning University fees, expenses, and admission requirements, see pages 67-77. In addition to the all-University entrance requirements, the College of Forestry requires one unit\* of plane geometry and one and one-half units of elementary and advanced algebra.

Qualifying examinations are required in elementary composition. Applicants who fail in this examination must register in English A without credit.

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

As the forestry curriculum is one of specialized training, students entering from junior colleges or similar institutions, cannot complete the requirements for graduation in less than three years. Forestry courses, other than an introductory course, will be accepted only from accredited forestry schools. Exceptions may be made only upon approval of the faculty.

### Scholarship Requirements

The general University scholarship rule requires that a student be placed on low scholarship and reported to the dean of his college if his cumulative grade-point average falls below 1.8 in the freshman year or below 2.0 thereafter. Students continuing on low scholarship will be dropped from the College of Forestry.

\*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.

Students transferring from other institutions must have a cumulative grade-point average of 2.5 to be eligible for entrance.

*Fellowships, Scholarships, Prizes.* See pages 87-88.

### Requirements for Graduation

For the degree of Bachelor of Science in Forestry, the student must complete the requirements outlined in the major curriculum selected and must meet the all-University requirements for graduation (see page 77). Electives must be approved by the student's faculty adviser.

Grades in physical education activity courses are not considered in determining grade-point averages in the College of Forestry.

Army and Navy students may use not to exceed nine quarter credits in advanced Army or Navy subjects to satisfy unrestricted elective credits in the College of Forestry.

### Lower-division Curriculum

#### FIRST YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Bot. 17. (Foresters').....	3	Bot. 18. (Foresters').....	3	Bot. 19. (Foresters').....	3
For. 3. Development.....	3	Engl. 1. Composition.....	3	Engl. 2. Composition.....	3
Math. 4. Trig. ....	5	For. 4. Fire Protection....	3	For. 1a. Dendrology.....	3
Chem. 1, 3, 5, or 21. Gen. 5		For. 8. For. Problems.....	2	For. 9. For. Problems....	3
P.E. ....	+	Chem. 2, 4, 6, or 22.....	5	Physics 1 or 4.....	5
Military or Naval Science. +		P.E. ....	+	P.E. ....	+
	16+	Military or Naval Science. +		Military or Naval Science. +	
			16+		17+

#### SECOND YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
E. & B. 3. Gen. ....	3	For. 60. Mensuration.....	5	C.E. 56. Surveying.....	8
For. 1b. Dendrology.....	3	G.E. 7 Engr. Drawing....	3	For. 40. Silviculture.....	2
For. 15. Gen. Lumbering. 5		Physics 3 or 6.....	3	For. 62. Mensuration....	6
Physics 2 or 5.....	5	P.E. ....	+	P.E. ....	+
P.E. ....	+	Military or Naval Science. +		Military or Naval Science. +	
Military or Naval Science. +			13+		16+
	16+				

### Upper-Division Curricula

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

### Forest Management Curriculum

#### THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 104. Timber Physics. 5		For. 122. Silv. Methods... 3		Bot. 111. For. Path..... 5	
For. 109. Wood Tech.... 4		For. 140. For. Construc-		C.E. 115. Photogrammetry 3	
For. 121. Silvics..... 3		tion ..... 4		For. 115. Insect Control.. 3	
Elective ..... 3		For. 158. Utilization .... 5		For. 123. Silv. Appl..... 3	
	15	Elective ..... 3		Elective ..... 1	
			15		15

#### FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
E. & B. 62. Accounting.... 5		For. 119. For. Policy.... 3		For. 164. Mgt. Surveys... 5	
For. 151. Econ. & Finance 5		For. 124. For. Fire Control 3		For. 165. Mgt. Inventory. 5	
For. 185. For. Engineer'g. 5		For. 152. For. Managem't. 5		For. 166. Mgt. Studies... 4	
	15	Elective ..... 4		For. 167. Mgt. Reports... 2	
			15		16

## Forest Products Curriculum

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
For. 104. Timber Physics. . . . .	5	For. 108. Timber Design. . . . .	3	Bot. 111. For. Path. . . . .	5
For. 109. Wood Tech. . . . .	4	For. 111. Wood Structure. . . . .	3	E. & B. 62. Accounting. . . . .	5
Elective . . . . .	6	For. 122. Silv. Methods. . . . .	3	For. 105. Wood Pres. . . . .	3
	15	M.E. 82. Steam Engr. . . . .	3	For. 106. Wood Pres. Lab. . . . .	2
		Elective . . . . .	3		15
			15		

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
E. & B. 57. Bus. Law. . . . .	3	For. 157. For. Prod. Ind. . . . .	3	For. 184. Mfg. Prob. . . . .	5
For. 151. Econ. & Fin. . . . .	5	For. 159. Plywood, Lamination, and Glues. . . . .	4	For. 189. Wood Pulp. . . . .	5
For. 183. Milling. . . . .	5	For. 188. Kiln Drying. . . . .	3	For. 190. Microtechnique. . . . .	3
Elective . . . . .	2	Electives . . . . .	5	Elective . . . . .	2
	15		15		15

## Logging Engineering Curriculum

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
C.E. 112. Route Surv. . . . .	3	C.E. 113. Location and Earthwork . . . . .	3	Bot. 111. For. Path. . . . .	5
For. 104. Timber Physics. . . . .	5	For. 122. Silv. Methods. . . . .	3	C.E. 115. Photogrammetry . . . . .	3
For. 109. Wood Tech. . . . .	4	For. 140. For. Construct'n . . . . .	4	For. 115. Insect Control. . . . .	5
For. 121. Silvics. . . . .	3	For. 158. Utilization. . . . .	5	Math. 31. Engr. Math. . . . .	5
	15		15		16

## FOURTH YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
E. & B. 62. Accounting. . . . .	5	E. & B. 57. Bus. Law. . . . .	3	For. 191. Log. Plans. . . . .	3
For. 151. Econ. & Fin. . . . .	5	For. 124. For. Fire Cont. . . . .	3	For. 192. Top. & Timber Survey . . . . .	5
For. 170. Log. Safety. . . . .	2	For. 152. For. Mgt. . . . .	5	For. 193. Road Loc. Surv. . . . .	5
For. 185. For. Engr. . . . .	5	For. 186. Log. Engr. . . . .	5	For. 194. Log. Cost Anal. and Reports . . . . .	3
	17		16		16

## SCHOOL OF LAW

JUDSON F. FALEKOR, *Dean*, 205 Condon Hall

The School of Law was established in 1899, is a member of the Association of American Law Schools, and is approved by the Council on Legal Education and Admission to the Bar of the American Bar Association.

The school prepares students for practice in any state or jurisdiction where the Anglo-American legal system prevails. Particular attention is given to the statutes, the special doctrines, and the rules of practice that obtain in the State of Washington. Admission to the Washington Bar, however, is conditioned upon passing a state bar examination.

## Admission

New students are admitted at the start of each fall quarter. An application-for-admission blank should be obtained from and filed with the Dean of the Law School, together with complete transcripts of college and law work. An early application is essential since admission is on a selective basis and some who apply may not be accepted.

*Regular Students.* To be regularly admitted to the School of Law a student must either (1) hold the degree of bachelor of arts or bachelor of science from a college or university of recognized standing, or (2) have completed 135 academic quarter credits with a scholarship average of 2.5, together with the required credits in physical education activity, and Military or Naval Science courses, or (3) have completed 90 academic

quarter credits with a scholarship average of 2.5, together with the required credits in physical education activity, and Military or Naval Science courses, and have satisfactorily completed the following courses or their substantial equivalents: English 1, 2, 3 (9 credits); Philosophy 1, Introduction, and 5, Logic (10 credits); Economics 1-2, Principles (10 credits); History 5, 6, English Political and Social, and 106, English Constitutional (15 credits); Political Science 1, Survey, and 52, Introduction to Public Law (10 credits). In every case, the applicant must present at least 90 residence credits in addition to extension credits.

**Advanced Standing.** Transfer of credit is possible only from those schools which are members of the Association of American Law Schools; credit for not less than the work of one year and not more than the work of three years will be acceptable. The dean shall determine what credit, if any, can be granted to a transfer student.

**Special Students.** This classification covers those who are not working for a degree. The applicant must be at least 23 years of age and his general education must entitle him to admission to the freshman class in the University of Washington. Admission is granted only upon vote of the faculty, and the number of those who can be granted this privilege is definitely restricted.

Attention is called to the fact that in order to be eligible to take the Washington State Bar examination, the student must have completed two years of college work prior to beginning his professional law study. Students intending to qualify for the Washington State Bar examination are, therefore, advised not to petition for admission as special students.

### Degrees and Requirements for Graduation

**Bachelor of Laws.** The law course is a four-year course.\* The degree of Bachelor of Laws will be conferred on *regular* students who complete 168 quarter credits in professional law subjects, including the required courses, with a scholarship average of 2.0. The three quarters immediately preceding the conferring of the degree must be spent in residence at the University of Washington Law School.

**Bachelor of Science in Law.** This is a nonprofessional degree which does not qualify for admission to the bar or to the bar examination; it is conferred on a *regular* student who holds no bachelor's degree, who has completed six quarters of the law school curriculum (usually 84 credits), who has at least 180 credits in legal and pre-law work with a scholarship average of 2.0, and who is eligible to continue in the Law School.

For the major in Law in the College of Arts and Sciences or in the College of Economics and Business, see pages 120 and 127.

For scholarship rules, see page 82.

**The Carkeek Prize.** The Vivian M. Carkeek 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 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 Western Printing Company Prize.** An award of \$25 is made annually to that student rendering the most valuable service to *The Washington Law Review*.

**The W. G. McLaren Prize.** An award of \$25 is made annually to that fourth-year student submitting the best solution to a problem in legal draftsmanship.

**The Seattle Life Insurance and Trust Council Will Contest.** During the academic year awards are made to the three law students who, in the opinion of the judges, draft the best will based on a stipulated set of facts. The prizes are \$250, \$100, and \$50.

\* Students who had at least one year of service in the armed forces of the United States prior to September 1, 1945, are, by terms of a state statute, entitled to two quarters of credit.

## SCHOOL OF LIBRARIANSHIP

ROBERT L. GITLER, *Director*, 112 Library

### Admission Requirements

Admission to the School of Librarianship is granted to graduate students who hold the baccalaureate degree from a college or university of good standing, and whose undergraduate work has included at least 20 quarter credits of one modern foreign language, and who have made an average grade of "B" in their undergraduate work. Students who plan a library career in scholarly libraries and scientific fields should have a reading knowledge of French and German before applying for admission to the school.

Admission to the course in law librarianship is granted to graduate students who have completed the law work at a school accredited by the Association of American Law Schools. Applications with full official transcripts of law courses must be sent to the Dean of the Law School.

Initial admission to the School of Librarianship is permitted only at the beginning of the autumn quarter.

Early application for entrance is recommended, as the enrollment is limited. Therefore, application for admission should be made to the School of Librarianship before May 30 of the year of entrance. Opportunity to enter at a later date, before September 15, may depend upon withdrawal of previously accepted applicants. Copies of transcripts of academic records must be filed with the Registrar of the University *AND* the Director of the School of Librarianship. Graduate standing is determined by the Registrar, admission to the School by the Director. *An admission slip from the Registrar's Office indicating classification as a graduate student does not entail admission to the School of Librarianship. The student must make sure that his acceptance is clear in both offices.*

### Advisory Suggestions

When possible, applicants are urged to arrange with the Director for a personal interview.

In general, persons beyond 35 years of age will not be considered for admission to the school unless special circumstances warrant.

As no one with serious physical defects, personality difficulties, or ill health can readily secure a position in library service, such persons should not ask admission to the school.

The student entering the school should be a typist of accuracy and fair speed.

Those desiring to prepare for children's library work should have completed at least one course in child psychology.

Those wishing to enter high school library work should consult the College of Education in regard to teaching qualifications.

An average class grade of "B" must be maintained by students of the school. Since the courses are heavy, students are advised not to plan for outside work. However, it is frequently possible to enroll for a portion of the curriculum and carry the program over a two-year period while working on a part-time basis as a subprofessional assistant in the University Library.

### Degrees

On completion of the curriculum in librarianship, the degree of Bachelor of Arts in Librarianship is granted; on completion of the curriculum in law librarianship, the degree of Bachelor of Arts in Law Librarianship is granted.

Upon completion of the second-year course in library work with children,\* a certificate in library work with children is granted.

### Curricula

Four curricula are offered: (1) General; (2) Library Work with Children; (3) School Library Work; (4) Law Librarianship.

All students, except those in law librarianship, follow the general course during the first quarter. This introduction to the various fields of library work assists the

\* Not offered; 1948-49.

student in determining the curriculum he will study for the remainder of the year. In the second and third quarters, one may continue with the general course, in which emphasis is along the traditional lines: reference and bibliography, cataloging and classification, book selection, and administration. Or the student may specialize in library work with children or in school library work.

Students following Curriculum I (General Course) may, with the approval of the Director, elect courses on the graduate level in other departments of the University in lieu of the courses that are marked ‡.

### I. General Course

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, and Society .....	2	201. Org. and Administration: Pub. Libs. ....	2	202. Org. and Admin.: Academic and Spec. Libs. . .	3
210. Bibliography and Reference .....	3	211. Bibliography and Reference .....	3	‡204. Libraries, Librarians, and Society .....	2
220. Classification and Cataloging .....	4	221. Classification and Cataloging .....	3	212. Bibliography and Reference .....	3
230. Books for Libraries. .	3	231. Books for Libraries. .	3	222. Classification and Cataloging .....	3
‡250. Children's Work. . .	3	‡270. History of the Book	3	‡209. Directed Field Work (Practice) .....	5

### II. Courses for Library Work with Children

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, and Society .....	2	211. Bibliography and Reference .....	3	204. Libraries, Librarians, and Society .....	2
210. Bibliography and Reference .....	3	221. Classification and Cataloging .....	3	209. Directed Field Work (Practice) .....	5
220. Classification and Cataloging .....	4	231. Books for Libraries. .	3	252. Story Telling .....	3
230. Books for Libraries. .	3	253. Advanced Children's Work .....	2	255. Selection of Books for Children .....	3
250. Children's Work. . .	3	254. Selection of Books for Children .....	3		
		270. History of the Book. .	3		

### III. Courses for School Library Work

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, and Society .....	2	211. Bibliography and Reference .....	3	204. Libraries, Librarians, and Society .....	3
210. Bibliography and Reference .....	3	221. Classification and Cataloging .....	3	‡209. Directed Field Work (Practice) .....	5
220. Classification and Cataloging .....	4	231. Books for Libraries. .	3	212. Bibliography and Reference .....	3
230. Books for Libraries. .	3	262. Book Selection for High School Libs. ....	3	260. School Library Administration .....	4
250. Children's Work. . .	3	270. History of the Book. .	3		

For students preparing to meet the requirements of the State Department of Public Instruction for teacher-librarians, or to meet the requirements for an eighteen-credit minor, the following courses have been opened: Lib. 151, 161, 163, 164, 260, 262.

If a student plans to take less than 18 credits of librarianship, it is recommended that 163 and 262 be considered essential, and 260, 161, 151, and 154 desirable, ranked in order of importance.

If a student wishes later to take the degree of Bachelor of Arts in Librarianship, he will need to meet all requirements for entrance to the school and to complete the remainder of the curriculum.

### IV. Courses in Law Librarianship

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
200. Libraries, Librarians, and Society .....	2	211. Bibliography and Reference .....	4	209. Directed Field Work (Practice) .....	5
210. Bibliography and Reference .....	3	221. Classification and Cataloging .....	3	222. Classification and Cataloging .....	5
220. Classification and Cataloging .....	4	242. Legal Reference and Research .....	5	243. Law Library Administration .....	5
240. Adv. Legal Bibliog. .	4	270. History of the Book. .	3		
241. Order and Accessioning of Law Books. ....	2				

### Announcement of Courses

For announcement of courses offered by the School of Librarianship, see page 219.

## THE SCHOOL OF MEDICINE

EDWARD L. TURNER, *Dean*, 200B Bagley Hall

The School of Medicine began instruction to its first class on October 1, 1946. Basic medical science departments are adequately staffed and equipped to conduct the work of the first two years in temporary quarters. Clinical instruction will begin in the fall of 1948 and will be conducted in hospitals affiliated with the University. The chief center of clinical instruction will be King County Hospital and other affiliations will include Children's Orthopedic Hospital, United States Marine Hospital, Firland Sanatorium, and Western State Hospital. Construction of the new buildings to house the new schools in the Division of Health Sciences was begun in March 1947 and the first unit will be ready for occupancy late in the fall of 1948.

Organization and development of the School of Medicine is being directed so as to meet the full approval of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association. The objective of the school is to prepare a selected group of medical students for the practice of medicine through the use of the best educational technics employed in this field. Actual admission to the practice of medicine in the State of Washington, or any other state, is conditional upon the candidate meeting the requirements of the state board of medical examiners in regard to internship, and passing the state medical examinations.

### Applications

Applications and all pertinent material should be sent to the Committee on Admissions of the School of Medicine. Each applicant must submit the following material on or before April 1, before any action can be taken by the Committee on Admissions: (1) formal application for admission on the form furnished by the University of Washington; (2) official transcript of previous college record (sent directly from Registrar's Office of the institution where preprofessional training was taken to the Committee on Admissions of the School of Medicine at the University of Washington); (3) two unmounted recent photographs (2 x 3 inches); (4) two letters of recommendation, one from a science and the other from a nonscience instructor.

Applicants must take the special medical aptitude test conducted by the Graduate Record Examining Board. The Committee on Admissions will inform applicants as to when the tests may be taken.

### Admission

The Admissions Committee will consider as candidates for entrance to the Medical School: (1) individuals who hold a bachelor of arts or science degree from a fully accredited college or university and whose scholastic average has been 2.5 or better; (2) those who have completed three years of premedical training (135 academic quarter credits) with a scholastic average of 2.5 or better; and (3) occasionally students who have completed two years of premedical training (90 academic quarter credits) with an outstanding record and a scholastic average of 3.0 or above. All applicants must have completed the required courses in physical education, and the following basic premedical courses: English 1, 2, 3 (Composition, 9 credits); Chemistry 1-2 (for students without high school chemistry) or 21-22 (for those having completed a year of high school chemistry); 23 (Qualitative); 111 (Quantitative); 131, 132 (Organic)—(total of 30 chemistry credits); Physics 1, 2, 3, or 4, 5, 6 (15 credits); Zoology 1, 2 (General); 127, 128 (Comparative Anatomy) or Zoology 105 (General Vertebrate Embryology).

The student is advised to elect courses in physical chemistry (Chemistry 140-141), and cellular physiology (Physiology 115), all of which will be helpful. Courses in such fields as history, psychology, philosophy, social studies, and economics should also be elected since they are valuable in a well-rounded premedical course.



### Requirements for Graduation

A candidate for the degree of Doctor of Medicine must be 21 years of age and must have given evidence of good moral character. He must have attended four sessions as a regularly matriculated student. He must have completed the required work, have a satisfactory grade average (minimum 2.0) throughout the entire medical course, and have fulfilled all special requirements. He must have discharged all indebtedness to the institution.

### Major Requirements in the Various Departments

#### BIOCHEMISTRY

EARL R. NORRIS, *Executive Officer*, 122 Bagley Hall

Any student desiring to take work which would qualify him for a career in biochemistry must obtain a degree of Bachelor of Science in Chemistry under the College of Arts and Sciences and should consult with the department of Biochemistry in the choice of electives.

#### MICROBIOLOGY

C. A. EVANS, *Executive Officer*, 417 Johnson Hall

##### DEGREE: Bachelor of Science

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

Ten credits in botany or zoology, Physics 1, 2, 3 (or 4, 5, 6), and Chemistry 21, 22 (or 1, 2), 23, 111, 131, and 132 are required of all microbiology majors. These courses and Microbiology 100 should ordinarily be completed during the first two years.

An overall grade-point average of 2.0 in courses in microbiology shall be required for graduation.

Transfer students entering the undergraduate curriculum 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.

An overall grade-point average of 2.0 in courses in microbiology shall be required for graduation.

### Third and Fourth Years

Group options in third and fourth years: While specific courses are not prescribed, students should plan to take work principally either in industrial or in medical microbiology.

Courses recommended for students in industrial microbiology: Microbiology 120, 130, 131, 135, 199; Botany 108, 115, 144; Chemistry 140, 141, 161; Mathematics 4, 5, 6, 185.

Courses recommended for students in medical microbiology: Microbiology 120, 122, 130 or 131, 151, 152, 153; Anatomy 103; Botany 108; Chemistry 161; Pathology 121.

#### PREVENTIVE MEDICINE AND PUBLIC HEALTH

L. E. POWERS, *Executive Officer*, 111 Health Center

##### DEGREE: Bachelor of Science in Public Health

A four-year curriculum leading to a degree of Bachelor of Science in Public Health (Major in Sanitary Science) is outlined below. In addition to maintaining

a 2.5 grade-point average in the professional courses and the 180 hours required for a B.S. degree, 12 weeks field practice in an official Public Health Agency is required.

FIRST YEAR		SECOND YEAR	
Engl. 1, 2, 3.....	9	Physics 10 or high school Physics.....	0-5
P.E. 10 or 107.....	2-3	Zool. 7, 8.....	10
Soc. 1.....	5	Math. 54, 55, 56.....	9
Chem. 21-22 (1&2).....	10	Journ. 51, 84.....	7
Pol. Sci. ....	5	Psych. 2.....	5
Psych. 1.....	5	Speech 1-2.....	4
	36-37		35-40
General Electives .....	9-8	General Electives .....	10-5
THIRD YEAR		FOURTH YEAR	
Anat. 103.....	4	P.H. 124.....	3
Micro. 135.....	5	P.H. 108.....	2
P.H. 119.....	3	P.H. 104.....	3
P.H. 120.....	3	Soc. 116 or C.E. 153.....	3-5
P.H. 101 or CE 150.....	3	Educ. 145S.....	3
Educ. 101.....	3	Related Electives .....	10
Educ. 127.....	3		24-26
P.H. 122.....	2	General Electives .....	19-21
Zool. 107.....	5		
	31		
General Electives .....	14		

It is recommended when possible that Chemistry 131 and Microbiology 151, 152, and 153 be taken in lieu of Microbiology 135 and Zoology 107.

## SCHOOL OF NURSING

ELIZABETH STERLING SOULE, *Dean*, Nursing Building

Nursing has been a part of the general university program at the University of Washington since 1917. The School of Nursing today is a professional school, an active member of the Association of Collegiate Schools of Nursing, and is accredited for registration by the states of Washington and New York, and by all other states by reciprocity. The programs offered are intended to prepare the student for professional practice in all fields of nursing.

### Admission Requirements

*Group I.* To be regularly admitted to the School of Nursing in the basic curriculum, the student must have met the entrance requirements of the University and the College of Arts and Sciences. She must have completed 90 quarter credits in an accredited university or college, together with the required physical education activity courses. Acceptance in the School of Nursing is on a selective basis. These credits must include the following: English 1, 2, 3 (9 credits); Chemistry 3-4 or 5-6, 137 (15 credits); Psychology 1 (5 credits); Sociology 1 (5 credits); Microbiology 101 (5 credits); Home Economics 9 (5 credits); Physical Education 10 (2 credits).

*Group II.* Students in postgraduate nursing curricula must be graduates of approved schools of nursing with a minimum daily average of 100 patients and with services in at least four major fields: obstetrics, medicine, surgery, and pediatrics. Deficiencies in any of these services must be made up. Achievement tests in nursing and basic sciences are required of all graduate nurses upon admission to the School of Nursing. The results of the testing program will be used as a basis for planning the student's individual program.

*Advanced Degrees.* See Graduate School section, page 158.

### Health

All students are required to have a special health examination, chest X-ray, and inoculations for smallpox, typhoid, and diphtheria before hospital entrance or field practice. Defects to be corrected must be cared for by the student at her own expense. Serious physical defects will bar the student from entrance or may terminate her course at any time on recommendation of the health service.

A second physical examination is made by the cooperating teaching hospital before accepting the student. Medical and health care, including hospitalization not to exceed two weeks at any one time, are provided by the hospital. Hospitalization is given subject to institutional rule. No responsibility is assumed in case of illness arising from defects which existed on entrance. Students must request and receive all types of medical care through the nursing office, or must sign a release of the hospital from any responsibility.

### Expenses

With the following exceptions, the expenses for students in the School of Nursing are the same as for all other university students. See pages 73-76.

**Basic Students.** During the ten quarters in the hospital division the student's University tuition is paid from the Nursing Education Fund. In addition, the student receives maintenance in the nurses' residence. She must provide her own uniforms, textbooks, and special supplies.

**Graduate Nurse Students.** During those periods when the graduate nurse student is assigned to a hospital teaching unit she receives a cash salary for nursing service rendered, the amount of which varies depending on the unit to which she is assigned. Maintenance, or cash in lieu thereof, is provided in all hospital units.

**Fellowships, Scholarships, Prizes.** See pages 87-88.

### Curricula

Students entering the School of Nursing may take up curricula in one of two main groups:

- I. Basic course 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.

#### Group I. Basic Course

##### DEGREE: Bachelor of Science in Nursing

The student will enter upon this curriculum after earning 90 college credits, as outlined on page 154.

<i>First Quarter</i>	<i>Credits</i>	<i>Second Quarter</i>	<i>Credits</i>	<i>Third Quarter</i>	<i>Credits</i>
Anatomy 117 .....	3	Physiology 118 .....	3	Nursing 124 .....	5
Physiology 117 .....	3	Anatomy 118 .....	3	Pharmacy 61 .....	3
Physics 70 .....	5	Nursing 1 .....	3	Nursing 123 .....	3
Home Economics 105 .....	5	Nursing 120 .....	5	Nursing 122 .....	3
	<u>16</u>	Pharmacy 51 .....	2	Nursing 121 .....	3
			<u>16</u>		<u>17</u>
<i>Fourth Quarter</i>	<i>Credits</i>	<i>Fifth Quarter</i>	<i>Credits</i>	<i>Sixth Quarter</i>	<i>Credits</i>
Nursing 125 .....	5	Social Work 192 .....	3	Nursing 127 .....	3
Nursing 130 .....	4	Nursing 129 .....	2	Nursing 131 .....	2
Nursing 128 .....	6	Nursing 132 .....	6	Nursing 133 .....	6
	<u>15</u>		<u>11</u>		<u>11</u>
<i>Seventh Quarter</i>	<i>Credits</i>	<i>Eighth Quarter</i>	<i>Credits</i>	<i>Ninth Quarter</i>	<i>Credits</i>
Nursing 141 .....	5	Nursing 139 .....	5	Nursing 138 .....	2
Nursing 134 .....	3	Nursing 140 .....	6	Nursing 142 .....	6
Nursing 145 .....	3		<u>11</u>		<u>8</u>
	<u>11</u>				
<i>Tenth Quarter</i>	<i>Credits</i>	<i>Eleventh Quarter</i>	<i>Credits</i>	<i>Twelfth Quarter</i>	<i>Credits</i>
Nursing 147 .....	5	Nursing 135 .....	3	*Nursing 149 .....	3
Nursing 148 .....	6	Nursing 146 .....	6	Nursing 144 .....	6
	<u>11</u>		<u>9</u>		<u>9</u>

\* Preferred elective.

## Group II. Courses for Graduate Nurses

### DEGREE: Bachelor of Science in Nursing

The programs for graduate nurses are intended to provide a broad general background and to prepare the students for positions of educational and administrative leadership in special fields of nursing. The curricula have been made as flexible as possible in order that the program of the individual student may be adjusted to her educational and professional background and her future needs and interests. A program in which professional, science, and general courses are properly combined is desired, regardless of the major field of interest. Each graduate nurse student will therefore consult with her adviser in the School of Nursing for assistance in planning her program.

Majors are offered in public health nursing, industrial nursing, orthopedic nursing, nursing arts, and teaching and supervision in a clinical specialty. In the latter the student may select one or more of the following clinical services: medicine, surgery, accident and emergency, operating room, obstetrics, pediatrics, psychiatry, tuberculosis nursing and out-patient service.

*General Requirements.* A total of 180 academic credits are required for graduation. From 24 to 48 credits are allowed for graduation from an accredited school of nursing, 6 credits being granted for each major service. The required 180 credits are to be distributed as follows:

	<i>Credits</i>
Upper-division courses in major field.....	45
English 1, 2, 3.....	9
Social science courses, including Soc. 1, Psych. 1.....	15
Science courses.....	25
Electives.....	38
Credit allowed from school of nursing.....	24-48
<b>Total.....</b>	<b>180</b>

Students entering with less than 48 credits from their school of nursing will take additional courses to total 48 credits. These may be taken in any field, according to the student's needs and interests.

### Required Courses in Major Fields

*Public Health Nursing:* Nurs. 160 (5), 162 (5), 163 (5), 164 (6), 167 (3), 168 (5), 195 (3); Public Health 120 (3), 122 (2), 119 (3); Social Work 192 (3).

*Industrial Nursing:* Nurs. 160 (5), 161 (3), 166 (12), 178 (3), 195 (3); Physical Educ. 116 (3); Home Econ. 109 (3); Social Work 192 (3); Public Health 119 (3), 122 (2), 124 (3).

*Teaching and Administration in Clinical Specialties:* Nurs. 150 (5), 151 (5), 152 (5), 154 (10), 155 or 156 or 157 or 158 (3), 161 (3), 195 (3).

*Teaching Nursing Arts:* Nurs. 150 (5), 151 (5), 152 (5), 154 (10), 155 (3), 161 (3), 185 (3), 195 (3); Educ. 101 (3), 147 (3).

*Orthopedic Nursing* (either hospital or public health nursing emphasis is provided): Nurs. 143 (6), 150 or 160 (5), 151 (5), 152 or 190 (5 or 3), 154 or 166 (10 or 12), 161 or 165 (3 or 2), 181 (3), 183 (5), 195 (3); Anatomy 103 (5).

### Certificate Courses

*Certificate in public health nursing.* This certificate requires that 90 credits be earned in five quarters of academic work at the University and one quarter of field work, or in four quarters of academic work and two quarters of field work, depending upon the experience the individual student has had in the public health nursing field. The following courses are required: Nursing 160, 162, 163, 164, 167, 168; Public Health 119, 120, 121; Sociology 1; Social Work 192; Psychology 1.

*Certificate in nursing supervision.* The course in teaching supervision is designed to prepare the graduate nurse for a position as head nurse, supervisor, or instructor, depending upon the individual's previous preparation, experience, and ability.

Four quarters of work—two on the campus and two in the hospital division, or one on the campus and three in the hospital division—are required for the certificate.

**Required courses include: Nursing 150, 151, 152, 154, 155 or 156 or 157 or 158; Psychology 1; Sociology 1.**

**1. PROFESSIONAL PHARMACY CURRICULUM.** (To prepare graduates for the operation and management of retail pharmacies.)

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph. Chem. 5. Quantitative. Gravimetric .....	5	Ph. Chem. 6. Quantitative. Volumetric .....	5	Ph. Chem. 140. Organic Med. Products .....	3
Ph'col. 101. Pharmacol. and Toxicology .....	3	Ph'col. 102. Pharmacol. and Toxicology .....	3	Ph. Chem. 108. Drug Assay .....	3
Ph'cog. 111. Glandular Products .....	3	Ph'cog. 104. Microscopy ..	3	Ph'col. 103. Pharmacol. and Toxicology .....	3
Elective .....	4	Microbiology 101. General ..	5	Ph'cog. 112. Serums, Vaccines and Allergens.....	2
	<u>15</u>		<u>16</u>	Elective .....	5
					<u>16</u>

## FOURTH YEAR

Ph. Chem. 195. Pharm. Chemistry .....	5	Ph. Chem. 196. Pharm. Chemistry .....	5	Ph. Chem. 197. Alkaloids and Toxicology .....	5
Pharm. 182. New Remedies ..	5	Pharm. 114. Adv. Prescrip. ..	5	Pharm. 115. Adv. Prescrip. ..	5
Pharm. 113. Adv. Prescrip. ..	5	Pharm. 118 Ph. Actg....	5	Electives .....	5
	<u>15</u>		<u>15</u>		<u>15</u>

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

## THIRD YEAR

<i>Autumn Quarter</i>	<i>Credits</i>	<i>Winter Quarter</i>	<i>Credits</i>	<i>Spring Quarter</i>	<i>Credits</i>
Ph. Chem. 5. Quantitative. Gravimetric .....	5	Ph. Chem. 6. Quantitative. Volumetric .....	5	Ph. Chem. 108. Drug Assay .....	3
Ph'col. 101. Pharmacol. and Toxicology .....	3	Ph'col. 102. Pharmacol. and Toxicology .....	3	Ph'col. 103. Pharmacol. and Toxicology .....	3
Pharm. 111. Glandular Products .....	3	Ph'cog. 104. Microscopy ..	3	Elective .....	5
Elective .....	4	Microbiology 101. General ..	5	Ph'cog. 112. Serums, Vaccines and Allergens.....	2
	<u>15</u>		<u>16</u>	Ph. Chem. 140. Organic Med. Products .....	3
					<u>16</u>

## FOURTH YEAR

Ph. Chem. 195. Pharm. Chemistry .....	5	Ph. Chem. 196. Pharm. Chemistry .....	5	Ph. Chem. 197. Alkaloids and Toxicology .....	5
Pharm. 182. New Remedies ..	5	Pharm. 114. Adv. Prescrip. ..	5	Pharm. 115. Adv. Prescrip. ..	5
Pharm. 113. Adv. Prescrip. ..	5	Elective .....	5	Elective .....	5
	<u>15</u>		<u>15</u>		<u>15</u>

## THE GRADUATE SCHOOL

Including the Graduate School of Social Work

## ADMINISTRATIVE OFFICERS

Edwin Ray Guthrie, Ph.D. ....	<i>Dean</i>
Verne F. Ray, Ph.D. ....	<i>Associate Dean</i>
Lois J. Wentworth, B.A. ....	<i>Assistant to the Dean</i>

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

*The Aims of Graduate Study.* The principal aims of graduate study are the development of intellectual independence through cultivation of the scientific, critical, and appreciative attitude of mind, and promotion of the spirit of research. The graduate student is therefore thrown more largely upon his own resources than the undergraduate and must measure up to a more severe standard. The University is consistently increasing the emphasis on graduate work.

*Organization.* The Graduate School was formally organized in May, 1911. The graduate faculty consists of those who are active in creative research or who are teaching courses for graduate credit with specific reference to research training or who are supervising graduate research.

### General Information

Three classes of students are recognized in the Graduate School:

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

*Admission.* A graduate of the University or any other institution of good standing will be admitted to the Graduate School. Before being recognized as a candidate for a degree, however, a student must (1) present a "B" average for his last year of college work, (2) take the Graduate Record Examination, and (3) 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. If the applicant's average for the senior year is below "B," he must attend the University for a quarter with an average of "B" or better before he can begin or resume residence credit toward an advanced degree. During this quarter he must carry a minimum of twelve credits. None of the courses taken may apply on the program for an advanced degree. Unless the committee is already sufficiently acquainted with the candidate's capacity and attainments, there shall be a conference of the committee and the candidate, the purpose of which is twofold:

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

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

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

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

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

*Registration.* With the exception of students in law, medicine, and dentistry, all students who have bachelor's degrees must register with the Graduate School after their programs are approved by the department concerned.

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

*Students on the Staff.* Assistants, associates, or others in the employ of the University are normally permitted to carry a maximum of six credits of graduate work if full-time employees, and a maximum of eleven credits of graduate work if half-time employees. The same regulation applies to teachers in the public schools.

*Graduate Study in the Summer.* Many departments offer graduate courses during the summer quarter, but these are addressed primarily to the candidates for the master's degree. Candidates for the doctorate are in general encouraged to devote the summer to work upon the thesis.

*Disqualification of Credits.* After a lapse of ten years any course taken for an advanced degree becomes outlawed.

### Commencement

All candidates for advanced degrees must attend the Commencement exercises to receive their degrees in person, unless excused by the Dean of the Graduate School.

## Degrees

**DOCTOR OF PHILOSOPHY.** Graduate students will be received as candidates for the degree of doctor of philosophy in such departments as are adequately equipped to furnish the requisite training. This degree is conferred only on those who have attained proficiency in a chosen field and who have demonstrated their mastery by preparing a thesis which is a positive contribution to knowledge.

The requirements for the degree of doctor of philosophy are as follows:

1. At least three years of graduate work, of which not less than one undivided academic year must be spent in residence at the University of Washington. No quarter of less than nine registered credits, exclusive of thesis, may be counted for residence. In cases of transfer from other institutions, a minimum of 45 quarter credits, exclusive of the thesis, must be taken at the University of Washington.

2. Completion of courses of study in a major and one or two minor subjects. This requirement as to the number of minors, however, may be modified or waived at the recommendation of the major department and with the approval of the Dean of the Graduate School. Three times as many grade points as credits must be earned in the major and in the minors separately, work receiving the grade of "S" not to be counted toward a major or minor until the final examination.

3. Evidence of a reading knowledge of scientific French and German or of such other languages as individual departments may require. Certificates of proficiency in these languages, based upon examinations given at the University of Washington, must be filed with the Dean not less than three months before the qualifying examination. Substitutions for French or German are subject to the approval of the Dean of the Graduate School; substitutions requested for both French and German must be approved by the Graduate Council.

4. Examinations:

*The Qualifying Examination*, given not earlier than the end of the second year and not less than two quarters before the final examination, consists of an oral, or written, or oral and written examination covering the general fields and the specific courses in the major and minor fields. In so far as the examination is oral, it shall be before a committee (appointed by the Dean) of not less than three representatives of the major department, not less than one representative of each minor department, and a representative of the Graduate Council.

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

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

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

Two copies of the thesis in typewritten form (or library hand) shall be deposited with the librarian for permanent preservation in the University archives at least three 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.

Such theses as shall be designated by the Council and accepted by the Graduate Publications Committee 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.

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 pre-



sent to the Dean at least two weeks before graduation. This statement must bear the signature of all major and minor instructors in charge of the student's work, and of the committee appointed by the major department to pass on the thesis.

The **MASTER OF ARTS** degree is granted to those whose work lies in the field of the liberal arts. The thesis, if not an actual contribution to knowledge, is concerned with the organization and interpretation of the materials of learning. The **MASTER OF SCIENCE** degree is granted to those whose work lies in some province of the physical or biological sciences, either pure or applied. The thesis for this degree, however, must be an actual contribution to knowledge.

*Requirements for these degrees:*

1. At least three full quarters or their equivalent spent in undivided pursuit of advanced study. No quarter of less than nine registered credits, exclusive of thesis, may be counted for residence. Graduate work done elsewhere must pass review in the examination, and shall not reduce the residence requirement at this University.

2. Completion of a course of study (subject to departmental requirements) in a major and one or two minor subjects, or in a major and advanced supporting courses with the approval of the major department and the Dean of the Graduate School, and of a thesis which lies in the major field. The work in the major and minor subjects shall total not less than 36 credits of which 24 are usually in the major. The thesis normally counts for 9 credits in addition to the course work. Three times as many grade points as credits must be earned in the major and in the minor separately, work receiving the grade of "S" not to be counted toward a major or a minor until the final examination.

The requirement of a minor or minors may be waived but only on recommendation of the major department and with the consent of the Dean of the Graduate School.

A total of nine quarter credits may be allowed on the program for the master's degree either in transfer from another institution or in extension class courses or in credit by examination, or the nine credits may be distributed among the three, subject to the approval of the department concerned.

Elementary or lower-division courses and teachers' courses may not count toward either the major or minor requirements.

3. A reading knowledge of an acceptable foreign language is required for the degrees of master of arts and master of science. If the major for the master of arts degree is in the field of a foreign language, a reading knowledge of a foreign language other than the major must be presented. Students are responsible for acquainting themselves at the Graduate School office with the exact dates when the language examinations are given.

4. An oral, or written, or oral and written examination in both the major and minor subjects, given by a committee consisting, so far as feasible, of all the instructors with whom the student has worked. If division of opinion exists among the examiners, the case shall be decided by the Graduate Council.

5. The candidate's thesis must be approved by a committee of the major department; the instructor in charge of the thesis shall be a member of this committee. If the committee is divided in opinion, the case shall be decided by the Graduate Council. At least three weeks before the date on which the candidate expects to take the degree, two copies of the thesis shall be deposited with the librarian for permanent preservation in the University archives. Printed instructions for the preparation of thesis manuscripts are available at the library. The cost of binding for one copy must be deposited with the thesis.

6. A statement certifying that all courses and examinations have been passed, and that the thesis has been accepted and properly filed in the library, shall be presented to the Dean at least two weeks before graduation. This statement must bear the signature of all instructors in charge of the student's work, and of the instructor in charge of the thesis.

The degrees of **MASTER OF ARTS** and **MASTER OF SCIENCE** in a particular field are given in the following technical subjects: aeronautical engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering, ceramic engineering, ceramics, coal mining engineering, geology and mining, metallurgy, metallurgical engineering, mining engineering, forestry, home economics, mathematical sta-

tistics, music, nursing, pharmacy, physical education, and regional planning. These degrees are designed for students who have taken the corresponding bachelor's degrees in technical subjects. The requirements are essentially the same as those for the degrees of master of arts and master of science, except that in most of these subjects no foreign language is required. Special departmental requirements appear below.

The degree of *MASTER* in a particular field is given in the following technical subjects: business administration, education, fine arts, forestry, nursing, and social work. The requirements for these degrees are essentially the same as those for the degrees of master of arts and master of science, except that all the work is in the major or closely correlated with it and no foreign language is required. (See departmental write-ups.)

For professional degrees offered in the College of Engineering and the College of Mines, see pages 166 and 170.

### Departmental Requirements

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

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

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

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

### Special Requirements in Certain Departments

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

**BIOCHEMISTRY.** In order to pursue work toward advanced degrees in biochemistry a student must have satisfied the undergraduate requirement for a degree of Bachelor of Science in Chemistry as outlined in the College of Arts and Sciences. The course to be followed will be discussed with each student upon filing his application.

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

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

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

1. For the *Master of Arts* in economics, the special requirements are as follows:
  - a. A broad preparation in the allied social sciences.
  - b. Completion of a course of study in three fields arranged in consultation with the student's advisory committee. One of the fields shall be economic theory. If a field is selected outside of economics and business, a minimum of 12 credits of approved graduate work in that field is necessary in addition to satisfying the background requirements prescribed by the minor department.

With such a minor, at least 10 credits of the required work in economics and business must be in courses listed for graduates only.

- c. If all 45 credits are taken in economics and business, 15 of the credits (exclusive of the thesis) shall be in the courses listed for graduates only.
2. For the *Master of Business Administration*, the special requirements are:
  - a. Background subjects must include training in accounting, statistics, and business law. Other background work may be approved or required.
  - b. All of the graduate work must be taken in economics and business, except that the student's committee may permit some course work outside of the department.
  - c. The candidate's examination must cover three fields approved by his advisory committee.
  - d. At least 15 credits must be in advanced work (exclusive of thesis) listed for graduates only or in research courses numbered 190-199, provided that not more than 10 credits of the 15 may be in research courses. When credit in research courses is given to fulfill these graduate requirements, the amount and quality of the work must be significantly above that of the undergraduate level established in the same courses. Graduate credit for a research course will not be given (1) if the course has been taken by the student as an undergraduate, or (2) if there is a graduate seminar in the same field.
3. Candidates for the master's degree with economics and business as a minor shall present a background of at least eighteen approved credits in economics and business. In addition, the candidate must present not less than twelve credits in approved advanced courses in economics and business.
4. For the degree of *Doctor of Philosophy* the candidate is expected to concentrate his graduate work in at least four specific fields, to be determined in conference. Economic theory, considered historically and critically, shall always be included. Candidates whose major and minor are both in economics and business must select five fields. The following fields are recognized for this purpose: (1) economic theory and history of economic thought, (2) monetary credit and credit institutions, (3) international economic policies, (4) marketing, (5) public finance and taxation, (6) public utilities and transportation, (7) labor and consumption, (8) accounting and management. In order to develop a program of work which best meets the needs of the individual student it may be necessary to require the election of courses in other departments, which may be counted in one of the candidate's fields but which are not alone of sufficient number to constitute a separate field.
5. A candidate for the doctor of philosophy degree who presents one minor which is in economics and business shall have a background of at least 35 approved credits in the field which he has selected. In addition to this, he must present for graduate credit not less than six approved courses in economics and business. The background subjects and graduate courses together must be adequate to give a satisfactory knowledge of the field.

A candidate for the doctor of philosophy degree who presents two minors, one of which is in economics and business, must have a background of at least 18 approved credits in the field which he has selected. In addition to this, he must present for graduate credit not less than three approved courses in economics and business.
6. Students in economics and business desiring to specialize in far eastern can do so by taking their major fields in economics and business and a minor in one of the other fields under the direction of the Far Eastern Institute. The programs will be arranged for individual students according to their backgrounds and interests.

**EDUCATION.** The department of education offers four advanced degrees, the *Master of Arts*, the *Master of Education*, the *Doctor of Philosophy*, and the *Doctor of Education*. Graduate work in education presupposes preparatory training of a minimum of twenty credits in education and a satisfactory grade point.

1. The requirements for the major in education for the degree of *Master of Arts* include Educ. 291 and at least ten credits in each of two educational fields, to total 27 credits in education. Students must also register for thesis which counts for six additional credits.

The minor requires a minimum of twelve additional credits of graduate work in a department other than education.

2. For admission to candidacy for the degree of *Master of Education*, a student must have completed at least two years of successful teaching or administrative experience. The requirements for the degree are:

- a. The completion of at least one course in six of the following fields of education:

- |   |   |
|---|---|
| A. Educational psychology                     | G. History and philosophy of education in comparative education |
| B. Educational sociology                      | H. College problems   |
| C. Educational administration and supervision | I. Curriculum   |
| D. Elementary education                       | J. Guidance and extracurricular activities                      |
| E. Secondary education                        | K. Remedial and special education                               |
| F. Classroom techniques                       |   |

- b. Specialization in two or more fields (selected from the six fields required above), so that the total credits in education, including the thesis and the required course (Educ. 291), shall be not less than thirty-six credits.
- c. The completion of a minimum of eighteen credits of advanced courses outside the department of education. Of these eighteen credits at least five must be in strictly graduate courses.
3. The special requirements for the degree of *Doctor of Philosophy* with a major in education are:
  - a. Completion of seventy credits in graduate courses in education, including Educ. 287, 288, 289 (five to nine credits), 290, and 291.
  - b. Specialization in three educational fields (see list of fields under *Master of Education*, 2a), with approximately fifteen credits in each field.
  - c. A thesis of thirty to forty-five credits.
  - d. One minor in a department other than education with thirty-five credits in graduate courses, or two minors in allied departments with twenty credits of graduate work in each.

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

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

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

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

- (a) One major field (twelve to fifteen credits)
- (b) Three minor fields (six to nine credits in each)
- (c) Education 191 or 290, 291, and 287
- (d) Electives in education to total sixty credits

- (2) A minimum of 45 quarter credits of related work in departments other than education. These courses must be approved by the candidate's committee and shall be distributed among the following four groups:

- (a) Arts and Letters (nine to fifteen credits)
- (b) Science and Mathematics (nine to fifteen credits)
- (c) Foreign Language (nine to fifteen credits)
- (d) Social Sciences (nine to fifteen credits)

- (3) A thesis representing the equivalent of two full quarters' work (thirty credits).
- b. At least nine quarters of full-time graduate work are required, and at least three quarters must be spent in continuous residence at the University.
- c. Qualifying examinations, both oral and written, are to be taken at least six months before the granting of the degree; the final examination, written and/or oral, at least two weeks before the degree is granted.

Advanced degree candidates in education who are working on theses must be registered for "thesis" unless specially exempted by the Dean of the College of Education. This registration should be for the period during which the thesis is being prepared under the direction of a major professor.

**ENGINEERING.** A graduate of the College of Engineering of the University of Washington, or of any other engineering college of equal standing, will be permitted to enroll for the degree of *Master of Science* in the respective engineering departments, provided the grade average of his last year of undergraduate work (not less than 45 quarter credits) be not less than "B" (3.0). At the discretion of an examining committee, any candidate from another university may be required to take a preliminary qualifying examination.

The several departments of the College of Engineering are empowered to award the degree of *Master of Science* to properly qualified candidates who satisfy the requirements for this degree as given in the curricula of the departments of Engineering. Requirements for the degree are:

1. A minimum of three quarters must be spent in residence at this University as a graduate student.

2. At least 45 quarter credits must be earned. Of these not more than nine quarter credits may be allowed on the program for the master's degree in credits earned (a) at another institution, (b) by advanced credit examination, or (c) in extension courses. The nine credits may be distributed among (a), (b), and (c) in any manner that meets the approval of the department concerned.

3. The average grade point for all courses submitted for the degree must be 3.0. This grade point average must be maintained in the major and minor separately. Courses passed with a grade of "D" may not be counted.

4. No foreign language is required for the *Master of Science* degree in the College of Engineering.

5. The thesis for this degree must be an actual contribution to knowledge and must be approved by a committee of the major department; the instructor in charge of the thesis shall be a member of this committee. If the committee is divided in opinion, the case shall be decided by the Graduate Council. The library requirements for the thesis and certification thereof are the same as those for the degrees of master of arts and master of science.

6. The candidate must pass an oral, or written, or oral and written examination in the major subject and thesis. The examination shall be given by a committee consisting, so far as possible, of all of 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. Graduate work in the major field which was done elsewhere shall be included in the examination.

The degrees of *Master of Science in Regional Planning* or *Master of Arts in Regional Planning* are offered by various departments of the University in cooperation. Applications should be made directly to the chairman of the curriculum in Regional and Resource Planning, Professor Richard G. Tyler. A reading knowledge of a foreign language is required for each of these degrees.

Civil Engineering graduates will be held for the following preparatory courses: Math. 13; Political Science 1; Sociology 150. Graduates with social science majors should have had Econ. 1-2; Geog. 7, 102, 160; Math. 13; Political Science 1; Psychology 1; Sociology 1; and Speech 40.

The program for the advanced degree includes Architecture 138, Civil Engineering 125 and 153, Economics and Business 109, 171, and 181, Geography 170 and 220, Political Science 164, and Sociology 144 and 155. The thesis will normally be worked out during a summer period of approved research or practice, preferably with an established planning commission.

The foreign language requirement should be satisfied before the graduate year.

NOTE: A limited number of credits selected from the following approved list of courses may be substituted for required courses with the approval of the professor in charge of the curriculum: Sociology 131, 165, 190; Social Work 254; Political Science 61; Law 104; Forestry 65, 126, 158; Economics and Business 143, 144, 145, 172; Civil Engineering 150, 152.

PROFESSIONAL DEGREES. The College of Engineering offers the professional degrees, *Aeronautical Engineer*, *Chemical Engineer*, *Civil Engineer*, *Electrical Engineer*, and *Mechanical Engineer* to graduates of this college who hold the degree of bachelor of science or master of science in their respective departments, who give evidence of having been engaged continuously in responsible engineering work for not less than four years, of which at least three years shall have been in the supervision of engineering projects, who are at least thirty years of age, and who present satisfactory theses.

In general, responsible engineering work shall be interpreted to mean work equivalent to that required for membership in the national founder engineering societies. Teaching experience shall count in lieu of professional experience in the same ratio as now recognized by the professional societies, provided that a minimum of two years of acceptable engineering work other than teaching be included.

Application for a professional degree may be made at any time and shall be accompanied by an exact statement of the applicant's record since graduation. The department concerned shall pass upon the application and select the thesis committee. Final recommendations for or against granting the degree will be based on the finished thesis. If the applicant has rendered special services to his profession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized standing. The candidate must submit two copies of his thesis in final form at least one month before the date on which theses for advanced degrees are deposited in the library. Action will be taken by the faculty of the College upon recommendation of the proper department.

ENGLISH. Candidates for the master's degree with a major in English are required to offer the equivalent of an undergraduate major in English at the University of Washington. Candidates for the master's degree with a minor in English must present sufficient undergraduate work in English so that this work plus the graduate minor in English shall be the equivalent of an undergraduate major. Recommendation by the department of English requires at least ten credits earned in English at the University of Washington.

Candidates for the master's degree with a major in English language and literature are required to present a thesis, a minor, and thirty credits which shall include English 201, 202, and either English 203, 214, or 230, and ten credits in a continued seminar plus five in an advanced elective course in English. The graduate minor in English shall include nine 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 an upper division year-course in advanced writing as the required graduate year-course. An original, complete work cannot be substituted for the research thesis unless recommended by the teacher in charge of the year-course in advanced writing and unanimously approved by a committee of three English faculty members appointed by the Executive Officer of the Department of English. The minor in composition may be in any upper division year-course in composition. The minor in composition may offer either English 156, 157, 158; or 184, 185, 186; or Journalism 173, 174-175.

The major and minor should be not only in related subjects but in related fields of the subjects chosen. Majors and minors may be taken in each of the divisions of English. All the work presented for the master's degree may be from one division of English if the student's previous training includes a broad selection of courses from other disciplines than English.

One research paper by a candidate for the master's degree must be filed with the graduate committee to be part of the evidence used in granting the degree.

For the degree of *Doctor of Philosophy* the candidate must present (1) a reading knowledge of Latin to be satisfied by previous courses in Latin or by examina-

tion during the first year of graduate study; (2) Old English to be taken in class; (3) Middle English to be taken in class.

1. For the major in English the student must take at least 60 credits, not more than nine of which may be offered from courses that number below 200 and of which at least ten credits must be in Old English and ten in a seminar in each of three periods. The limitation of nine credits below 200 does not apply to courses in English language or public speaking or to technical courses in drama.

2. For one minor, the student must take 30 credits, or for two or more minors, he must take 15 credits in each.

3. In addition he is to take such other courses as are necessary to support the thesis.

The qualifying examination for this degree is to be passed one year before the candidate takes his degree, and is divided into definite parts.

1. Written examination on the period of the thesis and two related or adjacent periods.

2. Oral examination shall be of three parts; lecture or discussion, the minor, and general questioning.

a. On the day of the oral examination one and one-half hours before the hour set, the candidate is given questions or topics on the periods of English and American literature not treated in the written examination. From these questions or topics he shall choose three, and using one-half hour each without bibliographical aid, prepare a lecture or discussion for each of the three chosen. These discussions are then presented to the graduate faculty of the department at the beginning of the oral examination.

b. Then follows the minor examination in the form desired by the minor department.

c. General questioning on the written examinations, the lectures, or any other period of literature will close the examination.

3. The Old English language requirement may be satisfied by special examination immediately after the courses in the field have been finished or at the time of the preliminary examination either by oral or by written test.

**FAR EASTERN.** The Far Eastern Institute arranges for the degrees of *Master of Arts* and *Doctor of Philosophy* to be taken in most of the social sciences and humanities with special concentration on the Far East. A Far Eastern language is usually substituted for one of the European languages normally required. In some departments both languages may be Far Eastern. The theses are supervised by the Institute and the department concerned.

The Far Eastern department offers the degrees of *Master of Arts* in Far Eastern languages and literature. The candidate elects a linguistic major—Chinese, Russian, or Japanese—and offers a minor in certain prescribed courses in the field of Chinese, Russian, or Japanese studies.

All candidates for graduate degrees must fulfill the department's requirements for an undergraduate degree before work will be counted toward a graduate degree.

Candidates for the degree of *Master of Arts* in Far Eastern languages and literature must offer a total of 30 credits in either Chinese, Japanese, or Russian language courses, of which 20 credits must be in graduate courses, plus an additional 25 credits in Far Eastern subjects. The thesis shall count from four to nine credits.

All candidates for graduate degrees in Far Eastern studies must offer a satisfactory knowledge, sufficient for research purposes, in the language of the area of their specialization.

Candidates for the degree of *Master of Arts* in Far Eastern studies must have a minimum of 45 upper-division credits in Far Eastern subjects, exclusive of undergraduate Far Eastern language courses, including eight credits in F.E. 220, 221, or 222. If the area major is in Chinese, the candidate must offer three credits in F.E. 210, 211, or 212. The thesis shall count from four to nine credits.

**FORESTRY AND LUMBERING.** The candidate for the degree of *Master of Forestry* must earn a minimum of 45 credits in forestry taken beyond the bachelor's degree. For the degree of *Master of Science in Forestry* the candidate must present a minor in a science. Only grades of "A" and "B" can be accepted.

**HISTORY.** To begin graduate work the student should have completed an undergraduate major, or its equivalent, in history. Deficiencies in this knowledge will be made up by taking appropriate undergraduate courses, a process that will almost certainly delay the award of the degree. A reading knowledge of one modern foreign language is required.

For the degree of *Master of Arts* a minimum of 45 credits is to be taken in history, no minor being required. From four to nine credits will be allowed for the thesis. The candidate must complete History 201 and 202, one seminar, and *graduate* courses in three fields selected for special study. The fields will cover a brief period or a restricted topic on which the student will be expected to acquire an intensive knowledge of the scholarly literature and the sources. One field will be chosen from one subject in each of the following divisions:

*Division I:* Ancient History; Roman Law; Medieval History; Renaissance History

*Division II:* Modern European History; English History; British Empire

*Division III:* American History

Preparation for a minor in history for the degree of *Master of Arts* when the major is in another department shall be an undergraduate minor in history at the University of Washington, or such undergraduate preparation as the department shall deem satisfactory.

For the graduate minor for the degree a minimum of fifteen credits in history shall be taken, of which ten must be in one historical subject and the other five must be in History 201 or 202.

For the degree of *Doctor of Philosophy* an undergraduate major, or its equivalent, in history, is a prerequisite. A reading knowledge of French and German will be required before the student may take the qualifying examination as a candidate for the degree.

The degree of *Doctor of Philosophy* is not to be attained by passing any stipulated number of courses. It is granted to students who, having a broad and thorough knowledge of history and the historical literature, show a rich and intimate knowledge of the subjects in which they have specialized and who contribute to historical knowledge by writing a thesis containing the results of their independent research.

As a part of their preparation for the degree all students will complete History 201 and 202 and at least two years of seminar work, will participate in the work of the advanced seminar, and will take at least four graduate courses in the fields chosen for special study. These four fields will be selected, after consultation with the department, from at least one subject in each of the following divisions:

*Division I:* Ancient History; Roman Law; Medieval History; Renaissance History

*Division II:* Modern European History; English History; British Empire

*Division III:* American History

In addition to these fields in history each student will be expected to complete a minor in another department.

For the minor in history when the major is in another department, the department will accept only those students whose preparation is deemed adequate. The candidate must complete History 201 and 202 and either a seminar or three fields selected from subjects in at least two Divisions.

**FOR STUDENTS SPECIALIZING IN FAR EASTERN HISTORY.** It will be expected that students will have had at least the equivalent of an undergraduate minor in history. The other requirements are, in general, the same as those above, with the following exceptions:

Students seeking the *Master of Arts* degree need to complete only one quarter in historiography, either History 201 or 202; and will in addition prepare to pass examinations in two fields of special study. The rest of the work will be arranged by consultation with the Far Eastern department.

Students seeking the *Doctor of Philosophy* degree must—to be accepted—have had the equivalent of an undergraduate minor in history. They will be expected to



take History 201 or 202, to complete one seminar, and to prepare for examinations in two fields of special studies. The balance of their program will be arranged by consultation with the Far Eastern department. A Far Eastern language may be substituted for either French or German.

**HOME ECONOMICS.** The department offers the following advanced degrees:

(1) *Master of Arts* or *Master of Science* for which a reading knowledge of a language and a minor in an allied field are required. The *Master of Arts* is attained by work in textiles and clothing, the *Master of Science* by work in foods and nutrition. The work in each field may be combined with home economics education or family economics. (2) *Master of Arts in Home Economics* or *Master of Science in Home Economics* for which all the work may be done in home economics; or advanced courses in art, in economics, in the biological, physical, or social sciences, or in similar allied fields may be chosen in support of the selected home economics field, the total number of these credits not to exceed 12. For these degrees the student must present undergraduate preparation, in home economics and basic fields, acceptable to the staff. A reading knowledge of a foreign language is not required.

Two fields of postgraduate training are offered for graduates in institution administration. One is the dietitian internship which is given in hospitals throughout the country. A limited number of commercial apprenticeships are also available. Both are one year in duration and are endorsed by the American Dietetic Association.

A limited number of internships for administrative dietitians is provided at the University of Washington for graduates of institution administration. Students of this and other colleges may apply for appointment after completion of 195 credits. This course has been inspected and approved by the American Dietetic Association and is under the supervision of the Business Director of Dining and Residence Halls. Field work includes six months in the University Commons and Residence Halls; three months in a commercial restaurant in the downtown business district; and three months in an industrial lunch room.

**JOURNALISM.** Although graduate work in journalism may be undertaken by students holding a bachelor of arts degree, or its equivalent, no degree other than that of bachelor of arts in journalism is granted. Qualified students may elect journalism as their minor field, when the major in which they plan to take their advanced degree is in an acceptably related field.

**MATHEMATICS.** The candidate's undergraduate preparation in mathematics shall consist of courses at least through the calculus, and in no case shall his total credits fall short of an undergraduate major in mathematics or equivalent. Courses beginning with Mathematics 111 may be applied on the program for an advanced degree.

*Master of Arts.* Certain courses intimately related to the elementary field and designed primarily for high school teachers are open in the summer and may be offered toward this degree.

*Master of Science.* The candidate must present a minimum of 33 approved credits in mathematics, including the thesis. The course work must include at least six credits in each of the fields of algebra, analysis, and geometry.

The minor in mathematics for the master's degree requires at least twelve credits satisfactory to the department, at least nine of which shall be taken in residence.

*Master of Science in Mathematical Statistics.* The undergraduate preparation shall consist of courses in mathematical statistics through Chi-Tests or equivalent. The candidate must present a minimum of 33 approved credits in mathematics, including the thesis. This work must include at least 15 credits in graduate courses in mathematical statistics.

*Doctor of Philosophy.* In addition to the requirements of the Graduate School, the department stipulates that the qualifying examination of the candidate shall cover the fundamental aspects of analysis, geometry, and algebra, together with a searching review of the field of the student's special interest.

A minor in mathematics for the degree of *Doctor of Philosophy* requires a minimum total of 33 approved credits, which may include acceptable courses beyond calculus taken as an undergraduate, but which shall include at least six credits in each of the fields of algebra, analysis, and geometry. For a partial minor, fifteen approved credits constitute a minimum.

**MINING, METALLURGICAL, AND CERAMIC ENGINEERING.** The degrees of *Master of Science in Mining, Metallurgical, and Ceramic Engineering*, respectively, will be conferred upon graduates of the College of Mines or of other engineering colleges of recognized standing, who comply with the regulations of the Graduate School and pass a formal examination open to all members of the faculty.

The degree of *Master of Science in Ceramics* may be conferred upon a graduate from a college of recognized standing provided his undergraduate preparation includes suitable courses in science and ceramics but does not meet the requirements of the engineering degrees granted in this college.

The College of Mines may award the degree of *Master of Science* to properly qualified candidates, subject to the requirements of the Graduate School for that degree.

Mining and metallurgical research is under joint direction of the United States Bureau of Mines and the College of Mines. Credit is allowed for research carried on during the summer months.

**PROFESSIONAL DEGREES.** The College of Mines offers the professional degrees, *Engineer of Mines, Metallurgical Engineer, and Ceramic Engineer* to candidates who present evidence of five years of professional experience in the proper field after receiving a bachelor's or master's degree from this college, who have spent four years in a directive or supervisory capacity in that field, and who present satisfactory theses.

In general, responsible engineering work shall be interpreted to mean work equivalent to that required for membership in the national founder engineering societies. Teaching experience shall count in lieu of professional experience in the same ratio as now recognized by the professional societies, provided that a minimum of two years of acceptable engineering work other than teaching be included.

Application for a professional degree may be made at any time and shall be accompanied by an exact statement of the applicant's record since graduation. The department concerned shall pass upon the application and select the thesis committee. Final recommendation for or against granting the degree will be based on the finished thesis. If the applicant has rendered special services to his profession by accomplishments of undisputed merit, the thesis may be waived upon presentation of articles describing such work in publications of recognized standing. The candidate must submit two copies of his thesis in final form at least one month before the date on which theses for advanced degrees are deposited in the library. Action will be taken by the faculty of the college upon recommendation of the proper department.

**MUSIC.** Candidates for the degree of *Master of Arts in Music* must demonstrate proficiency in piano, sight reading, and melodic and harmonic dictation. The requirements for the three programs offered follow:

**Major in Composition:** (1) the equivalent of all music courses now required for the bachelor of arts in music with a major in composition; (2) twenty-five credits in graduate composition, which shall include one composition for a chamber music combination, one for orchestra or symphonic band, one for chorus, and the thesis; (3) twenty credits in approved electives.

**Major in Musicology:** (1) a bachelor's degree with the equivalent of 36 credits in upper-division music courses, including twelve credits in music history and literature; (2) ten credits in upper-division composition; (3) fifteen credits in approved electives in music or related fields; (4) twenty credits in approved seminars and research including the thesis; (5) a reading knowledge of either French or German.

**Major in Music Education:** (1) a bachelor's degree with the equivalent of all music courses now required for the bachelor of arts in music with a major in music education; (2) two years of approved teaching experience, of which one must precede the graduate courses in music education; (3) eighteen credits in seminars and research in music education, including the thesis; (4) fifteen credits in approved music courses; (5) twelve credits chosen from approved upper-division courses.

Requirements for a minor in music when the master's degree is in another department: twelve credits chosen from approved upper-division music courses.

**NURSING.** Graduate work in nursing is offered with a major in the fields of (1) administration in schools of nursing, (2) teaching and supervision, and (3) public health nursing.

For the degree of *Master of Nursing* the minor must be chosen from allied fields, such as the social sciences, education, or home economics. If the degree of *Master of Science in Nursing* is desired, the minor is to be in the fields of biological or physical science, such as physiology, anatomy, microbiology, or chemistry.

A reading knowledge of a foreign language is required for the degree of *Master of Science in Nursing* but not for the degree of *Master of Nursing*.

**PHARMACY, PHARMACEUTICAL CHEMISTRY, PHARMACOLOGY, TOXICOLOGY, MATERIA MEDICA, AND FOOD CHEMISTRY.** The department of pharmacy offers the degrees of *Doctor of Philosophy* and *Master of Science in Pharmacy*. For the master's degree not less than twenty credits shall be taken in pharmacy. At least twelve of these must be earned in a research problem and the preparation of a thesis. Not more than 25 credits are accepted in courses from other departments.

**PHYSICAL EDUCATION AND HYGIENE.** The degree of *Master of Science in Physical Education* conforms to the general requirements.

For a minor in physical education for the master's degree, the student must present a minimum of twenty-six preparatory credits in physical education and a course in physiology, and must offer at least twelve credits in advanced courses.

**POLITICAL SCIENCE.** The Institute of Public Affairs under the Department of Political Science offers a two-year professional curriculum leading to the degree of *Master of Public Administration*. The purpose is to prepare persons for administrative positions in the public service, rather than to train technical specialists, teachers or research technicians.

The program consists of instruction in six fields: the administrative process, the development of American institutions, the economics of public activity, public law, public management, and administrative problems. Three of these fields are studied in each year of the two-year program. A thesis is not required. Each student undertakes the analysis of various problems in each of the indicated fields and will be expected to complete successfully an approved internship during the summer quarter between the first and second years.

The program will be limited to a small group of college graduates who show special promise of success in the public service as judged by high intellectual ability, seriousness of purpose, personality, and personal integrity. A broad educational background in the social sciences is desired.

**PUBLIC OPINION LABORATORY.** The Washington Public Opinion Laboratory was established in 1947 as an interdepartmental graduate institute for research in the social sciences. The research involves a statewide interviewing staff and a statistical staff measuring the opinions, behavior, and conditions in samples of the population. It is a joint Laboratory between the University and the State College of Washington with an office in Seattle and another in Pullman. Each graduate student is appointed a supervisor of a survey which is his M.A. or Ph.D. thesis, so that he receives laboratory training in testing hypotheses and in conducting controlled experiments in the course of basic, methodological, or civic research. The Laboratory arranges with the various social science departments an interdepartmental program of courses which constitutes a minor for M.A. and Ph.D. degrees.

*Requirements for a graduate minor.* Any holder of the B.A. or B.S. majoring in sociology, psychology, anthropology, economics, political science, statistics, education, journalism, or social work may minor in public opinion for a higher degree. This minor requires:

- a. That the thesis of the student's major be executed in the Public Opinion Laboratory;
- b. Completion of at least 36 hours of credit for the M.A., or 60 hours for the Ph.D., in courses in the sphere of work of the Public Opinion Laboratory, including completion with credit of all courses listed below, except those which were taken as an undergraduate, provided that such undergraduate credits may be used to

reduce the total hour requirement by an amount not to exceed 18 hours for the M.A. and 30 hours for the Ph.D.;

- c. Completion of additional hours to make up the required total in courses which shall be designated (from the list published by the Public Opinion Laboratory) by the student's committee at the time of his admission to candidacy.

**Required Courses:**

Sociology 100.	General Sociology. (5)
(Students having had Soc. 1 are exempt.)	
Sociology 175, 176, 177.	Systematic Sociology. (3, 3, 3)
Sociology 162	Public Opinion. (3)
or	
Psychology 145.	Public Opinion Analysis. (3)
Sociology 132	Methods of Sociological Research. (5)
or	
Psychology 127.	Tests and Measurements. (5)
Sociology 291, 292, 293.	Field Studies. (5, 5, 5)
Psychology 108.	Statistical Methods. (5)
(Students having had Soc. 31, Math. 13, or E. & B. 60 are exempt.)	
Sociology 138.	Advanced Social Statistics. (5)
Philosophy 193.	Advanced Logic. (5)

**ROMANCE LANGUAGES AND LITERATURE.** For the degree of *Master of Arts* with a major in one of the Romance languages, the thesis must be submitted to the department *four weeks before the end of the quarter in which the degree program is to be completed*. All students will find a knowledge of Latin particularly helpful.

For the degree of *Doctor of Philosophy* entirely within the department, the requirements are: (1) the history of two Romance languages; (2) the history of three Romance literatures, as outlined in the syllabi provided by the department; and (3) a knowledge of Latin. Acquaintance with some principal masterpieces of other literature is strongly recommended, as essential for historical and aesthetic perspective. In cases where a minor is added from another department, representative masterpieces of three Romance literatures must be included in the requirements. In cases where a Romance language is used as a minor for the doctor's degree, the requirements are at least the same as for the undergraduate major in that language.

**GRADUATE SCHOOL OF SOCIAL WORK.** For information concerning the Graduate School of Social Work, see pages 173-174.

**SOCIOLOGY.** Majors for the degree of *Master of Arts* are required to take 24 credits of advanced work in sociology. At least ten credits of the advanced work must be taken in strictly graduate courses (200 series). Every graduate major shall become a member of the Departmental Seminar for at least one quarter but may receive no more than a total of six credits for work in this course.

Minors are required to offer at least 18 credits in preparation and to take a minimum of 18 credits, of which at least half must be in advanced work, including six credits of strictly graduate courses.

The application for the degree, showing the program of study for fulfilling the above requirements, is to be presented to the chairman of the department before the beginning of the second quarter of residence for graduate work.

The thesis is to be presented to the chairman of the thesis committee six weeks prior to the conferring of the degree. Acceptance is by formal approval of the department. In addition to library copies, one copy of the thesis is to be provided for the department files.

Proficiency in French or German must be certified at least three months before the degree is conferred.

Admission to final examination is made upon written request by the candidate and formal approval of the department. This examination for the major will cover two of the fields of the department, these being selected by the candidate. In addition, there will be an examination in the minor field. Minors in sociology will take a general examination covering the course work.

The fields of specialization include the following: I, Social Theory; II, Collective Behavior; III, Groups and Institutions; IV, Social Statistics and Research; V, Ecology and Demography; VI, Social Maladjustment; VII, a field in a related department (minor).

Before proceeding for the degree of *Doctor of Philosophy*, the degree of *Master of Arts* should normally have been taken. This requirement may be waived by formal action of the department.

Majors are required to take 36 credits of undergraduate and 60 credits of more advanced work in sociology. At least one-third of the graduate work must be in strictly graduate courses. Every graduate major is expected to attend the Departmental Seminar for which not more than a total of six credits can be allowed toward the degree.

Minors are required to take a minimum of 18 credits of undergraduate work and 30 credits of more advanced work, including 12 credits of strictly graduate courses.

A program of study for fulfilling the above requirements is to be presented to the chairman of the department before the beginning of the second quarter of residence for graduate work.

Admission to both preliminary and final examination is made upon written request to, and formal approval by, the department. The written preliminary examination will cover four fields of the department for majors; two fields of the department for minors; these being selected and indicated by the candidate. An oral examination following the written examination may be given at the discretion of the major or minor department.

## THE GRADUATE SCHOOL OF SOCIAL WORK

GRACE B. FERGUSON, *Director*, 501 Thomson Hall

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

**Admission.** Application forms must be secured from the office of the School, 500 Thomson Hall, and confirmation of admission must be received from the School.

Since the facilities for field work limit the number of students to be admitted, applications for admission should be submitted by July 15, on regular forms, with official transcripts of all previous college work completed.

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

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

**Curriculum.** The curriculum is planned to lead to the degree of *Master of Social Work*, and no other certificate or diploma is granted. For the student who enters with the minimum requirements in social and biological sciences, a program is offered for the master's degree covering a minimum of six quarters of work.

A broad first-year curriculum is required of all students. This includes Social Casework, Growth and Development of the Individual (including medicine and psychiatry), Introduction to Public Welfare, Social Statistics, Social Group Work, Social Insurance, Social Welfare Organization, Public Assistance and Related Services, Community Organization for Social Welfare, Social Work Research, and Supervised Field Work.

In the second year, advanced courses are available in the major area of practice, including Family Social Work, Child Welfare, Medical Social Work, Psychiatric Social Work, Public Welfare Administration, Community Organization, Administration of Social Agencies, Social Work as a Profession, and Thesis Research.

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

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

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

*Requirements:*

1. The master's degree is awarded, not on the basis of credits for courses completed, but in recognition of the student's competency in both theory and practice in the field of social work. The comprehensive examination is the test of his competency.

2. Field work, including from 600 to 800 clock hours, depending upon the field of specialization, is taken in conjunction with the appropriate class work.

3. A minimum of three full quarters of work in residence is required. The course requirements ordinarily cover a minimum of eighty-five quarter credits. A reading knowledge of a foreign language is not required.

*Fellowships, Scholarships, Prizes.* See pages 87-88.

*Loan Funds.* The Mildred E. Buck Loan Fund is available for small loans to students. Applications should be made to the Graduate School of Social Work.

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

### SECTION III — ANNOUNCEMENT OF COURSES

### EXPLANATION OF SECTION III

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

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

The four-quarter plan has been adopted to enable the University to render larger service. It is more flexible than the semester plan and adds 11 weeks' instruction to the regular year. It is impossible, however, to provide that every course be given every quarter.

Courses bearing numbers from 1 to 99, inclusive, are normally offered to freshmen and sophomores; those from 100 to 199, to juniors and seniors; and those from 200 upward, to graduate students.

Two or three course numbers connected by hyphens indicate a series of courses in which credit is given only upon completion of the final course in the series, unless the special permission of the instructor is obtained. Such permission is never granted in beginning foreign languages for less than two quarters' work.

Descriptions of courses in each department include: (1) the number of the courses as used in University records; (2) title of the course; (3) number of credits, given in parentheses; a dagger is used in place of a numeral when the number of credits varies; (4) brief description of its subject matter and method; (5) name of instructor.

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



## SECTION III — ANNOUNCEMENT OF COURSES

### ANTHROPOLOGY

*Professors Gunther, Ray; Walker-Ames Professor Covarrubias; Associate Professors Davidson, Jacobs, Kirchhoff; Assistant Professors Garfield, Hulse, Taylor; Instructors Burroughs, Elmendorf*

#### *Elementary Courses Primarily for Freshmen*

- ‡51. **Principles of Anthropology: Race.** (5) Evolution and heredity as applied to man; racial classification and its significance. Staff
- ‡52. **Principles of Anthropology: Social Customs.** (5) Man's social customs, political institutions, religion, art, literature, and language. Staff
- ‡53. **Principles of Anthropology: Prehistory.** (5) Survey of world archaeology. Burroughs, Taylor

#### *Intermediate Courses Primarily for Sophomores*

- 60. **American Indians.** (5) Ethnographic study of the native cultures of North America. Upper-division credit for upper-division students. Gunther
- 63. **Africa.** (5) Prehistory, physical anthropology, and ethnography of native peoples. Upper-division credit for upper-division students. Garfield
- 65. **South America.** (5) The sources and character of South American culture, with special emphasis upon Indian components. Upper-division credit for upper-division students. Kirchhoff
- 66. **Ancient Mexico and Central America.** (5) Descriptive and interpretive survey of the high civilizations of native North America, particularly of the Maya and the Aztec. Covarrubias
- 91. **Theories of Race.** (2) Survey of human heredity; racial history; race differences. Not open to students who have had 51 or 152. Garfield, Jacobs, Ray

#### *Upper-division Courses*

- 101. **Culture and Personality.** (3) The interrelation of types of culture and personality patterns. Pr., 51, 52, or 53, or junior standing. Jacobs
- 105. **Basis of Civilization.** (3) Basic inventions, discoveries, and technological achievements of the ancient and primitive worlds; the beginnings of science. Davidson
- 107. **Methods and Problems of Archaeology.** (5) Includes field experience in this locality. Pr., 53. Taylor
- 111. **Indian Cultures of the Pacific Northwest.** (3) Study of native peoples from N. W. California to the Gulf of Alaska. Garfield
- 112. **Peoples of the Pacific.** (3) Ethnographic study; effects of European contacts. Elmendorf
- 113. **Aboriginal Peoples of Australia.** (3) Davidson
- 114. **Peoples of Central and Northeastern Asia.** (3) An ethnological survey, stressing the relationship of this area to Northwestern America. Hulse
- 120. **Cultural Problems of Western America.** (3) A consideration of the historical relationships and cultural problems of the natives of the Northwest Coast, the Plateau, California, the Great Basin, and the Southwest. Pr., 60 or 111. Not offered in 1948-49. Ray
- 141. **Primitive Literature** (3) Garfield
- 142. **Magic, Religion, Philosophy.** (3) Pr., 52. Ray
- 143. **Primitive Art.** (3) Aesthetic theories, artistic achievements of preliterate peoples, with museum material for illustration. Gunther
- 145. **Early Economic Systems.** (3) Gathering, hunting, fishing, and pastoral peoples. Davidson
- 146. **Early Economic Systems.** (3) Early farming peoples. Kirchhoff
- 150. **General Linguistics.** (3) Anthropological approach to language; psychological, comparative, and historical problems; phonetic and morphologic analysis. Jacobs
- 151. **American Indian Languages.** (3) Methods of field research and training in phonetic recording. Pr., 150. Jacobs
- 152. **Introduction to Anthropology.** (5) A survey of the science of anthropology. Designed for nonmajors. Pr., junior standing, but not open to those who have had 51, 52, or 53. Gunther, Davidson
- 160. **History of Anthropological Theory.** (2) Pr., 15 credits in anthropology. Jacobs
- 170. **Primitive Arts and Crafts.** (5) Study of techniques of primitive material culture. Pr., 52 or 60. Gunther
- 185. **Primitive Social and Political Institutions.** (5) Pr., 52. Ray
- 186, 187, 188. **Physical Anthropology.** (3, 3, 3) Anthropometry and somatology of man. For advanced undergraduates. Pr., 51, Zool. 1, 2, Introductory Anatomy. Hulse

#### *Courses for Graduates Only*

- 203. **Native American Culture History.** (4) An historical interpretation of the geographical distribution of critical aspects of North and South American Indian cultures. Pr., graduate standing. Kirchhoff
- 204, 205. **Seminar in Methods and Theories.** (3,3) Ray, Gunther
- 206. **Seminar in Indian Administration.** (3) Gunther
- 207. **Seminar in Culture Processes.** (2) Davidson

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

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| 208. Personality Patterns in Japanese Culture. (2) | Hulse    |
| 241. Analysis of Oral Literature. (2)              | Garfield |
| 250. Field Methods in Ethnography. (3)             | Ray      |
| 251. Field Methods in Archaeology. (3)             | Taylor   |
| 252. Field Methods in Linguistics. (3)             | Jacobs   |
| 260. Seminar in the History of Anthropology. (3)   | Jacobs   |
| 300. Graduate Research. (†)                        | Staff    |

### ARCHITECTURE

*Professors Herrman, Gowen, Hill, Pries; Assistant Professor Dietz; Instructors Mithun, Steinbrueck, Wilson; Acting Instructors Baker, Morse, Rober, Waldron*

- 1, 2. Architectural Appreciation. (2, 2) General survey of architectural design from a historical viewpoint. Herrman
3. The House. (2) An analysis of domestic architecture. Herrman
- 10, 11, 12. Architectural Drawing. (4, 4, 4) Orthographic projection, shades and shadows, perspective, drafting and rendering techniques. Steinbrueck
- 40, 41, 42. Water Color. (3, 3, 3) Still life and outdoor sketching. Pr., major in architecture, Art 32, 33, 34. Hill
- 51, 52. History of Architecture. (2, 2) Byzantine, Romanesque, and Gothic periods. Pr., 2. Pries
- 54, 55, 56. Architectural Design, Grade I. (7, 7, 7) Pr., 12, Art 32, 33, 34. Gowen, Pries
- 61, 62, 63. Materials and Their Uses. (2, 2, 2) Pr., Physics 13. Waldron
- 101, 102, 103. History of Architecture. (2, 2, 2) Comparative study of the Renaissance in Europe. Pr., 52. Herrman
- 104, 105, 106. Architectural Design, Grade II. (7, 7, 7) Pr., Arch. Design, Gr. I. Herrman, Gowen, Steinbrueck, Mithun
- 120, 121, 122. Contract Drawings. (2, 4, 4) Lectures and drafting-room practice. Pr., Arch. Design, Gr. II, C.E. 118. Dietz
135. Introduction to City Planning. (2) Circulation, recreation, open areas, public buildings, private development, new towns, and garden cities. Pr., major in Regional Planning or junior in architecture.
151. History of Architecture. (2) From the middle of the eighteenth century to the present. Pr., 103. Gowen
- 152, 153. Theory of Architecture. (2, 2) Design theory, composition, scale planning. Pr., Arch. Design, Gr. I. Gowen
- 154, 155, 156. Architectural Design, Grade III. (7, 7, 7) Pr., Arch. Design, Grade II. Gowen, Pries
- 160, 161, 162. Architectural Problems. (3 to 7 each quarter) Pr., 156. Pries
169. Specifications and Contracts. (3) Contract forms, office organization and methods, ethics. Pr., senior in architecture. Waldron
- \*180, 181, 182, 183. Principles of City Planning. (1 or 2 each quarter) History, theory, objects and scope; planning technique, development of comprehensive plan, zoning, subdivision control, site planning, administration, legislation. Pr., major in City Planning.
- \*190, 191, 192, 193, 194. City Planning Design. (5, 5, 5, 5, 7) Towns, cities, community pattern, housing groups, shopping centers, recreation areas. Last quarter includes thesis. Pr., major in City Planning.

### ART

*Professors Isaacs, Foote, Hill; Associate Professors Benson, Bonifas, Johnson, Penington; Assistant Professors Curtis, DuPen, Rossbach; Instructors Hensley, Lowry, Patterson, Westphal; Acting Instructors Alps, Anderson, Bangs, Brazeau, Davis, Fuller, Mason*

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

1. Elementary Drawing and Design. (5) Introductory studio course for the general student rather than the major in art. Hensley
- 5, 6, 7. Drawing. (3, 3, 3) Perspective, light and shade, composition, pencil and charcoal.
- 9, 10, 11. Design. (3, 3, 3) Art structure as the basis for creative work in advanced courses. Problems in organization of line, space, and color. Lectures, discussion, and supplementary reading.
12. History of Art Through the Renaissance. (5) Not open to freshmen. Survey of the main developments in painting and sculpture from prehistoric times through the Renaissance; illustrated with slides and colored reproductions. Johnson
- 15, 16. Laboratory Drawing. (3, 3) Exact representation of objects such as bones, shells, and plants. Three-dimensional form is stressed with pencil, pen and ink, carbon pencil, and colored crayon techniques used in science or other work requiring accuracy and detail. Curtis

†To be arranged.

\*Not offered in school year 1948-49.

20. *History of Modern Sculpture.* (2) Sculpture since the Renaissance; lecture and slides. Pr., sophomore in art, or permission. DuPen
- 32, 33. *Drawing for Architects.* (2, 2) Accurate representation in pencil and charcoal from architectural forms and still-life, creative compositions. Hill
34. *Sculpture for Architects.* (2) Modeling from casts and composition. DuPen
51. *Figure Sketching.* (1) Sketching from the posed model. Pr., three credits in drawing.
- 53, 54, 55. *Two and Three-dimensional Design.* Study of materials as a factor in design. Class experimentation and research. Penington
- 56, 57, 58. *Painting.* (3, 3, 3) Oil and watercolor painting from still-life and casts, introduction to life and outdoor sketching, lectures and reading. Pr., 5, 6, 7. Hill, Brazeau
62. *Essentials of Interior Design.* (2) Illustrated lectures. Foote
- 65, 66, 67. *Drawing and Painting.* (3, 3, 3) Continuation of 56, 57, 58, for majors in painting; outdoor sketching in oil and watercolor. Hill
- 72, 73, 74. *Sculpture.* (3, 3, 3) Fundamentals of composition in the round and in relief, creative work stressed. Pr., sophomore standing or permission. DuPen
- 80, 81, 82. *Furniture Design.* (3, 3, 3) Design as it applies to furniture. Study of materials and construction. Working drawings, color-plates, and models executed. Art 83 to be taken with 80. Pr., 5, 6, 7, 9, 10, 11. Foote
83. *History of Furniture and Interior Styles.* (2) Lectures illustrated with slides on appreciation and historical development of furniture and its architectural backgrounds from the Renaissance to the present time. Foote
100. *Elementary Crafts.* (2) Problems in various media and processes adapted to secondary schools, service and recreation groups. Papier-mâché, leather, weaving, etc. Open to nonmajors with sophomore standing. Required for those majoring in public school art. Johnson
101. *Elementary Interior Design.* (2) Fundamental problems in interior design including floor and wall plans at scale, furnishings and color schemes. For the general student and those wishing to teach art in the public schools. No prerequisite. Foote
102. *Bookmaking and Book-Binding.* (2) Pr., junior standing in art or permission. Johnson
103. *Ceramic Art.* (3) Processes of pottery-making, coil and slab. Studies of profile and dimensions. Pr., junior standing in art or permission. Bonifas
104. *Ceramic Art.* (3) Glazing and decoration. Contact with clay; glaze composition; packing and firing the kiln. Pr., 103. Bonifas
105. *Lettering.* (3) Design in letters and the composition of letters. Pr., 7, 11, or permission. Benson
- 107, 108, 109. *Portrait.* (3, 3, 3) Pr., 56, 57, 58. Isaacs
- 110, 111, 112. *Interior Design.* (5, 5, 5) Fundamentals of interior design. Includes scaled drawings of floor and wall plans, perspective, study of color and texture. For the special student; general students by permission. Art 62 to be taken with 112. Pr., 5, 6, 7, 9, 10, 11. Foote
116. *Design for Industry.* (3) Pr., senior standing in Ind. Design or permission. Penington
- 122, 123, 124. *Sculpture.* (3, 3, 3) Pr., 72, 73, 74, or permission. DuPen
126. *History of Painting Since the Renaissance.* (2) Lectures illustrated with slides and colored reproductions. Pr., junior standing in art. Isaacs
129. *Appreciation of Design.* (2) Lectures on the fundamentals of design, illustrated by slides and by actual objects including paintings, pottery, textiles, etc. Reading and reference work. Benson
130. *Advanced Ceramic Art.* (3) Design, glazing, decoration, throwing, and plaster mold. Pr., 104. Bonifas
- 132, 133, 134. *Advanced Sculpture.* (3, 3, 3) Continuation of prerequisite courses. Pr., 122, 123, 124. DuPen
- 136, 137, 138. *Sculpture Composition.* (3, 3, 3) Imaginative design; problems met in professional practice. Pr., 132, 133, 134. DuPen
140. *Design for Printed Fabrics.* Hand-block and silk-screen printing. Study of mass production design. (3) Pr., 53, 54, 55. Penington
150. *Illustration.* (5) Pr., senior standing in art, including life drawing.
- 151, 152. *Printmaking.* (5, 5) Lithography, etching, serigraph, linoleum block, wood-cut, wood-engraving. Pr., senior standing in art or permission. Alps
- 153, 154, 155. *Advanced Ceramic Art.* (3, 3, 3) Plaster work, and throwing, firing, decoration, and glazing. Pr., 130. Bonifas
- 157, 158, 159. *Design in Metal.* (3, 3, 3) Design and construction of objects in copper, pewter, brass, silver, and gold. Various processes including etching, enameling, stone setting. Pr., junior standing in art or permission. Penington
- 160, 161, 162. *Life.* (3, 3, 3) Drawing and painting from the model, anatomy. Pr. 56, 57, 58. Isaacs, Staff
- 163, 164, 165. *Composition.* (3, 3, 3) Development of individuality in painting through creative exercises. Pr., life, 3 credits. Isaacs
- 166, 167. *Commercial Design.* (5, 5) Composition in advertising art. Brief review of styles of advertising art; the idea and its expression in terms of design. Practice in using a variety of mediums, with special consideration for methods by which the work is to be reproduced. Pr., 105, 55. Benson
- 169, 170, 171. *Costume Design and Illustration.* (2, 2, 2) Pr., 6, 11. Benson
- 172, 173, 174. *Advanced Interior Design.* (5, 5, 5) Advanced problems related to contemporary needs. Research in period styles. For the special student. Pr., 112. Foote

- 175, 176, 177. Advanced Painting. (3, 3, 3) Pr., 56, 57, 58. Hill, Staff  
 179, 180, 181. Advanced Costume Design and Illustration. (2, 2, 2) Pr., 169, 170, 171. Benson  
 182, 183, 184. Asiatic Art. (3, 3, 3) Survey of Eastern Art from the beginning to the present Lee  
 day. Illustrated.  
 185, 186, 187. Advanced Ceramic Art. (5, 5, 5) Continued use of the processes with emphasis on design for industry. Pr., 153, 154, 155. Bonifas  
 195, 196, 197. Senior Seminar. (1, 1, 1) Pr., senior standing in art. Required of all seniors.

*Courses for Graduates Only*

- 207, 208, 209. (3, 3, 3) Portrait Painting.  
 260, 261, 262. (3 or 5 each quarter) Advanced Life Painting.  
 263, 264, 265. (3 or 5 each quarter) Composition.

## ASTRONOMY

*Associate Professor Jacobsen*

1. Astronomy. (5) Star finding, solar system, sidereal universe. Jacobsen  
 101. Astrophysics and Stellar Astronomy. (3) Interpretation of stellar spectra; motions, types of stars. Pr., physics, calculus; pr. or concurrent, 1. Jacobsen  
 103. Spherical Astronomy. (3) Spherical triangles, celestial sphere, planetary motions. Pr., Calculus; pr. or concurrent, 1. Jacobsen  
 104. Advanced Spherical Astronomy. (3) Aberration, parallax, precession, nutation, special subjects. Pr., 103, or permission. Jacobsen  
 105. Practical Astronomy. (4) Determination of latitude, longitude, time, azimuth. Individual sextant work. Pr. or concurrent, 1. Jacobsen  
 199. Astronomical Research. (†) Research on current or special astronomical problems. Jacobsen

## BOTANY

*Professor Hitchcock; Associate Professors Blaser, Roman; Assistant Professor Stuntz; Instructors Dyer, Hardy, Muhllick, Walker, Weaver*

For those who expect to take no more than five credits of botany, courses 1, 2, 3, 5, or 8 are recommended. For those who expect to take ten credits of botany, courses 1 and 2; 1 and 3; 3 and 5; 1 or 5, and 16; 1, 8, and 25; or 1, 25, and 101 are recommended.

Courses 1, 5, 13, and 17 are beginning courses partially covering the same material, therefore only one of these courses may be taken for full credit. Botany 2 should be preceded by 1, not by 5.

*Introductory Courses, No Prerequisite*

1. Elementary Botany. (5) The structure, physiology, and reproduction of the seed plant. Weaver  
 3. Elementary Botany. (5) Local flora. Training in the identification and recognition of our ferns and seed plants. Hitchcock  
 5. Survey of Botany. (5) Outstanding generalizations concerning plants. Students who expect to continue botany should begin with 1, 2, or 3. Weaver  
 8. Heredity. (3) Not recommended for biology majors. Roman  
 13. Pharmacy Botany. (5) General botany for pharmacy students. Blaser  
 16. Economic Botany. (5) Uses of plants by man. Weaver  
 17, 18, 19. Forestry Botany. (3, 3, 3) 17: Structure of seed plants; 18: Morphology of fungi and reproduction of seed plants; 19: Physiology of seed plants. Stuntz, Hitchcock, Dyer, Walker

*Intermediate Courses*

2. Elementary Botany. (5) Structure and relationships of the major plant groups. Pr., 1 or one year high school botany. Blaser  
 24. Plant Propagation. (2) Grafting and budding. (2) Two 2-hour labs. in greenhouse. Pr., 1 or equivalent. Hardy, Muhllick  
 25. Plant Propagation. (2) General greenhouse practice. (2) Two 2-hour labs. in greenhouse. Hardy, Muhllick  
 40. General Fungi. (5) Structure and classification of all groups of fungi. Pr., 1 or 2 or equivalent. (Not open to students who have had Botany 68.) Stuntz

*Upper-Division Courses*

101. Ornamental Plants. (3) Pr., 3 or equivalent. Blaser  
 105, 106, 107. Morphology. (5, 5, 5) Pr., 2 or equivalent. 105: Algae and bryophytes; 106: Vascular plants, lower groups; 107: Seed plants. Blaser  
 108. Introduction to Genetics. (3, lecture only, or 5) Pr., 10 credits in biol. sciences; not open for full credit to students who have had 8. Roman

†To be arranged.

109. Cytogenetics. (3, lecture only, or 5) Chromosomal behavior in relation to genetics. Pr., 108, permission. Roman
110. Topics in Genetics. (2) Current problems and research methods in genetics. Pr., 108, organic chemistry, and permission. Roman
111. Forest Pathology. (5) Common wood-destroying fungi. Pr., 18, 40, or 105. Stuntz
115. Yeasts and Molds. (5) Their classification, recognition, cultivation, and relation to the industries and to man. Pr., 15 credits in botany, microbiology, or zoology. Stuntz
119. Microtechnique. (5) Pr., 10 credits in biological sciences. Probably not offered in 1948-49.
129. Plant Anatomy. (5) Not offered in 1948-49.
131. Bryology. (5) Pr., 2. Not offered in 1948-49.
132. Algology. (5) Pr., 2. Not offered in 1948-49.
- 134, 135. Taxonomy. (5, 5) The flowering plants. Pr., 3 or equivalent. Hitchcock
- 140, 141, 142. Mycology. (5, 5, 5) 140: Same as 40, but for upper-division students; additional work, to be assigned by instructor, is required; 141 and 142: Advanced mycology. pr., 40, 140, or 111. Stuntz
143. Elementary Plant Physiology. (5) General summary of the field. Pr., 1 and Chem. 2 or 22 or equivalent. Not open to students who have had Botany 75. Dyar
144. Advanced Introductory Physiology. (5) Pr., 1 or 5 and Organic Chem. Recommended for biology majors. Not open to those who have had 75 or 143. Dyar, Walker
145. Advanced Plant Physiology. (5) Current problems and special laboratory technique. Pr., 144 or 143, organic chemistry, and permission. Dyar
151. Range Plants. (3) Their recognition and economic importance. Pr., 3 or 19. Hitchcock
- 180, 181, 182. Plant Pathology. (5, 5, 5) Pr., 40. Stuntz
199. Special Problems in Botany. (1 to 15 each quarter) Pr., permission. Staff

#### Courses for Graduates Only

200. Seminar. (1)
- 210, 211. Phyto-plankton. (3, 3)
220. Problems in Fungi. (2 to 5 each quarter) Stuntz
250. Advanced Algology. (2 to 5) Pr., 30 credits of botany.
251. Advanced Bryology. (2 to 5)
275. Problems in Plant Physiology. (2 to 5 each quarter) Dyar, Walker
300. Research. (2 to 5)

### CHEMISTRY

(For Chemical Engineering see page 192.)

*Professors Tartar, Cady, Norris, Powell, Robinson, Thompson; Associate Professor Lingafelter; Assistant Professors Anderson, Dauben, Gregory, Jensen, Kuetter, Sivertz; Instructors Crittenden, Hanaban, Schubert*

- 1-2. General Chemistry. (5-5) Open only to students without high school chemistry. For engineers, premedics, and other science majors who will continue with chemistry 23 or 26.
- 3-4. General Chemistry. (5-5) Open only to students without high school chemistry. For students in home economics, nursing, forestry, and for others desiring only 10 credits in general chemistry.
- 5-6. General Chemistry. (5-5) For students in home economics, nursing, forestry, and for others desiring only 10 credits in general chemistry. Pr., one year high school chemistry.
- 8-9-10. General Chemistry and Qualitative Analysis. (5-5-5) Offered by College of Pharmacy for pharmacy students only.
- 21-22. General Chemistry. (5-5) For students who will continue with Chemistry 23. Pr., one year high school chemistry.
23. Elementary Qualitative Analysis. (5) Pr., 2 or 22.
- 24-25-26. General Chemistry. (3-3-3) Engineers only (except chemical engineers). Pr., high school chemistry.
- 37-38-39. Organic Pharmaceutical Chemistry. (5-5-5) Offered by College of Pharmacy for pharmacy students only.
101. Advanced Qualitative Analysis. (5) Pr., 23. Robinson, Thompson
102. Advanced Qualitative Analysis. (4) For chemical engineers. Pr., 23. Crittenden
104. Food Chemistry. (4) Pr., 111 and 132. Norris
107. Quantitative Analysis. (4) Gravimetric, for chemical engineers. Pr., 23. Crittenden
108. Quantitative Analysis. (4) Volumetric, for chemical engineers. Pr., 107. Crittenden
109. Quantitative Analysis. (5) Gravimetric. Pr., 23. Thompson, Robinson
110. Quantitative Analysis. (5) Volumetric. Pr., 109. Thompson, Robinson
111. Quantitative Analysis. (5) Volumetric and gravimetric, for non-chemistry majors and chemistry majors in the elective curriculum. Pr., 23. Thompson, Robinson

- 131, 132. **Organic Chemistry.** (5, 5) For majors in chemistry, chemical engineering, biological sciences, premedicine and predentistry. Structure, nomenclature, reactions and methods of synthesis of the main types of aliphatic and aromatic carbon compounds. Laboratory work includes preparations and qualitative organic analysis. Pr., 22.  
Powell, Dauben, Anderson, Schubert
133. **Intermediate Organic Chemistry.** (5) For chemistry majors and chemical engineers who intend to do graduate work. Elaboration of fundamentals of organic chemistry with emphasis on general principles, reaction mechanisms, and practical synthetic methods. Laboratory includes more advanced preparations and qualitative analysis. Pr., 132. Dauben, Anderson
134. **Qualitative Organic Analysis.** (2) Identification and characterization of simple organic compounds according to standard procedures. Pr., two quarters of organic chemistry with no qualitative organic analysis.  
Powell
137. **Organic Chemistry.** (5) For majors in home economics and nursing. A brief course covering the fundamental reactions of the carbon compounds, with emphasis on carbohydrates, fats, proteins, drugs, and other compounds of biological importance. Pr., 2, 4, or 6.  
Powell, Dauben, Anderson, Schubert
- 140-141. **Elementary Physical Chemistry.** (3-3) For premedical and science students and chemistry majors in the elective curriculum. Pr., 111.
144. **Biological Chemistry.** (5) For home economics students. Pr., 137. Hanahan
150. **Undergraduate Thesis.** (2 to 5) Pr., senior standing in chemistry.
- 155-156. **Oceanographic Chemistry.** (3-3) Methods of analysis and the general physical and chemical properties of sea water and sea products. Pr., 111, 132. Thompson, Robinson
- 161-162, 163. **Biological Chemistry.** (5-5, 3) Pr., 111, 132. Hanahan
166. **Biochemical Preparations.** (2 to 3) Pr., 162. Norris, Kuether, Hanahan
- 181, 182, 183. **Physical and Theoretical Chemistry.** (5, 5, 5) Pr., 111, 15 credits college physics, and differential and integral calculus. Tartar
190. **History of Chemistry.** (3) Pr., 132, 140.  
Teachers' Course in Chemistry. (See Education 75C.)

#### *Courses for Graduates Only*

200. **Departmental Seminar.** (No credit)
201. **Chemical Thermodynamics.** (3) Development of the laws of thermodynamics, and their application to gases and simple chemical systems. Statistical thermodynamics. Pr., 182.  
Gregory
202. **Chemical Thermodynamics.** (3) Fugacity, activity, free energy. Thermodynamic treatment of solutions of non-electrolytes and of electrolytes. Pr., 201. Gregory
203. **Theoretical Electrochemistry.** (3) Methods of measurement and interpretation of properties of electrolytic solutions. Conductance, transference numbers, activities. The Debye-Huckel-Onsager theory of solutions of electrolytes. Pr., 202. Tartar
204. **Chemistry of Colloids and Surface Phenomena.** (3) Types and properties of colloidal systems. Measurement and interpretation of surface tension, surface potential, and area-pressure relationships of liquid surfaces. Wetting and spreading of liquids. Nature of solid surfaces. Catalytic surfaces. Pr., 182. Lingafelter
- 205, 206, 207. **Advanced Inorganic Preparations.** (2, 2, 2) Cady
- 208, 209, 210. **Advanced Quantitative Analysis: Theory.** (2, 2, 2) Theoretical principles of analytical chemistry. Pr., 111, 182. Thompson
211. **Advanced Organic Preparations.** (3) For seniors or graduate students in chemistry. Preparation, isolation, and purification of organic compounds requiring more advanced techniques and specialized apparatus. Critical consideration of alternative synthetic methods. Pr., 133 or permission. Dauben, Anderson, Schubert
213. **Chemical Thermodynamics.** (3) Not open to those having 201. Pr., 182. Lingafelter
214. **Phase Rule.** (4) Development of the phase rule in connection with one-component and multi-component systems. Study of phase reactions. Applications to alloys, melts, salt crystallization, and related fields. Pr., 182. Sivertz
215. **Chemical Kinetics.** (3) Methods of measurement and interpretation of rates of chemical reactions. The transition-state theory of chemical reactions as applied to reactions in gaseous and in liquid system. Pr., 202. Lingafelter
216. **Atomic Structure.** (3) Theories of nuclear structure and nuclear reactions. Introduction to the quantum mechanics of atomic structure and atomic spectra. Pr., 183. Lingafelter
217. **Molecular Structure.** (3) The quantum theory of valence. Measurement and interpretation of molecular spectra (ultra-violet, visible, infra-red, Raman), X-ray and electron diffraction, dipole moments, magnetic susceptibility, etc. Pr., 183 (216 advisable). Lingafelter
- 221, 222, 223. **Advanced Inorganic Chemistry.** (3, 3, 3) Systematic study based upon periodic system. Nature of the chemical bond. Cady
224. **Chemistry of Nutrition.** (3) Pr., 162. Norris
225. **Advanced Analytical Laboratory.** (2 to 6) Mainly laboratory work with occasional conferences. Pr., 182. Thompson
226. **Microquantitative Analysis.** (3) Principles and technique. Pr., 141 or 182. Robinson
227. **General Chemical Microscopy.** (3) Theory of the polarizing microscope and its application to chemistry. Pr., 141 or 182. Robinson
228. **Microqualitative Analysis.** (3) Identification of ions by means of optical properties of their crystals. Pr., 101, 227. Robinson

- 231, 232, 233. **Advanced Organic Chemistry.** (3, 3, 3) Consideration of synthetic methods, structure determination, and reaction mechanism of acyclic, alicyclic, and aromatic compounds with emphasis on modern theory and practice. Courses to be taken in sequence. Pr., 133 or equivalent, including Qualitative Organic Analysis. Dauben
234. **Chemistry of Natural Organic Compounds.** (3) Structure determination and synthesis of carbohydrates, fats and oils, terpenoid compounds, vitamins, and accessory dietary factors of natural origin and biological importance. Pr., permission. Anderson
235. **Chemistry of Natural Organic Compounds.** (3) Structure determination and synthesis of steroids, aminoacids, alkaloids, and heterocyclic compounds of natural origin and biological importance. Synthetic and natural chemotherapeutic compounds. Pr., permission. Anderson
236. **Advanced Physical Chemical Laboratory.** (2 or 3) Pr., 182. Sivertz
237. **Physical Organic Chemistry.** (3) Interpretation and application of data obtained by combined methods of organic and physical chemistry to the problems of structure of organic compounds and mechanism of organic reactions. Pr., 202, 233 (215, 217 advisable). Dauben
249. **Graduate Seminars.** (1 to 5) Offered as desired by various members of the staff.
304. **Research.** Maximum total credit: for master's degree, 9 cr.; for doctor's degree, 45 cr.

## CLASSICAL LANGUAGES AND LITERATURE

*Professors Densmore, Read; Acting Associate Lisle*

### I. Greek

- 1-2, 3. **Elementary Greek.** (5-5, 5) Densmore
- 4, 5. **Socrates.** (3, 3) Based on Plato, Xenophon, Aristophanes. Should be accompanied if possible by 8 and 9. Pr., 3. Densmore
6. **The World of Homer.** (3) Readings from the story of Achilles. Pr., 5. Densmore
7. **New Testament Greek.** (3) Read
- 8, 9. **Grammar and Composition.** (2, 2) Pr., 3. Densmore
51. **Sight Reading.** (No credit) Pr., 5 or permission. Densmore
100. **Supervised Reading.** (†) Staff
- 101, 102, 103. **Greek Historians.** (3, 3, 3)
- 104, 105. **Drama.** (3, 3) Densmore
106. **Lyric Poetry.** (3) Densmore
122. **Grammar.** (3) Pr., 9, 103.
- 151, 152, 153. **Plato.** (3, 3, 3)
- 191, 192, 193. **Literary Criticism and Sophocles.** (3 to 5 ea.) Textual criticism. Aristotle and other ancient critics. Independent critical study of one play. Pr., Greek 106. A reading knowledge of Latin required. Densmore
- Courses for Graduates Only*
- 201, 202, 203. **Greek Philosophers.** (3 to 5 ea. qtr.) Densmore
300. **Research.** (3 to 5) Staff

### II. Latin

- 1-2, 3. **Elementary Latin and Caesar.** (5-5, 5) Lisle
- 4, 5, 6. **Cicero and Ovid.** (5, 5, 5) Pr., two years high school Latin or Latin 1-2, 3 in University. Review of grammar and syntax. Lisle
21. **Cicero: De Senectute.** (5) With grammar and composition. Pr., 6 or three and one-half years high school Latin.
24. **Sallust.** (5) Pr., as for 21.
25. **Ovid: Metamorphoses.** (5) Pr., as for 21.
100. **Livy.** (5) Pr., 21, 24, 25, or permission.
101. **Horace.** (5) Pr., as for 100.
104. **Martial: Epigrams.** (5) Pr., as for 100.
106. **Syntax and Prose Composition.** (3) Pr., 100 or equivalent.
153. **Augustine: Confessions.** (3) Pr., 100. Read
154. **Lucretius.** (3) Pr., 100. Read
- 160, 161, 162. **Major Conference.** (1, 1, 1) Discussion with members of the staff of various features of Greek and Roman life and literature not specifically dealt with in other courses. Required of all majors.
- Teachers' Course in Latin. (See Educ. 75P.)*
- Courses for Graduates Only*
207. **Seneca: Moral Essays.** (3) Read
211. **Latin Novel.** (3) Read
287. **Medieval Latin.** (3) Pr., permission. Benham
300. **Research.** (†) Staff

†To be arranged.

## III. Courses in Classical Antiquities, Given in English

## Greek

- 12, 13, 14. Greek Literature. (2, 2, 2) 12: Homer; 13: Lyric Poetry and Drama; 14: History and Philosophy.  
 17. Greek and Roman Art. (5)  
 18. Greek and Roman Mythology. (3)  
 115. Readings in Ancient Science. (3)  
 116. Greek Humanism.

Not offered in 1948-1949: Greek 104, 105, 106, Drama and Lyric Poetry; 211, 212, Hellenistic Literature. Latin 23, Vergil: Georgics and Bucolics; 22, Catullus; 102, Tacitus: Germania and Agricola; 103, Plautus and Terence; 107, Cicero: Letters; 109, Pliny: Letters; 156, Horace: Satires and Epistles; 165, Cicero: De Finibus; 166, Sallust; 204, Tacitus: Histories; 214, Suetonius: Augustus; 218, Cicero: De Natura Deorum; 220, Elegy; 285, 286, Vulgar Latin; 288, Medieval Latin. *Antiquities in English*: Greek 11, Greek Civilization; Greek 111, Greek Civilization; Greek 113, Greek Drama; Latin 11, Roman Civilization; Latin 13, Roman Literature; Latin 113, Masterpieces of Latin Literature.

## DRAMA

*Professor Hughes; Associate Professors Conway, Harrington; Instructors Gray, Carr, Davis, Haaga, Lounsbury; Associates Johnson, Prins, White; Theatre Assistants Bell, Rotter, Valentinetti*

- 1, 2, 3. Introduction to the Theatre. (2, 2, 2) Significant aspects of the modern theatre. Hughes  
 46, 47, 48. Theatre Speech. (3, 3, 3) Pr., 46 for 47; 47 for 48. Gray, Carr, White  
 51, 52, 53. Acting. (3, 3, 3) Theory and practice. Includes pantomime, improvisation, and characterization. Pr., 46, 47, 48 for 51; 51 for 52; 52 for 53. Harrington in charge  
 103. Scene Construction. (3) Principles and actual construction of stage scenery and properties. Lounsbury, Johnson  
 104. Scene Design. (3) Pr., 103. Conway  
 105. Theatrical Costume Design and Construction. (3) Rotter  
 106. Make-up. (3) Conway  
 107, 108, 109. Puppetry. (2, 2, 2) Design, construction, costuming, stringing, and manipulation of puppets. With permission of department, this course may be repeated for credit. Valentinetti  
 111, 112, 113. Playwriting. (3, 3, 3) Professional course. Pr., one quarter of English 74, 75, 76, or permission. Hughes  
 114. Stage Lighting. (3) Survey course, nontechnical in character. Conway, Johnson  
 115. Advanced Stage Lighting. (3)  
 117, 118, 119. Advanced Theatre Workshop. (2, 2, 2) Pr., one of: 103, 104, 105, or 114 or permission.  
 121, 122, 123. Advanced Acting. (3, 3, 3) Group acting. Styles in acting: tragedy, comedy; period, modern. Pr., 51, 52, 53. Harrington  
 127, 128, 129. History of the Theatre. (2, 2, 2) The Orient, Europe, and America. The physical playhouse, methods of production, great actors, stage machinery, scenery, lighting, costumes, and masks. Conway  
 131. Projects in Drama. (1 to 4) Staff  
 134, 135, 136. Children's Theatre. (3, 3, 3) Theory and methods. Participation in productions. Emphasis on directing. Pr., 53. Prins  
 137, 138, 139. Creative Dramatics With Children. (3, 3, 3) Practical training for those who work with children's groups. Emphasizes development of the whole child, intellectually, emotionally, physically, and socially, through story and impromptu dramatizations. Lectures, reading, and laboratory. Field observation. Haaga  
 141, 142, 143. Radio Acting and Production. (2, 2, ) Pr., two quarters of acting. Bell  
 144, 145, 146. Radio Writing. (3, 3, 3) Pr., two quarters of advanced English composition or one quarter of playwriting. Bell  
 151, 152, 153. Representative Plays. (3, 3, 3) Great playwrights of all important periods. Theories of the drama. Hughes  
 181, 182, 183. Directing. (3, 3, 3) Pr., 51, 52, 53, 121, 122. Harrington  
 197. Theatre Organization and Management. (2) Theatre personnel, box-office methods, advertising, production costs, royalties, executive policies. Pr., senior or graduate standing. Hughes

## Courses for Graduates Only

301, 302, 303. Research. (5, 5, 5) Pr., permission.

Hughes

For other courses in Drama, see English 154, 170, 171, 172, 217, 218, 219.



# ECONOMICS AND BUSINESS

*Professors Preston, Boggs, Burd, Cox, Dahan, Demmery, Engle, Gregory, Hall, Hopkins, Mackenzie, Miller, Mund, Smith; Professors Emeritus McMahon, McConabey, Skinner; Associate Professors Brown, Butterbaugh, Cannon, Hald, Huber, Loris, Simpson, Wagner, Wheeler; Assistant Professors Barnowe, Buechel, Cartwright, Gillingham, Goldberg, Hanson, Happ, Matby, Pettibone, Robinson, Roller, Sheldon, Thayer, Walker, Williams, Woodward, Worcester; Lecturers Botzer, Burrus, Draper, Fordon, Forest, Hamack, Murphy, Purdue, Instructors Brewer, Klima; Associates Cheever, Fei, Gramm, Hardt, Mark, Richins, Snider, Works*

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, 135, 136, 137, 138, 139, 140, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 156, 157, 158, 159, 169, 170, 178, 191, 193, 194, 195, 199.

## Lower-Division Courses

- 1-2. *Principles of Economics*. (5-5) The first half of the course is primarily descriptive. It surveys the organization of the economic system and its institutions. Such topics as forms of business organization, banks, money, securities, and government and business are discussed. The second half is analytical. It deals with production costs and prices, and the distribution of the national income in the form of wages, interest, rents, and profits under conditions of competition and monopoly.
3. *General Economics*. (3) Condensation of E.B. 1-2 for students in engineering, forestry, chemistry, and pharmacy. Pr., sophomore standing.
4. *Survey of Economics*. (5) Not open to students in Economics and Business, economics majors in the College of Arts and Sciences, or others who expect to continue with Economics and Business courses.
6. *Development of Economic Institutions*. (5) Provides a knowledge of the growth and development of the major institutions of our society, both as to their European origins and their subsequent modifications. May be elected as a substitute for History 7. Williams  
*Economic Geography*. (See Geography 7.)
- 12, 13, 14. *Typewriting*. (1, 1, 1) Students who present one or more units of typewriting as entrance credit may not receive credit for E.B. 12. Hamack, Works
- 16-17, 18. *Shorthand*. (3-3, 3) Students who present one or more units of shorthand as entrance credit may not receive credit for E.B. 16. Happ, Murphy
19. *Office Machines*. (3) Laboratory instruction and practice in the operation of selected office machines, calculators, duplicating machines, filing equipment, and devices. No prerequisite. Works
54. *Business Law*. (5) Introduction to the study of law, its origin and development; formation and performance of contracts; fraud, mistake, duress, and undue influence; rights of third parties and remedies available at law and equity; the law of agency as affecting the rights and duties of the principal, the agent, and third parties in their interrelationships. Pr., sophomore standing. Botzer, Purdue, Goldberg, Brown
55. *Business Law*. (5) Negotiable instruments, bailments, sales of personal and real property. Pr., 54. Purdue, Brown, Goldberg
57. *Business Law*. (3) For engineering students or others unable to devote more than three credits to study of business law. May not be substituted for 54. Does not carry credit for students in economics and business. Pr., sophomore standing and English requirement of respective college. Burrus
60. *Statistical Analysis*. (5) Statistical methods and their application to practical economic and business problems. Pr., 1-2. Butterbaugh, Hanson
62. *Principles of Accounting*. (5) The fundamental theory of accounts. Three lectures, four hours a week in laboratory. Pr., sophomore standing.
63. *Principles of Accounting*. (5) Covering partnerships, corporations, and manufacturing. Three lectures, four hours a week in laboratory. Pr., 62.

## Intermediate Courses

101. *Industrial Management*. (5) The internal organization of the business enterprise and topics related thereto; standards, incentives, labor-management cooperation, planning, etc. Pr., 1-2. Robinson
103. *Money and Banking*. (5) Functions of money; standards of value; principles of banking with special reference to the banking system of the United States. Pr., 1-2. Hald, Preston
104. *Principles of Transportation*. (5) General survey of the elements of transportation and communication. Pr., 1-2. Farwell, Pettibone, Brewer
105. *Economics of Labor*. (5) Economic factors in labor problems; economic and social aspects of labor and employing organizations; analysis of government measures with regard to labor problems. Pr., 1-2. Thayer, Buechel
106. *Principles of Marketing*. (5) Principles, processes, systems; middlemen and their functions; legislation. Pr., 1-2. Burd, Miller
107. *World Economic Policies*. (5) Economic and commercial relations of nations; international economic organizations; basic principles and practices of foreign trade. Pr., 1-2. Huber

108. *Principles of Insurance.* (5) Nature and business uses of the more important types of life, fire, marine, and casualty insurance and surety bonding. State regulation of insurance. Pr., 1-2.
109. *Principles of Real Estate I.* (5) Economic principles underlying the utilization of land; determining factors for the location and development of residential, commercial, industrial, and financial districts; public control. Pr., 1-2. Demmery
110. *Accounting Analysis and Control.* (5) Analysis and interpretation of accounting statements, with principles of valuation. Pr., 63. Walker, Fordon, Lorie
111. *Advanced Theory of Accounts I.* (5) Application of accounting theory to business problems. Pr., 110. Draper
112. *Advanced Theory of Accounts II.* (5) Pr., 111. Cannon
115. *Business Correspondence.* (5) Analysis of principles, including psychological factors; study of actual business letters in terms of these fundamentals. Pr., 1-2; Engl. 1, 2, 3. Murphy
- 116, 117. *Secretarial Training.* (5, 5) Advanced shorthand and typewriting. Speed studies in taking dictation, and in transcription. General office practice and procedures. Hamack
118. *Secretarial Practice.* (5) Application of skills acquired in shorthand, typewriting, office machines, business letter writing, etc., to an integrated model office. One 1-hour recitation, one 1-hour laboratory daily. Pr., 117. Happ
119. *Office Management.* (5) Office organization; supervision of office functions; office personnel problems. Pr., junior standing. Hamack
120. *Business Organization and Combination.* (5) Covers the field of business ownership organization and industrial concentration. Pr., 1-2.

#### Advanced Courses Banking and Finance

121. *Corporation Finance.* (5) General and specific principles and practices in the administration of capital of corporate enterprises. Pr., 63 and 103. Dakan
122. *Principles of Investment.* (5) General principles of selection and protection of security holdings. Pr., 121 or senior standing. Dakan
123. *Investment Analysis.* (5) Analytical study of typical industrial, public utility, and railroad securities; current corporation reports and prospectuses as a basis for determining investment values. Pr., 122. Dakan
124. *Credit Administration.* (3) Pr., 103.
125. *Advanced Money and Banking.* (5) Presupposes a knowledge of our existing financial organization and devotes attention to questions of banking and monetary policy. Pr., 103.
126. *Bank Credit Administration.* (3) Based upon selected cases of loans to Pacific Northwest industries and agriculture. Pr., 63, 103, and permission.
127. *Foreign Exchange and International Banking.* (5) Foreign currencies and banking systems; foreign exchange markets; theory of international exchange; financing of exports and imports. Pr., 103. Huber
128. *Personal Insurance.* (5) Scientific basis of life insurance; types of policies; premium rates and reserves. Pr., 108.
129. *Property Insurance.* (5) Coverage of risks; types of companies; standard fire insurance contract. Pr., 108.
130. *Foreign Trade of Latin America.* (5) Industrial and agricultural development, foreign trade, foreign exchange and investments. Pr., 107 or permission. Mathy

#### Foreign and Domestic Commerce

131. *Principles and Practices of Foreign Trade.* (5) Analysis of foreign trade with reference to historical trends, composition and direction, prices, employment, standard of living, and national incomes. Government policies regarding foreign trade. Pr., 107. Huber
132. *Problems in Foreign Trade.* (5) Export and import operations; foreign market analysis; credits; trade channels; trade instruments; customs procedure. Economic analysis of specific problems in foreign trade. Pr., 107. Huber
133. *Retailing.* (5) Profit planning; markup; turnover; inventories; expense, stock, markup, and buying control; operating activities. Pr., 106. Miller
134. *Advertising.* (5) Relation to demand, cost, price, consumer choice, marketing; who pays; research; organizations; techniques; social controls. Pr., 106. Wagner
135. *Advanced Retailing.* (2) Analysis of retail problems from the point of view of management. Pr., 133 and marketing major. Miller
136. *Advanced Advertising.* (2) Analysis of advertising problems from the point of view of management. Pr., 134 and marketing major. Wagner
137. *Retailing Field Work.* (1) Pr., permission. Open to retail scholarship students only. Miller
138. *Marketing Analysis.* (5) Its uses, methods, and techniques. A class research project will provide practical application of methods studied. Pr., 133 or 134, and marketing major. Miller
139. *Marketing Problems.* (3) Analysis of marketing problems from the point of view of management. Pr., 138 and permission. Miller

#### Public Utilities and Transportation

140. *Airport Management.* (3) Economic aspects of airport planning. Financing airports. Airport operation and management. Pr., 146.
141. *Regulation of Public Utilities.* (5) Economic, legislative, and administrative problems of regulation. Pr., 104. Hall

142. **Advanced Economics of Public Utilities.** (5) Public utility rates and rate structure; costs; plant utilization and management policies. Pr., 1, 2. Hall
143. **Railway Transportation.** (5) Critical evaluation of problems of finance, operation, competition, combination, and regulation. Pr., 104.
144. **Water Transportation.** (5) Problems of joint and special costs, competition, rate practices, rate agreements, shipping subsidies, intercoastal regulations. Pr., 104.
145. **Highway Transportation.** (3) Treatment of the principles used in the traffic and operating divisions of highway transportation. Pr., 104. Sheldon
146. **Air Transportation.** (5) Economic principles, with particular reference to operating methods and costs; traffic promotion; schedule maintenance; safety; governmental regulation. Pr., 104.
147. **Air Law and Regulation.** (3) National and international regulation of commercial aviation. Administrative and judicial control by Civil Aeronautics Board. Local regulation. The work of P.I.C.A.O. and I.A.T.A. Pr., 146.
148. **Traffic Management.** (5) Problems of routing, expediting, auditing, demurrage, reconsignment, port and terminal facilities. Pr., 104 and transportation major. Brewer
149. **Marine Insurance and Carriers' Risks.** (5) Liabilities of rail and water carriers; plans of marine underwriters; insurable interests; warranties. Pr., 143 or 144 or 145, or 146. Farwell

#### **Management and Accounting**

150. **Advanced Industrial Management.** (5) Case studies of companies from the viewpoint of the chief executive. Pr., 101. Seniors in management only or permission. Robinson
151. **Production Control.** (5) The organization of the production planning and control department, standards for planning and control, control of inventories of raw materials, goods in process and finished goods. Pr., 101. Robinson
152. **Government Accounting.** (5) A study of accounting and financial reporting for municipal, county, state, and federal governments. Pr., 112 or permission. Lorig
153. **Accounting Systems.** (5) A thorough study of accounting and personnel problems to be considered in developing and installing accounting systems. Pr., 112. Lorig
154. **Cost Accounting I.** (5) Economics of cost accounting; industrial analysis; production control through costs; types of cost systems, burden application. Pr., 110. Gregory
156. **Income Tax Accounting.** (5) A study of Federal Revenue Acts and their application to individuals and different types of business organizations. Pr. 112. Roller
157. **Auditing.** (5) A study of the theory, principles, procedures, and practices of auditing. Pr., 112. Cox
158. **C.P.A. Problems.** (5) Selected problems taken from American Institute of Accountants and state C.P.A. examinations. Pr., 154 and 157. Mackenzie
159. **Field Work in Accounting.** (2) Full-time employment in the field of accounting for one quarter. Reports required. Pr., 157. Mackenzie

#### **Advanced Economics and Business**

161. **Labor Legislation.** (5) Consideration of legislative and judicial actions bearing directly on labor problems and the labor movement in their relation to social, political, and economic theories. Pr., 105. Goldberg
162. **American Labor History.** (5) Development of the structure, ideology, policy, and practice of American trade unionism and its interaction with the American economy. Pr., 105. Gillingham
163. **Economics of Consumption.** (5) Historical development of human wants; standards of living; attempts to control consumption through individual and group action. Pr., 105. Worcester
164. **Labor Relations.** (5) Study of labor relations and collective bargaining in various branches of American industry, together with an analysis of experience here and abroad with government intervention in labor disputes. Pr., 105. Hopkins, Thayer
165. **Human Relations in Industry and Business.** (5) Through class discussion of actual cases, this course develops a useful way of thinking about and securing understanding of human situations in industry and business. Useful concepts and methods used in dealing with human situations are developed as aids in diagnosing as well as in taking action. Pr., junior or senior standing. Barnowe
166. **Industrial Relations for Engineers.** (3) This is a summary course dealing with the principles and practices of the management of personnel in industry. For students in engineering. Pr., 3 and junior standing. Should be taken with or preceded by Psych. 4. Barnowe
167. **Personnel Management.** (5) Surveying the practices and techniques in personnel activities of business and industrial concerns with emphasis on employment, training, employee relations, counseling, employee services, safety, wages and salary administration, and personnel research. Pr., 165. Barnowe
169. **Real Estate II.** (5) Types of real estate uses and their characteristics; appraisals of farm and urban land and improvements; property rights, real estate finance; management of real property; leases. Pr., 109. Demmery
170. **Advanced Statistical Analysis.** (5) Analysis of problems and cases to develop ability in applying statistical technique to practical problems in economics and business. Pr., 60. Butterbaugh
171. **Public Finance and Taxation I.** (5) Growth of public expenditures; underlying principles and theory of various forms of public revenue; character of various forms of taxation; the principles and practices of public credit and of public financial administration. Pr., 103. Hall

172. **Public Finance and Taxation II.** (5) Analysis of fiscal thought; methods and problems in expenditure analysis; study of tax systems; equity and incidence in taxation; critical evaluation of the use of public credit and the custody and disbursement of public funds. Pr., 171. Hall
175. **Business Fluctuations.** (5) Survey of business fluctuations—trends, seasonal variations, irregular fluctuations, and business cycles; proposals for controlling them; analysis of current economic conditions; business forecasting. Pr., senior standing. Demmery
177. **Casualty Insurance.** (5) Meaning and development of casualty insurance, types of companies underwriting casualty risks, basis of legal liability which is the source of much casualty insurance. The types of coverage include workmen's compensation, various kinds of automobile hazards, miscellaneous public utility risks, burglary and theft, plate glass, power plant, credit, health and accident insurance. Premium rates and regulation of casualty insurance business. Pr., 108.
178. **Law in Accounting Practice.** (3) Business associations and bankruptcy. Pr., 54, 55. Brown
- 180A. **B, C, D. Professional Practice in the Apparel Industry.** (2) A practical in-training course in manufacturing and merchandising of apparel. The student will actually work in the industry as in a laboratory gaining first hand experience in applying the techniques learned in the University. Reports must be made regularly to the course coordinator. The credit will be for the reports, not for the work. Pr., permission.
181. **Economic Development of the United States.** (5) Special attention to manufactures, commerce, labor, finance, and agriculture. Pr., 30 upper-division credits in economics and business. Mathy
182. **Economic Problems of the Far East.** (5) Commercial policies, exchange and finance, distribution, transportation, labor, reconstruction problems, industrialization, relation of government to business, agriculture, the problems of a "dependent" economy. Pr., 107 or permission. Huber
183. **Economic Problems of China.** (5) Agricultural production; agrarian reform problems; local market economy; industrialization; taxation; currency and banking; foreign cooperation in Chinese development. Pr., 107 or permission.
185. **Advanced Economics.** (5) A study of markets, the making and control of prices, pricing formulas for industrial products, the laws of cost, and application of price analysis to wages, rent, interest, and profit. Pr., 120 university credits. Mund
186. **Institutional Economics.** (5) The economic theory of the institutional school and its relationship to other recent developments in economic thought. Special attention is given to the points of contact between institutional theory and marginal theory. Pr., 185. Gillingham
187. **History of Economic Thought.** (5) The rise of modern capitalism, and the development of thought on the system of free enterprise. Special attention is given to the Mercantilists, the Physiocrats, Adam Smith, Ricardo, the Socialists, and to recent economic thought. Pr., 185, or senior standing and permission. Mund
188. **Comparative Economic Systems.** (5) A survey of the present economic systems of the leading nations. Emphasis to be placed upon a comparison of private competitive enterprise in democratic countries with socialism, communism, and fascism. Pr., 2 plus 10 cr. upper-division economics, or permission. Worcester

#### Research Courses for Undergraduates and Graduates

191. **Statistical Problems.** (3) An advanced course dealing with sampling theory; statistical quality control; techniques of forecasting through use of multiple correlation, time series analysis, and business index-numbers; and analysis of variations in statistical results. Pr., 170. Butterbaugh
192. **Research in Labor.** (3) Pr., permission.
- 193A. **B, C. Problems in Wholesaling, Retailing, and Advertising.** (3, 3, 3) Individual and group study. Required business contacts. Compiling, organizing, and interpreting data from original and library sources. Each student will specialize in one of the three fields. Pr., 133, 134, permission. Burd
- 194A. **B. Research in Transportation.** (3, 3) Open only to qualified students in transportation who will be placed in part-time contact with transportation agencies. Pr., permission.
- 195A. **B, C. Research in Management and Accounting.** (3, 3, 3) Open to qualified undergraduates and graduate students. Pr., permission. Gregory
- 196A. **B, C. Research in Public Utilities or Public Finance.** (3, 3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Hall
- 197C. **Research in International Trade.** (3) Open to qualified undergraduate and graduate students. Pr., permission. Huber
- 199B. **C. Research in Real Estate and Business Fluctuations.** (3, 3) Open to qualified undergraduate and graduate students. Pr., permission. Demmery

#### Courses for Graduates Only

- 200A. **B, C. Thesis Seminar.** (No credit)
- 202B. **Graduate Seminar in Finance.** (5 to 7) Pr., permission. Preston
- 204C. **Graduate Seminar in Transportation.** (5 to 7) Economic aspects of current transportation problems. Pr., permission.
- 205C. **Graduate Seminar in Public Finance.** (5 to 7) Pr., permission. Hall
- 206B. **Graduate Seminar in Labor.** (5 to 7) Theories and problems. Pr., one advanced course in labor, and permission. Hopkins
- 208A. **Graduate Seminar in Economics.** (5 to 7) Systematic review of the theories of value, price, and distribution; special reference to recent developments. Pr., permission. Mund

- 210A. C. French and German Economists. (3, 3) Pr., permission.  
 214A. Graduate Seminar in International Economics. (5 to 7) Pr., permission. Huber  
 235. Graduate Seminar in Marketing. (5 to 7) Social, economic, and business implications of current problems in marketing. Pr., one marketing course and permission. Burd  
 251. Graduate Seminar in Administration. (5 to 7) A study of the administrative function with emphasis upon organization, leadership, and control within the business unit. Pr., one advanced course in management, and permission. Mackenzie  
 258. Graduate Seminar in Accounting. (5) Pr., permission. Lorig  
 Teachers' Courses in Economics and Business. (See Educ. 75E, 75F.)  
 Not offered in 1948-1949: 155, Cost Accounting II; 212, Seminar in Public Service Problems.

## EDUCATION

*Professors Powers, Bolton, Cole, Corbally, Draper, Dvorak, Osburn, Stevens, Williams; Associate Professors Jessup, Hayden; Assistant Professor Barr*

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

1. Education Orientation. (2) Credit only to freshmen and sophomores. Required of all undergraduates planning to secure the Three-Year Secondary Certificate. Williams
  - I. Elementary Courses (Upper-Division Credit)
    9. Psychology of Secondary Education. (3) Pr., 1, Psych. 1. Powers, Batie
    30. Washington State Manual. (0) For all applicants for Washington teaching certificates. To be taken the same quarter as 71. Corbally, Jessup
    60. Principles of Secondary Education. (3) Pr., 1, 9, 70, 71-72, 75, 90. Analysis of the problems of the junior and senior high school. Draper
    70. Introduction to Secondary School Procedures. (5) Pr., 1, 9. Williams, Jessup
    - 71-72. Cadet Teaching. (Semester basis, 5-3) Course 72 may precede or follow 71, but both courses must be taken to make a total of 8 credits for cadet teaching. Pr., 1, 9, 70, 90, 75 or approved equivalent, and all-University grade-point average of at least 2.2. Work is done in the Seattle schools; a student should leave three consecutive hours free in either the morning or the early afternoon for this course. Education 30 must be taken during the same quarter as Education 71. Assignments are made in room 113B Education Hall the first day of the fall quarter and the third Monday in January. A fee of one dollar per credit is charged for the course. Corbally, Powers
    - 71N-72N. Cadet Teaching for Vocational Home Economics Majors Only. (5-3) Pr., as for 71-72. Education 30 must be taken the quarter immediately preceding or following 71N-72N. Work is done in selected vocational home economics departments near Seattle. The student's entire time for a period of five weeks is devoted to cadet teaching. Home Economics 148 and 195 are arranged in a block with 71N-72N to give a full schedule for the quarter. A fee of one dollar per credit is charged for the course. Corbally
    - 71P-72P. Cadet Teaching for Women Physical and Health Education Majors. (5-3) Pr., as for 71-72. Education 30 must be taken prior to 71P-72P. A fee of one dollar per credit is charged for the course. Corbally
    90. Measurement in Secondary Education. (2) Pr., 1, 9, 70. A study of measurement in today's schools; the construction of achievement tests; and principles underlying the application of test results. Hayden
  - II. Intermediate Courses (Upper-Division and Graduate Credit)
    101. Educational Psychology. (3) Theoretical principles and experimental backgrounds. Powers
    104. Psychology and Training of Exceptional Children. (5) Atypical children studied from the point of view of the classroom teacher. Hayden
    120. Educational Sociology. (3) Problems of education related to process of social evolution. Jessup
    121. Remedial Teaching. (3) Osburn
    123. Learning Processes of Handicapped Children. (3) Osburn
    125. Teaching Reading and Remedial Reading. (3) Osburn
    127. Adult Education. (3) Jessup
    140. School Supervision. (4) The improvement of school work through the in-service education of teachers. Jessup
    141. Supervision of Elementary School Subjects. (4) Jessup
    - 145B. Principles of Safety Education. (3) Corbally
    - 145S. Auditory and Visual Aids in Teaching. (3) Hayden
    146. Extracurricular Activities. (3) An analysis of the extracurricular programs in the secondary schools. Draper
    147. Principles of Guidance. (3) Corbally
    153. Elementary School Curriculum. (4) Jessup
    164. Principles and Techniques of Curriculum Making. (3) Draper
    180. History of Education. (3) Social interpretation of the historic beginnings of education. Jessup

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| 183. | Historical Backgrounds of Educational Methods. (3)   | Williams |
| 184. | Comparative Education. (5) Modern education in foreign countries.  | Jessup   |
| 188. | Philosophy of Education. (3)   | Jessup   |
| 191. | Advanced Educational Measurement. (3) Pr., 90 or equivalent.   | Dvorak   |
| 193. | Character Education. (3)   | Powers   |
| 199. | Individual Undergraduate Research. (2 to 5 ea. qtr.) Pr., consent of instructor. Indicate instructor and field. See 300. | Staff    |

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

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|----------------|--|----------|
| 201.           | Advanced Educational Psychology. (3) Pr., courses in general and educational psychology.   | Powers   |
| 220.           | Seminar in Educational Sociology. (3)  | Corbally |
| 235, 236, 237. | Organization of Supervisory and Administrative Programs. (5, 5, 5) Types of school organization; supervision and professional improvement of staff; pupil accounting; system of grading; classification and program of subjects. | Cole     |
| 260, 261.      | Seminar in Secondary Education and Curriculum. (3, 3)  | Draper   |
| 267, 268, 269. | Guidance and Counseling. (3, 3, 3) Counseling in colleges and public schools.  | Barr     |
| 270, 271.      | Problems in Modern Methods. (3, 3)   | Williams |
| 287, 288, 289. | Seminar in Philosophy of Education. (3, 3, 3)  | Williams |
| 290.           | Educational Statistics. (5)  | Dvorak   |
| 291.           | Methods of Educational Research. (3) Required of advanced degree candidates in Education. A study of practices and methods in conducting research. Designed to assist students in planning, organizing, and writing theses.      | Hayden   |
| 300.           | Graduate Research. (†)<br>Field of interest should be indicated by letter when registering. Indicate instructor.   | Staff    |
- |   |  |
|---|--|
| A. Educational psychology                     | G. History and philosophy of education     |
| B. Educational sociology                      | and comparative education                  |
| C. Educational administration and supervision | H. Higher education                        |
| D. Elementary education                       | I. Curriculum                              |
| E. Secondary education                        | J. Guidance and extracurricular activities |
| F. Classroom techniques                       | K. Remedial and special education          |

**THESIS.** (†) Advanced degree candidates in Education working on theses must be registered for "thesis" unless specially exempted by the Dean of the College of Education. This registration should be for the period during which the thesis is being prepared under the direction of a major professor. The normal allowance for a master's thesis is 6 credits, and for a doctor's thesis, 30 credits. When registration is for "thesis only," an incidental fee of \$12.50 is charged and the work, if desired, may be done *in absentia*. Staff

### Special Methods Courses in Secondary Subjects

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|-------|--|--------------|
| 75A.  | Art. (2) Pr., Educ. 1, 9, 70, senior standing; permission.   | Johnson      |
| 75B.  | Botany. (2) Pr., Educ. 1, 9, 70, and 25 hours of botany.   | Blaser       |
| 75C.  | Chemistry. (2) Pr., Educ. 1, 9, 70, and at least 20 credits of college chemistry of average "B" grade.   | Cady         |
| 75D.  | Civics. (2) Pr., Educ. 1, 9, 70.   | von Brevem   |
| 75E.  | Commercial Course, Accounting. (5) Two credits count as education, three credits as economics and business. Pr., Educ. 1, 9, 70, and 30 credits of the 49 required for a major in commercial teaching, including 10 credits in accounting.   | O. E. Draper |
| 75F.  | Commercial Course, Shorthand and Typewriting. (5) Pr., Educ. 1, 9, 70; E.B. 16-17-18, and permission.  | Hamack       |
| 75H.  | English. (5) Two credits count as education and three as English. Pr., Educ. 1, 9, 70.   | Emery        |
| 75J.  | Journalism. (3) Pr., Educ. 1, 9, 70, Journ. 1, 51, 84.   | Brier        |
| 75K.  | French. (2) Pr., Educ. 1, 9, 70; French 103 and 158, or concurrently. Examination and critical consideration of aims, problems, methods, and modern techniques and devices for teaching French.  | Simpson      |
| 75L.  | German. (2) Pr., Educ. 1, 9, 70; German 120, or permission.  | Meyer        |
| 75M.  | History. (5) Special reference to work of high school; two credits count as education and three as history. Pr., Educ. 1, 9, 70.   | Codd         |
| 75NA. | Home Economics. (3) Two credits count as education and one as home economics. Vocational homemaking in Washington high schools, objectives, curricula, and teaching methods. Pr., Educ. 1, 9, 70; 25 credits in home economics.  | McAdams      |
| 75NB. | Methods of Teaching for Institution Administration Students. (5) Planning and organizing courses and procedures for teaching foods and nutrition; for nurses, interns, patients, and employees of hospitals or other institutions. Pr., junior or senior standing, 25 credits in home economics. | McAdams      |
| 75O.  | Geography. (2) Pr., Educ. 1, 9, 70, and permission.  | Tennant      |
| 75P.  | Latin. (2) Pr., Educ. 1, 9, 70; Latin 100 or equivalent.   | Read         |

†To be arranged.

- 75Q. Mathematics. (3) Two credits count as education, one as mathematics. Pr., Educ. 1, 9, 70; Math. 109 or equivalent. Jerbert
- 75R. Senior High School Music. (2) Pr., Educ. 1, 9; Music 98. Adams
- 75U. Physical Education for Men. (2) Pr., Educ. 1, 9, 70; P.E. 158, 161, 163. Reeves
- 75V. Health and Physical Education for Women. (2) Pr., Educ. 1, 9, 70; current registration in Educ. 71P-72P; P.E. 156, 162, 163, 164. K. Fox
- 75X. Speech. (3) Pr., Educ. 1, 9, 70; Speech 50. Nelson
- 75Y. Spanish. (2) Pr., Educ. 1, 9, 70; Spanish 103 and 158, or concurrently. Examination and critical consideration of aims, problems, methods, and modern techniques and devices for teaching Spanish. Simpson
- 75Z. Zoology. (2) Pr., Educ. 1, 9, 70; 20 credits in zoology. Hatch

## ENGINEERING

## I. AERONAUTICAL ENGINEERING

*Professors F. S. Eastman, Kirsten; Associate Professors, H. C. Martin, R. M. Rosenberg; Assistant Professors Duinnell, Ganzer; Instructor Rossman*

81. Introduction to Aeronautics. (2) History, opportunities, specialization, sources of information, nomenclature. Pr., sophomore standing.
100. Aircraft Engines. (3) Operating characteristics of conventional engines at altitude. Different types are considered, including jet engines. Pr., Phys. 99, M.E. 183.
101. Aerodynamics. (3) Fundamental fluid relations and their application to aerodynamics. Pr., C.E. 142, Math. 43, Physics 97, 98, 99.
102. Aerodynamics. (3) Wing section and planform characteristics; parasitic drag. Pr., 101.
103. Airplane Performance. (3) Basic performance computations; rapid methods of estimation. Pr., 102.
104. Laboratory Methods. (3) Verification of fluid relations and study of properties of wind tunnels. Two lect.; one 3-hr. lab. Pr., 101.
105. Airfoil Test Laboratory. (2) Determination of airfoil characteristics by force and pressure measurement in two and three dimensional flow; boundary layer phenomena. One lect.; one 3-hr. lab. Pr., 102, 104.
106. Model Testing. (3) Typical model testing in the 12-foot tunnel. Reduction, correction, analysis, and application of data; scale effect. Lecture and computation period; one 3-hr. lab. Pr., 105.
107. Advanced Wind Tunnel Testing. (2) One lect.; one combined lab. and computation period. Pr., 105; special permission.
111. Airplane Design. (4) Aerodynamic design and layout; weight and balance; stability and control. Pr., 103.
112. Design Loads. (2) Determination of flight and landing loads; compressibility effects; military and commercial requirements. Pr., 103.
121. Lighter-than-air Craft. (3) Aerostatics; design and operation of rigid and nonrigid types. Pr., 102.
141. Aircraft Propulsion. (3) Screw-propeller theory, design, and performance calculation. Pr., 102, 171.
142. Advanced Aircraft Propulsion. (3) Pr., 141.
161. Applied Differential Equations. (3) Application of ordinary differential equations to the solution of various engineering problems. Vibrations; reaction propulsion. Pr., permission.
- 171, 172. Aircraft Structural Analysis. (4, 4) Design and allowable stresses for common aircraft parts subjected to simple and combined loadings. Pr., C.E. 93, M.E. 111, 167; 171 for 172.
174. Aircraft Monocoque Structures. (3) Stress analysis; shear center; stiffened sheet in compression; partially buckled shear webs; fitting design. Pr., 172.
175. Structure Test. (2) Experimental verification of theoretical work done in 174. To be taken with 174. One lect.; one 3-hr. lab.
185. Aeronautical Engineering Measurements. (2) The use of standard and special measuring apparatus in aeronautical laboratories and in flight. Pr., senior standing.
- 188, 189, 190. Seminar. (0, 0, 1) Pr., senior standing.
199. Research. (2 to 5 ea. qtr.) Pr., senior standing.

*Courses for Graduates Only*

201. Theoretical Aerodynamics I. (3) Potential flow theory; circulation; rotation; downwash and ground effects; lift distribution; viscosity effects.
202. Compressibility. (3) Compressible fluid theory; shock wave phenomena; empirical results and applications.
203. Dynamic Stability. (3) Theory and calculations; application to design and flight testing.
204. Aircraft Vibration and Flutter. (3) Forced vibrations with damping; beam vibration; flutter phenomena theory and design applications.
205. Theoretical Aerodynamics II. (3) Spanwise and chordwise pressure distributions. Applications to wing layout and airfoil section design problems.
206. Advanced Airplane Design. (3) Advanced application of theoretical and experimental results to the aerodynamic design of the aircraft.

- 217, 218, 219. Graduate Seminar. (†)
222. Elastic Stability. (3) Column and plate instability; stiffened panels with combined loadings; buckling of shells; elastic energy methods.
223. Aircraft Structural Design. (3) Selection of optimum type structure; design of spars and monocoque components; shear distribution and torsion; effects of shear lag.
241. Rotary Wing Aircraft. (3) Flying characteristics; theoretical approach to lift and thrust obtainable; performance estimation.
242. Reaction Propulsion. (3) Thermodynamic and aerodynamic principles of various jet and rocket configurations; application to design; duct design and installation.
252. Supersonic Aerodynamics. (3) Mathematical approach to supersonic flow problems. Plane and oblique shock-wave phenomena. Experimental methods and applications.
300. Research. (2 to 5 ea. qtr.)
- Not offered in 1948-1949: 83, General Aeronautics; 151, Special Aeronautical Designs; 173, Aircraft Structural Mechanics; 221, Elasticity in Aircraft.

## II. CHEMICAL ENGINEERING

*Professor Emeritus Benson; Associate Professors Moulton, McCarthy; Assistant Professors Gerald, West; Acting Instructor Fetterly; Associate Mulvaney*

51. Industrial Chemical Calculations. (2) Application of the laws of chemistry to the solution of problems dealing with gases and gas-vapor mixtures, from the viewpoint of the chemical engineer, technics of representation of chemical data. Two lectures. Pr., Chem. 23 or 26, Math. 33, or equivalents. Gerald
52. Industrial Chemical Calculations. (2) Material and energy balances of industrial processes for preparation and combustion of gaseous, liquid, and solid fuels. Two lectures. Pr., 51. Gerald
53. Industrial Chemical Calculations. (2) Material and energy balances of typical important chemical processes, crystallization, lime and cement manufacture, production of sulphuric acid and sulfur compounds. Two lectures. Pr., 52. Gerald
74. Elementary Electrochemistry. (2) Two lectures. Not open to chemists and chemical engineers. Pr., Chem. 26, Physics 98. Moulton
121. Chemistry of Engineering Materials. (5) Materials of construction, water conditioning and treatment, solid and gaseous fuels, destructive distillation of coal, industrial carbon, ceramics, cements, glasses, iron and steel. Three lectures and two lab. periods. Pr., Chem. 111 or equivalent. Moulton
122. Inorganic Chemical Industries. (5) Development and control of inorganic unit processes, instrumentation, fertilizers, electrolytic industries, electrothermal industries, phosphorus industries, sulfur, sulfuric acid and nitrogen industries. Three lectures and two lab. periods. Pr., Chem. 111 or equivalent. Moulton
123. Organic Chemical Industries. (5) Development and control of organic unit processes, paint industries, oils, fats, waxes, soaps and detergents, sugar and starch, fermentation industries, wood chemicals, pulp and paper, synthetic fibers, plastics, natural and synthetic rubbers, petroleum, and dye industries. Three lectures and two lab. periods. Pr., Chem. 111 or equivalent. Moulton
152. Advanced Chemical Calculations. (3) Mathematical study of chemical operations, use of calculus in typical engineering problems. Three lectures. Pr., Math. 41 or equivalent. Moulton
170. Unit Operations. (3) A study of the fundamental unit operations of chemical engineering beginning with the film theory, fluid flow, flow meters, heat transfer, humidification and drying. Three lectures. Pr., 53. West
171. Unit Operations. (4) A continuation of Ch. E. 170 in which absorption and distillation are studied from the standpoints of equilibria, operating lines, rates, and size of equipment required. The laboratory covers the subject matter of Ch. E. 170. Two lectures and two lab. periods. Pr., 170. West
172. Unit Operations. (4) A continuation of Ch. E. 171 with a study of adsorption, extraction, crushing and grinding, screening, and laws of settling. The laboratory covers primarily the subject matter of Ch. E. 171. Two lectures and two lab. periods. Pr., 171. West
173. Unit Operations. (4) A continuation of Ch. E. 172 with a study of evaporation and crystallization and with a comprehensive design problem. The laboratory covers the subject matter of Ch. E. 172 and 173. Two lectures and two lab. periods. Pr., 172. West
174. Chemical Engineering Thermodynamics. (3) Pressure-volume-temperature relationships, equations of a state, and thermodynamic laws and properties are discussed with reference to unit operations. Three lectures. Pr., Chem. 181 and 182 or equivalent. McCarthy
- 176, 177, 178. Chemical Engineering Thesis. (1 to 5 ea. qtr.) An assigned problem in unit operations or applied chemistry is investigated first in the literature and then in the laboratory and the results are incorporated into a thesis. Staff
179. Research in Electrochemistry. (2 to 5) Pr., permission. Staff

### *Courses for Graduates Only*

- 218, 219, 220. Advanced Unit Processes. (2, 2, 2) Study of selected chemical process industries. Two lectures. Pr., 123. Staff
237. Chemistry of High Polymers. (2) Fundamentals of substances with high molecular weight, including study of valence consideration, molecular weight determination, polymerization and

†To be arranged.



condensation reactions, cracking, fiber and film formation, glasses, and mechanical properties as related to chemical structure. One lecture and one lab. period. Pr., Chem. 132, 182.

McCarthy

238. **Chemistry of High Polymers.** (2) Chemistry and technology of substances with high molecular weight, including natural and synthetic hydrocarbons, vinyls, rubbers, phenol-aldehyde resins, lignin, cellulose, starch, glycogen, nylons, proteins, and silicones. Two lectures. Pr., Chem. 132, 182. McCarthy
240. **Advanced Chemical Engineering Thermodynamics.** (3) General equations for phase equilibrium are studied. Applications of thermodynamics to unit operations and to prediction of chemical equilibria are developed in some detail. Three lectures. Pr., Chem. 201 or equivalent. McCarthy
241. **Advanced Unit Operations.** (3) Heat transfer and fluid flow, measurement of temperature and heat capacity, dimensional analysis, Fourier's law, steady and unsteady state heat conduction, radiant energy, energy transfer, fluid flow mechanisms, energy balances, Bernoulli's theorem, viscosity concepts, Poiseuille's and Fanning's equations, friction factors, convection heat transfer, Reynold's analogy, film coefficient correlations by use of Nusselt, Prandtl, Graetz and Reynold's numbers, overall heat transfer coefficients, introductory design calculations. Three lectures. Pr., 171. McCarthy
242. **Advanced Unit Operations.** (3) Diffusion theory, transfer of material between phases, design of absorption equipment, Kremsler method, multicomponent systems, performance of absorption equipment, simultaneous absorption and chemical reaction, solvent extraction. Three lectures. Pr., 172. Moulton
243. **Advanced Unit Operation.** (3) Advanced work in binary and multicomponent distillation, use of activity coefficients, enthalpy-concentration diagrams, plate-to-plate calculations, minimum reflux, estimation of theoretical plates, capacity, prediction of plate efficiencies, H.T.U. concept, azeotropic and extractive distillation, problems in batch distillation. Three lectures. Pr., Chem. 173. West
- 244, 245, 246. **Advanced Unit Operations.** (3, 3, 3) Special problems in advanced unit operations. Three lectures. Pr., 241. Staff
247. **Industrial Electrochemistry.** (3) Theoretical and applied electrochemistry, units and laws, overvoltage and polarization, analysis, oxidation and reduction, deposition, refining, metallurgy, and electrothermics. Three lectures. Pr., Chem. 182 or permission. Moulton
249. **Graduate Seminar.** (1 to 5) Offered as desired by various members of the staff. Staff
300. **Research.** (†) Maximum: total of 9 credits for master's degree; total of 45 credits for doctor's degree. Staff

### III. CIVIL ENGINEERING

*Professors Van Horn, Farquharson, Harris, Hennes, May, Miller, Sergev, Smith, Tyler; Professor Emeritus More; Associate Professors Moritz, Rhodes; Assistant Professors Campbell, Chittenden, Clanton, Collier, Jari, Sylvester; Instructors Chenoweth, Horwood, Martin, Mason, Meese, Mittet, Pendleton; Lecturer Hauan*

56. **Forest Surveying.** (8) The use of steel tape, compass, clinometer, level transit and plane table. Pack Forest.
90. **Mechanics.** (4) Introduction to dynamics and statics. A condensed course for transfer students satisfying the requirements of G.E. 11 and 12. Pr., 1 yr. of college math., preceded by or concurrent with Physics 97; not a substitute for either 91 or 92.
91. **Mechanics.** (3) Kinetics, kinematics, and applied dynamics. Pr., 90 or G.E. 12, Math. 33; preceded by or concurrent with Physics 97. Staff
92. **Mechanics.** (3) Mechanics of materials. Theory, analysis, and design of machine and structural members. Pr., 91 or permission. Staff
93. **Mechanics.** (3) Dynamics and mechanics of materials, continued. Pr., 91, 92. Staff
112. **Route Surveying.** (3) Alignment survey problems associated with the location of highways and railways including preliminary and final location, staking of curves, compensation for curvature and sight distance, preparation of location map for highway. Pr., G.E. 21. Chittenden
113. **Location and Earthwork.** (3) Highway and railway grades, profiles, cross sections, earthwork quantities including shrinkage and swell, and application of the mass diagram to the problems of haul; legal description; estimates. Pr., 112. Chittenden
114. **Intermediate Surveying.** (3) Adjustment of instruments, calibration of tapes, horizontal and vertical control of intermediate precision, determination of azimuth, state plane coordinates, mapping. Pr., G.E. 21. Chittenden
115. **Geodesy and Photogrammetry.** (3) Baseline measurement, triangulation, engineering astronomy, photogrammetry, and photo-interpretation. Pr., 114. Chittenden
- 116, 117, 118. **Structural Engineering for Architects.** (4, 4, 4) Girders, columns, and roof trusses in timber and steel; concrete slab, joist, column design, etc. Pr., junior standing in architecture, Math. 56, G.E. 48. Radcliffe

†To be arranged.

**Transportation Engineering**

121. **Roads and Pavements.** (3) Road-building methods and materials. Pr., junior standing in engineering. Clanton, Meese
123. **Railway and Waterway Engineering.** (3) Locomotive performance and train resistances; roadbed; railway location. Port development; breakwaters; channel control works. Pr., 113, 142. Heanes, Meese
124. **Highway Design.** (3) Theories of rigid and flexible pavements; design of bituminous mixtures; intersections and roadway design; culverts. Two lectures and one lab. period. Pr., 121. Hennes, Clanton
125. **Principles of Transportation Engineering.** (3) Planning of highway, railway, air, and water transportation. Development of the master plan. Pr., senior or graduate standing; not open to civil engineering students.
126. **Airfield Design.** (3) Runway layout, paving, lighting, and drainage of airfields. Pr., senior or graduate standing. Meese
128. **Highway Administration.** (3) Financing, planning, and operation of highways. Pr., graduate standing or permission. Hennes

**Hydraulic and Sanitary Engineering**

142. **Hydraulics.** (5) Flow of water through pipes and orifices, over weirs, and in open channels; energy of jets with application to impulse wheels. Three lect., six hrs. lab. Pr., 91. Harris, Moritz, Campbell
143. **Hydraulic Engineering.** (5) Complete projects, hydrometric methods; design of gravity spillway, flume intakes, surge, economic design of pipe line. Pr., 142. Van Horn, Moritz, Campbell
145. **Hydraulic Machinery.** (3) Development and theory of water wheels and turbine pumps; design of a reaction turbine; hydrostatic machinery and dredging equipment. Pr., 142. Harris, Moritz
147. **Hydraulic Power.** (3) Investigation of power development; generation of power; penstocks and turbines; types of installation. Pr., 143 and/or 142; senior standing. Harris
150. **Sanitary Science and Public Health.** (3) Sources of infection and modes of transmission of diseases. Bacteriological and chemical analyses of water and sewage. Pr., Chem. 2, 22, or equivalent. Two lect., four hrs. lab. Sylvester
151. **Sanitation and Plumbing.** (2) For architects. Hauan
152. **Municipal Engineering.** (3) For students in city planning. City streets, traffic, and transportation. Municipal sanitation. Pr., junior standing. Not open to civil engineering students. Tyler
153. **Principles of Regional Planning.** (3) Land use, development of natural resources, and land settlement. Pr., senior or graduate standing. Tyler
154. **Sanitary Designs.** (3) Sewers, sewage disposal, and water-purification plants. Pr., 155, 158. Tyler
155. **Water Supply Problems.** (3) Design, cost estimation, construction, operation, and maintenance of water supplies, distribution systems, and purification plants. Pr., 142, 150. Tyler, Sylvester
157. **Reclamation.** (3) Drainage and irrigation engineering. Soil conservation. Pr., 143 and senior standing. Van Horn
158. **Sewerage and Sewage Treatment.** (3) Design, operation, and maintenance. Refuse collection and disposal. Pr., 142, 150. Tyler, Sylvester

**Engineering Materials**

158. **Materials of Construction.** (3) Portland cement and concrete, concrete mixtures. Three hrs. lab. Pr., 92. Collier, Mason
163. **Materials of Construction.** (3) Strength and physical characteristics of timber, steel, and structural aluminum alloys. Three hrs. lab. Pr., 92. Smith, Mittet
166. **Soil Mechanics.** (3) Engineering properties of soils; bearing capacity and settlement of foundations. Four hrs. lab. Pr., senior standing in engineering. Hennes, Meese
167. **Earthwork Engineering.** (3) Design, construction, and analysis of earthwork. Four hrs. lab. Pr., 166. Hennes

**Structural Analysis and Design**

171. **Structural Theory.** (3) Introduction to continuous structures. Reinforced concrete members and connections. Elastic-line methods. Pr., 93. Jarvi, Mittet
172. **Structural Theory.** (3) Stresses and deflections of beam and girder spans. Wood and steel members and connections. Combined stress members. Pr., 93. Jarvi, Mittet
173. **Structural Theory.** (3) Stresses and deflections of trusses and simple frames. Influence lines. Moving loads. Strain-energy methods. Pr., 172. Jarvi, Mittet
175. **Structural Design.** (3) Reinforced concrete retaining walls and buildings. Rigid frames. Pr., 171. Miller, Rhodes
176. **Structural Design.** (3) Reinforced concrete, steel, and wood bridges. Girder and truss spans. Pr., 173, 175. Miller, Rhodes
177. **Structural Design.** (3) Wood and steel frame buildings. Roof trusses. Pr., 176. Miller, Rhodes

181. **Advanced Structural Theory.** (3) Hinged arches and continuous trusses. Graduates in civil engineering or permission. Miller
182. **Advanced Structural Theory.** (3) Hingeless arches and members of nonuniform section. Graduates in civil engineering or permission. Miller
183. **Advanced Structural Theory.** (3) Multi-story and non-rectangular rigid frames. Graduates in civil engineering or permission. Miller

*Special Senior and Graduate Courses*

- 191, 193, 195. **Advanced Professional Design and/or Analysis.** (2 to 5 ea. qtr.)
209. **Engineering Relations.** (3) A study of business relations and economic conditions involved in engineering projects. Pr., senior or graduate standing.

*Courses for Graduates Only*

220. **Seminar.**
221. **Theory of Elasticity.** (3) Sergev
223. **Advanced Strength of Materials.** (3) Sergev
225. **Elastic Stability.** (3) Sergev
300. **Research.** (†) Special investigations by graduate students under the direction of members of the staff.

**IV. ELECTRICAL ENGINEERING**

*Professors A. V. Eastman, Loew, Hoard, Lindblom, Shuck, G. S. Smith; Associate Professors Cochran, W. R. Hill; Assistant Professors Bergsleb, Lewis, Palmer; Instructors A. B. Jacobsen, Robbins, W. E. Rogers, Rustobakke, E. H. Smith, Swann, Tanner*

99. **Direct-current Circuits.** (5) Three hours lecture and recitation, two hours problems, four hours lab. on alternate weeks. Beginning course for E.E. majors on direct-current circuit theory, including Ohm's Law, Kirchhoff's Law, Thevenin's Theorem, Superposition Theorem, effects of temperature. Pr., Math. 33, G.E. 11 or C.E. 90.
101. **Direct Currents.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course in direct-current circuits and machinery for those who are not electrical engineering students. Pr., Physics 98, Math. 33, G.E. 11 or C.E. 90.
105. **Electric Wiring.** (2) Two hours lecture and recitation. Special course for architects.
109. **Basic Field Theory.** (5) Two hours lecture and recitation, two hours problems, four hours lab. Basic study of magnetic and dielectric fields under static conditions. Simple transient phenomena in electric circuits. Pr., 99, Math. 41.
111. **Direct-current Machinery.** (3) Two hours lecture and recitation, two hours problems. Construction, operation, and characteristics of direct-current machinery. To be taken with 112. Pr., 109.
112. **Direct-current Machinery Laboratory.** (4) Eight hours lab. Experimental work on direct-current machinery. To be taken with 111.
121. **Alternating Currents.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course in alternating-current circuits and machinery for those who are not electrical engineering students. Pr., 101.
125. **Vacuum Tubes and Electronics.** (5) Three hours lecture and recitation, four hours lab. and problems. Short course for those who are not electrical engineering students, covering vacuum-tube construction, rectifiers, amplifiers, oscillators, and other electronic phenomena. Pr., 121.
141. **Illuminating Engineering.** (3) Two hours lecture and recitation, three hours lab. Fundamental principles of illuminating engineering, including the design of practical lighting installations and a study of characteristics of illuminaires. Junior or senior elective. Pr., 159. Shuck
152. **Electrical Machine Design.** (3) One hour lecture, six hours lab. Design of a direct-current generator or motor, and of a transformer. Pr., 161. Lindblom
154. **Design of Electrical Apparatus.** (4) Two hours lecture, six hours lab. Design of switchboards, transformers, alternators, alternating-current motors, etc. Pr., 152. Lindblom
159. **Alternating-current Circuits.** (5) Three hours lecture and recitation, two hours problems, four hours lab. on alternate weeks. Theory of single-phase and three-phase circuits including vector notation. Pr., 109.
161. **Alternating-current Machinery.** (4) Three hours lecture and recitation, two hours problems. Theory of transformers, induction motors, alternators, synchronous motors, single-phase motors. To be taken with 162. Pr., 111 and 159.
162. **Alternating-current Machinery Laboratory.** (4) Eight hours lab. Experimental work with alternating-current machinery. To be taken with 161.
163. **Advanced Alternating Currents.** (6) Three hours lecture and recitation, two hours problems, four hours lab. Theory of rotary converters, dielectric phenomena, corona, transmission lines. Pr., 161.
165. **Electrical Measurements.** (3) Two hours lecture and recitation, three hours lab. Theory and operation of practical and precision measuring apparatus, including bridges, potentiometers, watt-hour meters, etc. Pr., 161.

†To be arranged.

- 170, 172, 174. **Individual Projects.** (2 to 5 ea. qtr.) Students registering for these courses are assigned a construction or design project to be carried out under the supervision of the instructor.
173. **Electric Power Systems.** (3) Two hours lecture and three hours lab. A general study of the elements and economics of power generation, transmission, and distribution. Pr., 161. Robbins
181. **Vacuum Tubes and Electronics.** (6) Three hours lecture and recitation, two hours problems, four hours lab. Fundamentals of vacuum tubes; theory of rectifiers and amplifiers; photoelectric cells; thyatrons; applications to power and communication fields. Pr., 159.
183. **Vacuum Tube Circuits.** (6) Three hours lecture and recitation, two hours problems, four hours lab. Theory of vacuum-tube oscillators, modulators, detectors, and amplifiers; applications in radio and other high-frequency fields. Pr., 181.
185. **Communications Networks.** (6) Three hours lecture and recitation, two hours problems, four hours lab. Network theorems; series and parallel resonance; theory of transmission lines; theory and design of filters; equalizers; impedance matching. Pr., 159.
187. **High-frequency Circuits and Tubes.** (5) Three hours lecture and recitation, four hours lab. A study of special tubes and circuits for use at very high frequencies. Trigger circuits, sweep circuits, and other auxiliary control circuits. Preliminary study of antennas and wave propagation. Pr., 183. Cochran
189. **Radio Design.** (2) One hour lecture, three hours lab. Problems of designing radio receivers and transmitters, and of audio and video amplifiers; selection of suitable components; proper layouts. Pr., 183. Jacobsen
190. **Radio-Telephone Transmitter Practice.** (2) Supervised study and practice in radio-telephone transmitter operation. Credit allowed only after student has passed U.S.F.C.C. first-class radio-telephone license examination. Pr., 183.
194. **Seminar.** (2-5)
195. **Electric Transients.** (4) Two hours lecture and recitation, two hours problems, four hours lab. on alternate weeks. Single and double energy transients in R, L, and C circuits; with either direct or alternating applied emf's; magnetically coupled circuits and circuits with variable parameters.
197. **Industrial Control.** (3) Two hours lecture and recitation, three hours lab. Theory, operation, and use of vacuum tubes, selsyns, autosyns, magnesyns, amplidyne, etc., in various types of control circuits. Pr., 161 and 181. Hoard

#### Courses for Graduates Only

203. **Advanced Circuit Theory I.** (3) Three hours lecture and recitation. Mathematical concepts applied in circuit analysis, including Fourier integrals, matrices, and complex variable. Pr., 161. Lewis
204. **Network Analysis.** (3) Three hours lecture and recitation. Advanced filter theory and applications including the analysis of feedback amplifiers. Pr., 181, 185, 203. Lewis
205. **Advanced Circuit Theory II.** (3) Three hours lecture and recitation. Application of operational calculus and the Laplace transformation to studies of the transient behavior of networks. Pr., 203. Lewis
221. **Advanced Transients.** (5) Three hours lecture and recitation, four hours lab. Transient phenomena in rotating machinery, transmission lines, corona, lightning; theory and use of impulse generator; precision use of oscillograph. Pr., 195. Smith
223. **Symmetrical Components.** (3) Three hours lecture and recitation. A study of unbalanced three-phase systems, transmission lines, and protection of alternating-current equipment, by means of symmetrical components. Pr., 163. Shuck
225. **Power Transmission.** (5) Three hours lecture, four hours lab. Theory, design, and operation of electric-power transmission lines. Pr., 163. Locw
241. **Electro-acoustics.** (5) Three hours lecture and recitation, four hours lab. and problems. Properties of sound, physiology of hearing; acoustics and properties of acoustical materials, electrical transducers, and sound reproduction. Pr., 181. Hill
251. **High-frequency Techniques.** (5) Three hours lecture and recitation, four hours lab. Cathode-ray tubes and circuits; trigger circuits; sweep circuits; ultra-high-frequency generators, including velocity-modulation tubes and magnetrons. Pr., 187. Cochran
261. **Wave Propagation.** (6) Four hours lecture and recitation, four hours lab. Vector analysis; Maxwell's equations; r-f transmission lines; antennas; arrays; wave guides; wave propagation through space. Pr., 185. Eastman
300. **Research.** (2 to 5 ea. qtr.)

#### V. GENERAL ENGINEERING

*Professors Wilcox, Brown, Warner; Associate Professors Rowlands, Jensen; Assistant Professors Boehmer, Douglas, Engel, Gullikson, Radcliffe; Instructors Avery, Cole, D. R. Douglass, Fisher, Hammer, Hoag, Macartney, McNeese, Melder, Messer, Sines; Lecturer Bliven*

1. **Engineering Drawing.** (3) Lettering; engineering sketching, fundamental principles of working drawings. Must be preceded or accompanied by solid geometry. Boehmer and Staff
2. **Engineering Drawing.** (3) Use of instruments; reading of drawings; detail and assembly drawings; tracing, standards and conventions. Pr., 1. Douglass and Staff
3. **Drafting Problems.** (3) Detailed analysis and solution of engineering problems by the use of drafting room methods. Descriptive geometry. Pr., 1 and 2. Warner and Staff
7. **Engineering Drawing.** (3) Short course for forestry students. Warner and Staff

11. **Engineering Problems.** (3) Training in methods of analyzing and solving engineering problems. Coaching in proper methods of work and study, including training in systematic arrangement and clear workmanship. Deals principally with dynamic problems. Student is assisted in orienting himself in his engineering work. Pr., high school physics and advanced algebra. Brown and Staff
12. **Engineering Problems.** (3) Elementary mechanics, statics and graphics. Continuation of the work in 11. Pr., 1, 11, and Math. 31. Gullikson and Staff
21. **Plane Surveying.** (3) Surveying methods, use of instruments, computations, mapping, U.S. public land surveys. Pr., 1, 2, and trigonometry. Engel and Staff
- 47-48-49. **Theory of Building Construction.** (3-3-3) Statics, strength of materials, and design of structural members and connections. Pr., Math. 56 and junior standing in architecture. Radcliffe and Staff
151. **Inventions and Patents.** (1) Law and procedure for patenting inventions, employer-employee relationship, trademarks. Pr., junior standing. Bliven

## VI. HUMANISTIC-SOCIAL STUDIES FOR ENGINEERS

*Associate Professors A. V. Hall, Chapman; Assistant Professor Hemenway; Associate White*

- E.B. 3. **Economics for Engineers.** (3)
- E.B. 57. **Business Law.** (3)
- E.B. 166. **Industrial Relations.** (3)
  - B. **Spelling, Punctuation, and Grammar.** (0) A noncredit course for students whose written work shows them insufficiently prepared for English 40 (or who fail to pass the admission test for H.-S. S. 40).
40. **Engineering Report Writing.** (1) Practice in accurate presentation of data in engineering reports; drill in good sentence structure and vocabulary. Pr., passing of test in the mechanics of writing.
81. **Technical Writing I.** (1) Principles of clear expression and of logical analysis; technical description, exposition of a process, and general exposition; order letters and letters of instruction; the laboratory report. Pr., H.-S. S. 40.
82. **Technical Writing II.** (1) Principles of convincing expression; adaptation of material to readers of unlike levels; analysis and evaluation of different points of view; argumentative writing; propaganda analysis; letters of adjustment and application. Pr., H.-S. S. 81.
83. **Technical Writing III.** (1) Studies in individual expression; analysis of superior writers widely varying in type; comparisons and contrasts; experimentation with different forms of expression, in an endeavor to develop the student's own characteristic style. Pr., H.-S. S. 82.
85. **Technical Writing.** (3) A course equivalent to English 81, 82, and 83 for students with schedules that are irregular. Pr., H.-S. S. 40.
123. **Humanities I.** (3) Pr., H.-S. S. 83 or 85.
124. **Humanities II.** (3) Pr., H.-S. S. 123.
125. **Humanities III.** (3) Pr., H.-S. S. 124.
194. **Nontechnical Reading I.** (1) Individual reading: literary and informational reading, planned to meet the greatest needs of the individual student; brief outlines and comments; weekly conference. Pr., H.-S. S. 83 or 85.
195. **Nontechnical Reading II.** (1) Great names in literature: readings in important works of the past or of the present, and in the works of their interpreters and critics; brief reports and outlines; weekly conference. Pr., H.-S. S. 194.
196. **Nontechnical Reading III.** (1) Contemporary literature: current views; new outlooks in science, literature, or art; brief reports and outlines; weekly conference. Pr., H.-S. S. 195.
- Psychology 4. **Industrial Psychology.** (3)

## VII. MECHANICAL ENGINEERING

*Professors McMinn, McIntyre, Mills, Schaller, Winslow; Professor Emeritus Eastwood; Assistant Professors Cooper, Crain, Day; Instructors Campbell, Foote, Guidon, Morrison, Newman, Nordquist, Owens, Snyder*

53. **Manufacturing Methods.** (1) Principles of the founding of ferrous metals. Three hours lab. Schaller, Snyder
54. **Manufacturing Methods.** (1) Mechanical and heat treatment of steel; gas and electric welding. Three hours lab. Schaller, Snyder
55. **Manufacturing Methods.** (1) Fundamental theory and practice of machining operations on iron and steel. Three hours lab. Schaller, Newman
81. **Mechanism.** (3) Operation of machines involving the transmission of forces and the production of determinate motions. Three lectures. Pr., G.E. 3, Math. 32. McIntyre, Cooper, Day
82. **Heat Engines.** (3) Various apparatus used in modern power plants; construction, use, and reason for installation. Not open to freshmen. Three lectures. Pr., G.E. 2. Cooper, Crain, Foote, Newman
83. **Heat-Power Laboratory.** (3) Calibration of instruments; horsepower tests; complete engine and boiler test. Two lectures, three hours lab. Preceded or accompanied by 82. McIntyre, Cooper, Crain, Newman

104. **Manufacturing Methods.** (2) Founding, welding, and machining of nonferrous metals. Three hours lab. Schaller
105. **Advanced Manufacturing Methods.** (1) Individual problems of machining operations on mechanical equipment. Three hours lab. Pr. 55. Schaller
106. **Advanced Manufacturing Methods.** (1) Study of machining problems from the standpoint of production. Three hours lab. Pr. 105. Schaller
107. **Production Planning.** (1) Design and equipment of a representative manufacturing plant. Three hours lab. Pr., 106. Schaller
108. **Production Management.** (3) A study of the location, operation, and organization of manufacturing plants. Three lectures. Schaller
109. **Factory Cost Analysis.** (3) Analysis of shop operations from the standpoint of manufacturing costs. Three lectures. Schaller
110. **Heating and Ventilation.** (2) Abridged for architecture students. Two lectures. Pr., junior standing in architecture. Crain
- 111, 112. **Machine Design.** (3, 3) Six hours lab. Pr., C.E. 92. Cooper, Crain, Mills, Nordquist
- 113, 114. **Machine Design.** (2, 2) Advanced problems. Six hours lab. Pr., 112. Winslow, Morrison
- 123, 124. **Dynamics of Engines.** (3, 3) Investigation of governors, flywheels, and balancing. Two lectures. Pr., M.E. 83, C.E. 91. Winslow, Cooper
- 151, 152. **Experimental Engineering.** (3, 3) Continuation of 83, involving more extended and complete investigations. Six hours lab. Pr., 83. McIntyre, Cooper, Crain
153. **Internal-combustion-engine Laboratory.** (3) Tests and investigations on various internal combustion units. Six hours lab. Pr., 198. McIntyre, Guidon
161. **Quality Control.** (3) Control of manufacturing processes to make quality of the end product a function of production. Application of statistical methods to sampling, control charts, and analysis of variance. Three lectures. Pr., senior standing. Schaller
162. **Methods Analysis.** (3) Survey and measurement of factors concerning the human element in its relationship to standards of performance and production. Three lectures. Pr., senior standing. Schaller
167. **Engineering Materials.** (3) Properties of the various materials used in engineering construction. Two lectures, three hours lab. Pr., C.E. 92. McMinn, Mills
182. **Heating and Ventilation.** (3) Various systems of heating and ventilating methods with designs. Three lectures. Pr., 82. Crain
183. **Thermodynamics.** (5) Fundamental principles underlying the transformation of heat into work; special application to engineering. Five lectures. Pr., 82, junior standing in engineering. McMinn
184. **Power Plants.** (5) Design of steam power plants. Five lectures. Pr., 83, 123. Winslow, Cooper
185. **Naval Architecture.** (3) Theory of naval architecture. Displacement; stability; strength; construction. Two lectures, three hours lab. Pr., junior standing. Rowlands
186. **Naval Architecture.** (3) Theory of naval architecture. Displacement; stability; strength; performance. Six hours lab. Pr., 185. Rowlands
187. **Naval Architecture.** (3) Applications of principles of naval architecture. Calculations and design. Six hours lab. Pr., 112, 186. Rowlands
188. **Marine Engineering.** (3) Application of mechanical engineering to ships, including propulsion. Three lectures. Pr., 186. Rowlands
189. **Refrigeration.** (3) Thermodynamics of refrigeration and air-conditioning processes. Two lectures, three hours lab. Pr., 183. McMinn
191. **Research.** (2 to 5 ea. qtr.)
195. **Undergraduate Thesis.** (2 to 5) Investigation, design, or experiment. To be taken in the senior year. McMinn
198. **Internal-combustion Engines.** (3) Analysis and practice; stationary, marine, automotive, and airplane engines. Three lectures. Pr., 82. Cooper, Guidon
199. **Internal-combustion-engine Design.** (3) Six hours lab. Pr., 198. Cooper, Guidon

*Courses for Graduates Only*

200. **Vibrations of Machinery.** (3) Mathematical investigations of vibration phenomena with emphasis on applications to operating conditions of machines. Elective for approved seniors and graduates. Three lectures. Winslow, Mills
202. **Advanced Engineering Materials.** (3) Their properties, including metallographic, magnetic, and X-ray methods of inspecting and testing. Two lectures, three hours lab. Pr., 167. McMinn, Mills
204. **Diesel Engines.** (2) Analysis and practice. Diesel engines and gas turbines. Two lectures. Pr., 198. Guidon
- 301, 302, 303. **Research.** (3, 3, 3)

### VIII. MINERAL ENGINEERING

*Associate Professor Pifer (Acting Director); Dean Emeritus Roberts; Professor Daniels; Associate Professor Poole; Assistant Professor Eyerly; Instructors Anderson, Finley*

**Inspector's Course:** See page 143

- Mining 10. Prospecting and Mining. (0) Three hours lecture, five hours laboratory; field trips. Anderson  
 Mining 11. Advanced Prospecting and Mining. (0) Anderson  
 Mining 20. Milling. (0) Two hours lecture, five hours laboratory. Poole, Anderson  
 Mining 21. Advanced Milling. (0) Poole, Anderson  
 Metallurgy 30. Metals. (0) Three hours lecture, two hours laboratory. Daniels

#### Mining Engineering

51. Elements of Mining. (3) Prospecting, boring, drilling, explosives, rock breaking. Pr., G.E. Daniels  
 1, 2.  
 52. Methods of Mining. (3) Metal, coal, and placer mines, nonmetallic deposits. Pr., 51. Daniels  
 101. Milling. (3) Preliminary course. Pr., junior engineering standing. Poole  
 103. Mine Rescue Training. (1) The use of oxygen rescue apparatus; first aid; instruction during first six weeks of quarter. Physical examination required. Daniels  
 106. Mine Excursion. (1) Five-day trip in spring of junior year to a neighboring mining region.  
 107. Mine Excursion. (1) Five-day trip in spring of senior year, similar to 106.  
 108. Mine Surveying. (2) Practice in underground methods, use of special instruments, stope measurements, underground curves and grades, shaft surveying, carrying of meridian underground, mine mapping. Pr., C.E. 114. Anderson  
 122. Coal-mining Methods. (3) Pr., 51, 52. Daniels  
 151. Elements of Mining. (3) Same as 51. Pr., junior standing. Not open to those who have had 51. Daniels  
 152. Methods of Mining. (3) Same as 52. Pr., 151 and junior standing. Not open to those who have had 52. Daniels  
 161. Mineral Dressing. (4) Gravity and flotation concentration, mill principles and testing, auxiliary equipment. Pr., 101. Poole  
 162. Economics of the Mineral Industry. (4) Mine valuation; costs of plant and operation; financial provisions; mining law. Pr., senior engineering standing. Pifer  
 163. Mining Engineering. (4) Principles and practice. Laboratory studies of air compressors, drills, etc.; studies at nearby mines. Pr., senior engineering standing. Pifer  
 164. Mineral Concentration. (3) Ore mineral concentration by flotation, heavy media, etc. Pr., Mining 101, Chem. 111. Poole  
 171. Mine Ventilation. (3) Daniels  
 176. Coal Preparation. (3) Dry and wet cleaning processes; control by float-and-sink methods. Examinations of washing plants at local mines. Pr., 101, Met. 103. Daniels  
 182. Mineral-Industry Management. (3) Employment of labor, systems of payment, social and economic aspects. Pr., senior engineering standing, E.B. 3. Daniels  
 191. Undergraduate Thesis. (†) In mining engineering. Completed thesis due three weeks before graduation. Pr., senior standing. Minimum total of five credits required. Staff

#### *Courses for Graduates Only*

201. Seminar. (1) Lectures and discussions. Required of fellowship holders in the School of Mineral Engineering. Staff  
 221. Metal Mining. (†) Pifer  
 231. Mineral Dressing. (†) Poole  
 251. Coal Mining. (†) Daniels  
 271. Cooperative Research with U.S. Bureau of Mines. (6)

#### Metallurgical Engineering

53. Elements of Metallurgy. (3) Metals and alloys, fuels, refractory materials, furnaces, the extraction of the common metals from their ores. Open to all sophomore engineers. Pr., Chem. 23. Finley  
 96. Making, Shaping, Treatment, and Properties of Iron and Steel. (5) Given by Extension only. Daniels  
 101. Fire Assaying. (3) Testing of reagents, sampling, and assaying of ores, furnace, and mill products. Pr., Chem. 111. Finley  
 102. Metallurgical Laboratory. (2) Pr., 53. Finley  
 103. Fuel Technology. (3) Primary and manufactured fuels; source, composition, methods of utilization, and economy. Pr., junior standing. Daniels, Finley  
 104. Nonferrous Metallurgy. (3) Pr., 53. Finley  
 113. Fuel Technology Laboratory. (1) Pr., Met. 103 taken concurrently. Proximate and thermal analysis of fuels. Finley

†To be arranged.

141. Engineering Physical Metallurgy. (4) Elementary physical metallurgy and metallography, for nonmajors. Open to upper-division engineering students. Pr., Physics 99. Staff
153. Elements of Metallurgy. (3) Same as 53. Pr., junior standing. Not open to those who have had 53. Finley
154. Wet Assaying. (3) The determination of elements in ores and furnace products. Pr., Chem. 109, 110, or 111. Finley
155. Iron and Steel. (3) Their metallurgy and manufacture, properties, and uses in engineering work. Pr., junior engineering standing. Daniels
160. Metallurgical Analysis. (2) Slags, industrial products, and (for ceramics and geology students) clays and rocks. Pr., 153. Finley
162. Physical Metallurgy. (3) The constitution of metals and alloys and their relations to the physical and mechanical properties of the metal. Open to all upperclass engineering students. Finley
163. Metallography. (3) Preparation, photomicrography, study of metal sections. Open to all senior engineering students. Finley
165. Metallurgical Calculations. (3) Physical chemistry of the metallurgist, slag calculations, furnace problems. Pr., 104. Finley
166. Advanced Nonferrous Metallurgy. (3) The extraction of the metals. Pr., senior in mines or graduate standing. Staff
191. Undergraduate Thesis. (†) Completed thesis due 3 weeks before graduation. Pr., senior standing. Maximum total of 5 credits required.

*Courses for Graduates Only*

221. Advanced Metallurgy. (†) Staff
261. Fuels and Combustion. (†) Daniels

*Ceramic Engineering*

90. Industrial Minerals. (3) Nonmetallic minerals and their products. Pr., sophomore standing in mines, engineering, or science. Eyerly
95. Ceramic Processes. (3) Equipment, production methods, and products. Pr., sophomore standing. Eyerly
100. Clays, Plasticity, and Suspension. (3) Pr., 90. Eyerly
101. Firing and Firing Problems. (3) Vitrification of clay; melting, fusion, crystallization of silicates. Pr., 100. Eyerly
102. Ceramic Decoration. (3 to 6) Its value; colors, surface textures, glazes. Pr., 101. Eyerly
104. Calculations for Bodies and Glazes. (3) Physics and chemistry of preparing, drying, firing, and testing ceramic materials and glazes. Pr., junior standing in mines or engineering. Eyerly
105. Drying and Drying Problems. (3) The physics and chemistry of drying clay products. Pr., junior standing in mines or engineering. Eyerly
108. Pyrometry. (1) Principles, methods, and equipment in high temperature instrumentation. Pr., junior standing in engineering. Eyerly
110. Ceramic Physical-Chemical Measurements. (2) Testing of clays and other ceramic materials. Pr., junior standing in mines or engineering. Eyerly
115. Physical Ceramics. (3) Phase and structure studies of nonmetallic materials. Pr., 90 to 110. Eyerly
117. Glass Technology. (3) Materials, methods, and equipment used in glass manufacture; testing, properties, and structure of glass. Pr., permission. Eyerly
119. Cements, Limes, and Plasters. (3) Composition, reactions, plant control and manufacture, testing. Pr., senior in engineering. Staff
- 121, 122, 123. Ceramics Products Laboratory. (5, 5, 5) Pr., 90 to 110. Eyerly
124. Dryer and Kiln Design. (3) Ceramic kiln calculations and design problems laboratory. Pr., senior in ceramic engineering. Eyerly
125. Ceramic Plant Design. (3) Project in design of plant; equipment selection and application. Pr., 124. Eyerly
- 131, 132, 133.—General Ceramics, Pottery Techniques. (3 to 5 ea. qtr.) (For 3 hrs. credit, 6 hrs. lab.; 5 hrs. credit, 9 hrs. lab. and a special problem.) Industrial and craft methods of manufacturing ceramic products, mainly architectural terra cotta, pottery, and slip cast ware; decorative processes; glaze studies. No prerequisites. Staff
162. Porcelain Enamels. (3) Composition, application, firing, properties, and testing. Pr., permission. Eyerly
163. Refractories. (3) Physical and chemical composition, properties, utilization. Pr., senior in engineering. Eyerly
164. Refractories and Heavy Clay Products Laboratory. (3) Practice in processing and testing. Pr., 163. Staff
191. Undergraduate Thesis. (†) Pr., senior standing. Completed thesis due 3 weeks before graduation. Total of 5 credits required. Staff

*Courses for Graduates Only*

221. Ceramic Research. (†) The ceramic resources of the Pacific Northwest; or new products or processes. Staff
231. Physical Measurements. (†)
241. Industrial Minerals Research. (†)

†To be arranged.



## ENGLISH

*Professors Heilman, Benham, Blankenship, Eby, Griffith, Harrison, Lawson, Perrin, Roethke, Taylor, Winther; Professor Emeritus Cox; Associate Professors Adams, Bostetter, Burns, Cornu, Savage, Stirling, Zillman; Assistant Professors S. Anderson, Beal, Brown, Burgess, Colton, Davis, Emery, Ethel, Gillette, M. Harris, Hilton, Kaufman, Kubn, Nix, Pellegrini, Person, Redford, Roberts, Trueblood, Vickner, Walters, Willis; Instructors V. Anderson, Ansbutz, Duckett, Guberlet, Hunner, Kulisbeck, McKinley, Mark, Morrison, St. Clair, Sylvester, Thorpe, Yaggy; Associates Armstrong, Binder, Burnam, Butterworth, Dusenbery, Huston, Mason, Miller, Nelson, Rivenburgh, Skeels, Stahl, Thompson, Van Vactor; Librarians Gilchrist, Young*

*English 1 or equivalent is prerequisite to all literature courses except 67, 69, 72, 73 (For English B, 40, 81, 82, 83, 85, 123, 124, 125, 194, 195, 196, see page 197.)*

- A. Elementary Composition. (No credit) For those who fail in entrance test for 1. Lawson in charge
- S. English for Foreign Graduate Students. (No credit)
- 1, 2, 3. Composition. (3, 3, 3) Includes also methods of collecting material for longer papers; the study of evidence, fallacies, and proof; analysis of modern literature. Lawson in charge
7. Composition. (5) For forestry students only.
- 31, 32, 33. World Literature. (2, 2, 2) Readings from an anthology of classical (Greek and Roman), medieval, and modern literature.
- 51, 52, 53. Advanced Exposition. (3, 3, 3) Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent. Biographical and Informational Writing, 51; Opinion Writing, 52; Scholarly and Technical Writing, 53.
- 54, 55, 56. Advanced Writing. (3, 3, 3) Not confined to exposition. For students in all departments, who may concentrate on special subjects, or relate their writing variously to their major fields, or experiment in several types of expression.
57. Introduction to Poetry. (5) Zillman
58. Introduction to Fiction. (5) Analysis of short stories, novels, plays. Upper-division credit for upper-division students.
- 61, 62, 63. Verse Writing. (5, 5, 5) Pr., 1, 2, 3, and permission. Roethke
- 64, 65, 66. Literary Backgrounds. (5, 5, 5) The most important English classics, their content, literary forms, and historical relations. Grade of "A" or "B" grants upper-division credit to an upper-division student for the quarter in which the grade is earned.
- 67, 69. Survey of American Literature. (3, 3) Blankenship, Davis, Hilton
70. Advanced English. (3) For students in nursing at Harborview Hospital.
- 72, 73. Introduction to Modern Literature. (3, 3) Essays, poetry, novels, plays. Stirling
- 74, 75, 76. Dramatic Composition. (3, 3, 3) Experimental creative work. Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent. Redford
- 77, 78, 79. Narrative Writing. (3, 3, 3) Upper-division credit for upper-division students. Pr., 1, 2, 3, or equivalent.
96. The Bible as Literature. (5) Upper-division credit for upper-division students. Trueblood
104. Modern European Literature. (5) Harrison
106. Modern English Literature. (5) Harrison
- 110, 111, 112. Advanced Verse Writing. (5, 5, 5) Pr., 61, 62, 63, and permission. Roethke
- 113, 114, 115. Advanced Study of Poetry. (5, 5, 5) Pr., permission. Roethke
117. History of the English Language. (5) Growth and development of the English language from Anglo-Saxon times to the present. Open to sophomores; 180 may be substituted for this course. Person
120. Modern Poetry. (5) Zillman
- 131, 132, 133. Advanced Nonfictional Writing. (5, 5, 5) Pr., 54. Burns
- 137, 138, 139. Advanced Short Story Writing. (5, 5, 5) Pr., 77, 78, 79, or permission. Harris, Redford, Thorpe
- 140, 141. Social Ideals in Literature. (5, 5) Model commonwealths. Literature and society. Adams
- 144, 145. Eighteenth-century Literature. (5, 5) 144: Swift, Pope, Defoe, Addison, and Steele; 145: Doctor Johnson and his circle; the preromantics. Cornu
- 147, 148, 149. Great English Novels. (5, 5, 5) Heilman, Winther
- 150, 151, 152. Old and Middle English Literature. (5, 5, 5) 150: Old English literature in translation; 151: Chaucer and contemporaries; 152: Romances and folk literature. Ethel, Griffith, Kaufman, Person
- 153, 154. English Literature: 1476-1642. (5, 5) 153: The Renaissance; 154: non-Shakespearean Elizabethan drama. Adams
- 156, 157, 158. Novel Writing. (5, 5, 5) Pr., 77, 78, 79, or permission. Savage
- 161, 162, 163. American Literature. (5, 5, 5) 161: Exclusive of New England; 162: New England; 163: Twain, Howells, James. Blankenship, Burns, Davis, Harrison, Hilton
166. Modern American Literature. (5) The beginning of realism; tendencies from 1900 to 1915; contemporary fiction and poetry. Blankenship, Harrison
- 167, 168, 169. Seventeenth-century Literature. (5, 5, 5) 167: Bacon, Burton, Brown, the Spenserians, the cavalier poets, the metaphysical poets; 168: Milton; 169: Dryden, Bunyan, Locke, the dramatists, the lyric poets. Ethel, Benham, Willis
- 170, 171, 172. Shakespeare. (5, 5, 5) 170: Introduction; 171: Comedies and Histories; 172: Tragedies and Romances. Pr., 170 for 171 and/or 172. Adams, Kaufman, Pellegrini, Stirling, Taylor

- 174, 175, 176. Late Nineteenth-century Literature. (5, 5, 5) Pr., 174 for 175. Brown, Winther  
 177, 178, 179. Early Nineteenth-century Literature. (5, 5, 5) Pr., 177 for 178. Bostetter, Trueblood, Zillman  
 180, 181, 182. Old English Language. (5, 5, 5) Anglo-Saxon classics in the original. Butterworth  
 185, 186. Advanced Writing Conference. (3 to 5 ea. qtr.) Revision of manuscripts. Student entering this course should have the preliminary work on his writing project completed. Pr., permission. Savage, Redford  
 187. English Grammar. (3) Emery  
 188. Current English Usage. (3) Perrin  
 189. English Prose Style. (5) Perrin  
 190, 191, 192. Major Conference. (3, 3, 3)  
 Teachers' Course. (See Educ. 75H.)  
 For descriptions of courses in foreign literatures in translation, see departments of Classical, Far Eastern, Germanic, Scandinavian, and Romance Languages.

#### Courses for Graduates Only

201. Graduate English Studies. (5) Required of candidates for the master's degree. Griffith  
 202, 203. Literary Criticism. (5, 5) 202 required of candidates for the master's degree. Winther, Burns  
 204, 205, 206. Chaucer. (5, 5, 5) Griffith  
 207, 208, 209. Fifteenth-century Literature. (5, 5, 5) The Post-Chaucerians; Malory's *Morte D'Arthur*, its sources and influence; the fifteenth century lyric; English liturgical drama and the morality play. Benham  
 210, 211, 212. The Renaissance and Spenser. (5, 5, 5) Adams, Stirling  
 213. Shakespeare's Dramatic Contemporaries. (5) Adams  
 217, 218, 219. Shakespeare. (5, 5, 5) Taylor  
 221, 222, 223. Seventeenth-century Literature. (5, 5, 5) Benham  
 224, 225, 226. American Literature. (5, 5, 5) Eby  
 230, 231, 232, 233. Old English. (5, 5, 5, 5) Anglo-Saxon grammar; Old English prose and poetry; Middle English language; Beowulf. 231 and 232 required of candidates for the doctor's degree. Butterworth  
 238, 239, 240. Early Nineteenth-century Literature. (5, 5, 5) Bostetter  
 241, 242, 243. Victorian Literature. (5, 5, 5) Brown, Winther  
 244, 245, 246. Eighteenth-century Literature. (5, 5, 5) Cornu  
 253. Current Rhetorical Theory. (5) Perrin  
 300. Research. (1)

#### FAR EASTERN

*Professors Taylor, Ballis, Michael; Visiting Professors Wittfogel, Hsiao; Associate Professors Schubert,\* Spector, Tatsumi, Williston, Reifler; Assistant Professors Ewing, Gersbovsky, Maki, Shib, Chu; Lecturers Hsia, Kerr, Wilhelm; Instructors Hsu, Kastner, Lavaska, Pahn, Strash, Sunoo; Acting Instructor Novikow; Research Associates Wu, Ho, Krader, Liu, Chang; Acting Associates Daniloff, Longwell, Matsubita, Namkung*

#### The Far Eastern Institute

10. Survey, Problems of the Pacific. (5) Michael, Taylor, Williston, Maki  
 40. Chinese Civilization. (5) Survey of China's material civilization, fine arts, literature, religion, and thought in relation to the general development of Chinese society. Shih  
 41. Japanese Civilization. (5) Survey of Japan's material civilization, fine arts, literature, religion, and thought in relation to the general development of Japanese society. Kerr  
 42. Korean Civilization. (5) Survey of Korea's material civilization, fine arts, literature, religion, and thought in relation to the general development of Korean society. Williston  
 43. Russian Civilization. (5) Survey of Russia's material civilization, fine arts, literature, religion, and thought in relation to the general development of Russian society. Spector  
 90. History of China. (5) Survey of China's history from the earliest times to the present, with emphasis on the development of Korean society. Williston  
 91. History of Japan. (5) Survey of Japan's history from the earliest times to the present, with emphasis on the development of Japanese society. Williston  
 92. History of Korea. (5) Survey of Korea's history from the earliest times to the present, with emphasis on the development of Korean society. Williston  
 93. History of Russia. (5) Survey of Russia's history from the earliest times to the present, with emphasis on the development of Russian society. Ballis  
 110. Survey, Problems of the Pacific. (5) Michael, Taylor, Williston, Maki  
 113. Civilization of Southeastern Asia. (5) Kastner  
 143. Chinese Social Institutions. (5) Staff

†To be arranged.

\*On leave.

144. *Chinese History—Earliest Times to 221 B.C.* (5) History of pre-imperial China. Pr., 90 or upper-division standing. Wilhelm
145. *Chinese History—221 B.C. to 906 A.D.* (5) History of the development of the imperial Chinese state. Pr., 90, 144, or upper-division standing. Wilhelm
146. *Chinese History—906 A.D. to 1840 A.D.* (5) History of the Wu Tai, Sung, Yuan, Ming, and early Ch'ing periods. Pr., 90, 144, or upper-division standing. Wilhelm
147. *Modern Chinese History.* (5) Survey of modern Chinese society from 1840 to the present. Pr., 90 or upper-division standing. Taylor
148. *History of Republican China.* (3) Michael
153. *Japanese Social Institutions.* (5) Steiner
157. *Modern Japanese History.* (5) Survey of the beginnings and development of modern Japan, and Japan's transformation under American rule. Kerr
167. *Modern Russian History.* (5) Survey of the development of modern Russia, from the Revolution to the present. Ballis
168. *Russia in Asia.* (3) Ballis
190. *Undergraduate Research.* (3 to 5) For F.E. majors. May be repeated for credit. Pr., permission. Staff
193. *Contemporary China.* (3) Political, social, and economic situation in China. Staff
199. *Seminar on China.* (3) Survey of the principal literature on China in Western languages; introduction to the methodology of Chinese studies and Chinese historiography. Pr., permission. Williston

*Courses for Graduates Only*

- 210, 211, 212. *Seminar on China.* (3, 3, 3) Chinese historiography. Pr., permission. Wilhelm
  - 220, 221, 222. *Seminar in Eastern Asia.* (4, 4, 4) Taylor, Michael
  223. *Russian History and Government.* (3)
  - 225, 226. *Seminar on Far Eastern Diplomacy.* (3, 3) Ballis, Williston
  300. *Research.* (†) Pr., permission. Staff
- Courses offered in other departments: E. & B. 183; Philosophy 196; Pol. Sci. 114, 129, 132, 147, 166, 169.
- For other courses on the Far East, see Anthropol. 112; Art 182, 183, 184; E. & B. 182; Geog. 103, 132, 133, 203.

**Chinese**

1. *Chinese Language. Intensive A.* (10) Shih, Staff
3. *Chinese Language. Intensive B.* (10) Pr., 1 or equivalent. Hsia, Staff
101. *Chinese Language. Intensive C.* (10) Pr., 3 or equivalent. Hsu, Staff
- 102, 103, 104. *Advanced Colloquial Chinese.* (5, 5, 5) Pr., 101 or equivalent. Shih, Staff
- 105, 106, 107. *Elementary Literary Chinese.* (5, 5, 5) Pr., 101, or equivalent.\* Reifler
108. *Chinese Reference Works and Bibliography.* (3) Introduction to the methodology of Sinology. Pr., 101 or equivalent. Chu
155. *Literature of China in Translation.* (5) Shih

*Courses for Graduates Only*

200. *The Morphology and Syntax of Literary Chinese.* (5) Reifler
201. *Chinese Bibliography.* (3) Seminar on the problems of the exploitation of Chinese source materials. Chu
202. *Readings in Literary Chinese.* (5) May be repeated for credit. Reifler
205. *Structure of Chinese Ideographs.* (3 to 5) Reifler

**Japanese**

1. *Japanese Language. Intensive A.* (10) Tatsumi, Staff
3. *Japanese Language. Intensive B.* (10) Pr., 1 or equivalent. Matsushita, Staff
101. *Japanese Language. Intensive C.* (10) Pr., 3 or equivalent. Tatsumi, Staff
- 102, 103, 104. *Advanced Japanese Language.* (5, 5, 5) Pr., 101 or equivalent. Staff
- 105, 106. *Advanced Japanese Language.* (5, 5) Pr., 101 or equivalent. Tatsumi
107. *Advanced Japanese Grammar.* Pr., 101 or equivalent. Tatsumi
108. *Elements of Soshu.* (3) Pr., 101 or equivalent. Staff
109. *Elementary Japanese Composition.* (5) Pr., instructor's permission. Staff
158. *Literature of Japan in Translation.* (5) Kerr

*Courses for Graduates Only*

200. *Morphology and Syntax of the Japanese Language.* (5) Pr., permission. Tatsumi
201. *Japanese Reference Works and Bibliography.* (3) Seminar on the methodology of Japanology. Pr., permission. Staff
- 202, 203, 204. *Readings in Documentary Japanese.* (5, 5, 5) May be repeated for credit. Tatsumi
- 205, 206. *Advanced Composition in Documentary Japanese.* (5, 5) Tatsumi

† To be arranged.

\* Repeated for credit.

## Korean

- |   |              |
|---|--------------|
| 1A. Elementary Korean Language. (5)   | Sunoo, Staff |
| 1B. Elementary Korean Language. (5) Pr., 1A or equivalent.                      | Sunoo, Staff |
| 1. Korean Language. Intensive A. (10)   | Sunoo        |
| 3. Korean Language. Intensive B. (10) Pr., 1 or equivalent.                     | Sunoo        |
| 101. Korean Language. Intensive C. (10) Pr., 3 or equivalent.                   | Staff        |
| 102, 103, 104. Advanced Korean. (5, 5, 5) Pr., 101 or equivalent.               | Sunoo        |
| 105. Korean Grammar. (5)  | Sunoo        |
| 106, 107, 108. Advanced Korean Reading. (5, 5, 5) Pr., 104, 105, or equivalent. | Staff        |

## Russian

- |  |            |
|--|------------|
| 1A. Elementary Russian Language. (5)   | Novikow    |
| 1B. Elementary Russian Language. (5) Pr., 1A.  | Lavaska    |
| 1. Elementary Russian Language. Intensive A. (10)  | Gershevsky |
| 2. Elementary Russian Language. (5) Pr., 1b.   | Lavaska    |
| 3. Elementary Russian Language. Intensive B. (10) Pr., 1 or equivalent.                                | Pahn       |
| 101. Intermediate Russian Language. Intensive C. (10) Pr., 3 or equivalent.                            | Strash     |
| 102. Advanced Russian Reading and Conversation. (5) Pr., 101 or equivalent.                            | Lavaska    |
| 103. Russian Conversation Based on Rapid Reading. (5) Pr., 101 or equivalent.                          | Daniloff   |
| 104. Scientific Russian. (5) Pr., 101 or equivalent.   | Gershevsky |
| 107. Reading of Russian Industrial, Economic, and Trade Material. (5) Pr., 101 or equivalent.          | Pahn       |
| 108. Introduction to Russian Classics, and History. (5) Pr., 101 or equivalent.                        | Novikow    |
| 109. Russian Soviet Literature. (5) Pr., 101 or equivalent.  | Strash     |
| 110. Advanced Russian Grammar and Composition. (5) Pr., 101 or equivalent.                             | Strash     |
| 150. Russian Literature. (5) In translation. The great masters of the Golden Age.                      | Spector    |
| 151. Contemporary Russian Literature. (5) In translation. Outstanding writers from Gorky to Sholokhov. | Spector    |
| 152. Russian Drama. (5) In translation. A survey of representative Russian plays, 1782-1946.           | Spector    |
| 175. Soviet Press Translations. (5) Pr., 101 or equivalent.  | Longwell   |
| 192. Phonetic Structure of Slavic Languages. (3) Pr., 101.   | Krader     |
| 193. Morphological Features of Slavic Languages. (3) Pr., 192.   | Krader     |

## Course for Graduates Only

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| 285. Seminar on Dostoyevsky. (3) | Spector |
|----------------------------------|---------|

## FISHERIES

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|---|----------|
| 101. Comparative Anatomy and Physiology of Fishes. (5) A general survey of the morphology, exclusive of the skeleton, and the bodily functions of fishes. Pr., Zool. 1, 2.  | Welander |
| 102. Phylogeny of Fishes. (5) Skeletal morphology of fishes; survey of the system of fish classification; distribution of fishes. Pr., 101.   | Welander |
| 103. Identification of Fishes. (5) An introduction to the research methods and techniques of ichthyological systematics with particular attention paid to the identification of food and game, and western American fishes. Pr., 102.   | Welander |
| 105. Economically Important Mollusca. (5) The classification, life histories, distribution, methods of cultivation, and economic importance of oysters, clams, abalone, pearl shells, octopus, squid, and related molluscs. Pr., Zool. 1, 2.  | Lynch    |
| 106. Economically Important Crustacea. (5) The classification, life histories, distribution, methods of capture, and economic importance of crabs, shrimps, lobsters, crawfish, and the smaller Crustacea which are fished commercially or are important as food for fishes and other vertebrates. Pr., Zool. 1, 2.                         | Lynch    |
| 107. Aquatic Invertebrates of Minor Economic Importance. (5) Classification, life histories, occurrence, and utilization of invertebrates of economic importance such as sponges, corals, annelid worms, starfish, sea cucumbers, sea urchins, and other aquatic invertebrates fished or cultivated on a commercial scale. Pr., Zool. 1, 2. | Lynch    |
| 108, 109, 110. General Survey of Fisheries Work. (1, 1, 1) Lectures by eminent speakers from the game fish agencies, the commercial fisheries agencies, and the commercial fishing industry designed to provide the student with early vocational orientation. Required of all majors.  | Chapman  |
| 125. Migrations and Races of Fishes. (5) Marking and other methods of determining migrations of fishes and homogeneity of fish populations; implication of these factors to the management of both fresh water and marine fisheries. Pr., 101, 102.   | DeLacy   |
| 126. Early Life History of Marine Fishes. (5) Reproduction, larval and post-larval life of economically important marine fishes; dispersion and survival rates; implications of these factors to management of food fish fisheries; methods of investigation used in this field of research. Pr., 101, 102.                                 | DeLacy   |

127. **Ecology of Marine Fishes.** (5) Effect of variations in hydrographic conditions, availability of food, type of bottom, geographic location, and other environmental conditions on distribution of fishes, their segregation into homogeneous stocks, their variation in abundance and availability to the fisheries, and research techniques in this field. Pr., 101, 102. DeLacy
151. **Propagation of Salmonoid Fishes.** (5) Methods of hatching and rearing; collection and incubation of salmon eggs; design, structure, and maintenance of hatcheries, pond systems, and aquaria. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
152. **Nutrition of Fishes.** (5) Feeding and efficiency of diets; food costs and supplies; basic nutritional requirements of fish; nutritional diseases of fish. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
153. **Freshwater Fisheries Management: Biological.** (5) Creel census methods; stocking policies, lake poisoning; pond fish propagation; determination of the productive capacities of streams, lakes, and ponds and their suitability for particular kinds of fishes. Pr., 101, 102; Chem. 1-2 or 21-22. Donaldson
154. **Communicable Diseases of Fishes.** (5) Organisms causing diseases in fishes; prevention of fish diseases and treatments where known. Pr. 101, 102; Microbiology 101. Lynch
156. **Age and Growth in Fishes.** (5) Principles of growth; methods of determining age and rates of growth in fresh water and marine fishes. Pr., 101, 102. Staff
157. **Population Enumeration.** (5) Methods of enumerating animal populations; availability; dominant age groups, gear selectivity. Pr., Math. 13; Zool. 12. Staff
158. **Population Dynamics.** (5) Influence of natural and artificial factors on variation in abundance and yield from animal populations. Pr., Math. 13; Zool. 1, 2. Staff
180. **Introduction to Commercial Fishing Industry.** (5) Lectures by eminent men in the fishing industry on methods of fishing, marketing of fish and fisheries products, organization of the fishing industry, labor relations within the industry, plant design, vessel design, etc. Pr., permission. Staff
182. **World Fisheries.** (3) Location, yield, methods of production, distribution, and marketing of the world's great fisheries. Pr., none. Chapman
183. **Commercial Fisheries Management.** (3) Conservation, regulation, and utilization of fish and shell fish populations. Pr., none. Chapman
184. **Canning and Curing of Fish.** (5) Application of canning and curing methods to fish and shellfish preservation; quality control; effect of canning and curing on composition of fish proteins and oils. Pr., Chem. 132; Microbiology 101. Staff
185. **Refrigeration of Fish.** (5) Control of bacterial and chemical decomposition of fresh fish proteins and oils; application of refrigeration principles to the transport and preparation for market of fish and fish products. Pr., Chem. 132; Microbiology 101. Staff
186. **Preparation of Fish By-products.** (5) Industrial oils and fish meals; pharmaceutical oils and other pharmaceutical products; disposal of wastes and their utilization. Pr., Chem. 132; Microbiology 101. Staff
190. **Elementary Research.** (3 per qtr.; maximum total, 9) Permission of staff. Individual research within the School of Fisheries or on-the-job training in governmental or industrial fisheries organization. Pr., permission. Staff
195. **Introduction to Fisheries Literature.** (2 per qtr.; maximum total, 6) Directed training in searching bibliographic sources. Required of all fisheries majors. Pr., 15 credits in fisheries. Chapman

*Courses for Graduates Only*

201. **On-the-job Training.** (3 per qtr.; maximum total, 9) Guided on-the-job training in governmental or industrial fisheries organizations. Permission. Staff
205. **Graduate Seminar.** (2 per qtr.; maximum total, 9) Six hours credit required of all graduates. Training in methods of searching fisheries literature. Chapman
304. **Research.** Maximum total credit: for Master of Science degree, 9 credits; for Doctor of Philosophy degree, 45 credits. Staff  
Not offered in 1948-1949: 160, Freshwater Fisheries Management: Hydraulic; 161, Freshwater Fisheries Management: Water Uses.

**FORESTRY AND LUMBERING**

*Professors Marckworth, Grondal, Pearce; Associate Professors Erickson, Robertson, Schrader; Assistant Professors Brockman, Haddock, Orell; Instructor Covington*

- 1a, 1b. **Dendrology.** (3, 3) Identification, classification, distribution of the trees of North America. Pr., Bot. 17. Brockman
3. **Development of Forestry.** (3) Orientation course required of all freshmen. Orell
4. **Forest Fire Protection.** (3) Factors influencing their spread, methods of suppression, detection, and suppression. Orell
5. **First Aid to the Injured.** (2)
6. **General Forestry.** (3) For nonmajors. Brockman
8. **Forestry Problems.** (5) Methods of attack, emphasizing accuracy, analysis, and interpretation of forestry data. Pr., Math. 4. Orell
15. **General Lumbering.** (5) Comparative methods in different regions of the U. S. Prerequisite to all courses in logging and milling. Pr., 1a, 1b. Pearce
40. **Silviculture.** (2) Field studies and nursery practice. Given at Pack Forest. Pr., 21. Haddock, Covington

60. **Forest Mensuration.** (5) Theory of scaling, volume and taper tables, sample-plot methods, determination of contents of stands, growth, yield. Pr., 3, 8, Math. 4. Robertson
62. **Field Problems in Forest Mensuration.** (6) Given at Pack Forest. Pr., 1b, 60, G.E. 7. Covington
104. **Timber Physics.** (5) General mechanics, stresses, tests, theory of flexure, moisture and strength; mechanical properties of wood. Pr., 8, Physics 1 or 4. Schrader
105. **Wood Preservation.** (3) Classification and control of wood-destroying agencies; mechanical properties of treated wood. Pr., 111, Bot. 18. Erickson
106. **Wood-preservation Laboratory.** (2) Evaluation of preservatives; methods of testing and inspection of treated material. Must be preceded or accompanied by 105. Erickson
108. **Timber Design.** (3) Beams, columns, trusses, timber connectors and fastenings; design, fabrication, and erection of timber structures. Pr., 104. Schrader
109. **Wood Technology.** (4) Identification, taxonomy, physical and chemical properties of wood. Pr., 1a, 1b, Physics 3 or 6, 10 credits in chemistry, Bot. 17. Erickson
111. **Wood Structure.** (3) Identification, xylotomy, and elementary microtechnique. Pr., 109. Erickson
115. **Forest Protection.** (3) Forestry practice in the control of insect attacks. Pr., 4. Brockman
119. **Forest Policy and Administration.** (3) Development of forest policies; forest laws. Pr., senior standing. Marckworth
121. **Silvics.** (3) Relation of trees and forests to soil, moisture, light, and temperature; forest ecology. Pr., 1b, 3, Bot. 19. Haddock
122. **Silvicultural Methods.** (3) Type and site classification; intermediate and final cuttings; natural and artificial regeneration. Pr., 40, 121. Haddock
123. **Application of Silvicultural Methods.** (3) The application of silvicultural methods in the forest regions of the United States. Haddock
124. **Forest Fire Control.** (3) Presuppression, suppression, training methods, analysis of protection facilities, proper methods of slash disposal and hazard removal, fire behavior, and organization for large fires. Orell
140. **Construction.** (4) Roads, trails, wood bridges, telephone lines; land clearing; design of wood structures. Pr., 104, G.E. 7. Pearce
151. **Forest Economics and Finance.** (5) Position of forests in the economic structure; cost of growing timber; valuation of land for forest production. Pr. 60, E.B. 3 or 4. Robertson
152. **Forest Management.** (5) Sustained-yield management; forest working plans. Pr., 151. Robertson
154. **Wild-life Management.** (3) Interrelations between forests and wild life; life histories and habits of animals involved. Pr., 3. Brockman
155. **Range Management.** (3) Correlation of grazing with other forest uses; range regulation and economics. Pr., 21, Bot. 19. Haddock
156. **Forest Recreation.** (3) Recreational needs, values, resources, and objectives; planning and development of outdoor recreational resources. Pr., 3 or 6. Brockman
157. **Forest-products Industries.** (3) Secondary forest industries; production and marketing of forest products other than lumber, plywood, and pulp. Pr., 15. Erickson
158. **Forest Utilization.** (5) Secondary and derived forest products. Pr., 15. Erickson
159. **Plywood, Lamination, and Glues.** (4) Manufacture of plywood and laminated wood; glues and their proper employment; utilization of glued wood products. Pr., 104, 157, 183. Schrader
- 160, 161, 162. **Undergraduate Studies.** (1 to 5 ea. qtr.) Enables students to prepare themselves for work in fields for which there is not sufficient demand to warrant the organization of regular classes. Instructor assigned according to nature of work.
- 164, 165, 166, 167. **Senior Management Field Trip.** (5, 5, 4, 2) 164: Surveys; 165: Inventory; 166: Studies; 167: Report. The courses lead to development of a working plan for a large operation. Robertson
170. **Logging Safety.** (2) Frequency and cost of accidents; methods of accident prevention. Pr., senior standing. Pearce
171. **Forest Geography.** (3) Economic geography of the forest regions of the world. Pr., senior standing. Grondal
182. **Lumber Grading.** (2) Study and practice of regional grading rule and American lumber standards of sizes and patterns. Pr., 15, 104, 109. Schrader
183. **Milling.** (5) Organization, planning, operation, and administration of timber conversion plants. Pr., 15, 104, 157 or 158, M.E. 82. Grondal
184. **Manufacturing Problems.** (5) Lumber-producing regions; economics and geography of utilization; selling and distribution of lumber; financing methods. Pr., 183, E.B. 62. Schrader
185. **Forest Engineering.** (5) Logging plans and costs; correlation of logging-engineering methods with condition of stand, topography, forest management, etc. Pr., senior standing. Pearce
186. **Logging Engineering.** (5) Machinery, equipment, and problems. Pr., 185. Pearce
188. **Theory and Practice of Kila Drying.** (3) Wood-liquid relationships and hygrometry; application of gas laws. Problems in the design of dry kilns. Pr., 111, 157, or 158. Grondal
- 191, 192, 193, 194. **Senior Logging-engineering Field Trip.** (3, 5, 5, 3) 191: Logging plans; 192: topographic and timber surveys; 193: road location surveys; 194: logging cost analysis. Development of a complete logging plan and cost analysis in a large operation. Pr., 186. Pearce

189. Wood Pulp. (5) Design of waste conversion plants; wood-pulp manufacture. Pr. 188. Grondal  
190. Microtechnique. (3) Preparation, sectioning, staining, and mounting of woody tissues and Grondal  
fibers. Pr., 111.

*Courses for Graduates Only*

203. Advanced Wood Preservation. (3) Theory of penetrance; design of treating plants. Fire proofing and fire-proofing compounds. Pr., 105, 106. Grondal  
204. Forest-management Plans. (3 to 5 ea. qtr.) Pr., 167. Marckworth  
208. Graduate Seminar. (3) Required of graduate students. Staff  
210, 211, 212. Graduate Studies. (2 to 5 ea. qtr.) In fields for which there is not sufficient demand to organize regular courses.  
220. Advanced Forest Engineering. (5) Logging management, cost analyses, stumpage and logging appraisal, financial reports. Pr., 187. Pearce  
221. Forest History and Policy. (3) Forestry policy of the U.S.; the rise of forestry abroad. Marckworth  
300. Research. (†)

GENERAL LITERATURE

*Professor Benham; Instructor Hilen*

101. Introduction to Criticism and Literature. (5) May receive credit in English. Colton  
151, 152, 153. Masterpieces of European Literature. (5, 5, 5) Pr., sophomore standing. No credit to students who take 191, 192, 193 or 194, 195, 196. Hilen  
191, 192, 193. General European Literature. (3, 3, 3) A synthetic view of the literatures of the world as they have affected English literature. To approximately 1650 A.D. Pr., junior standing. Benham  
194, 195, 196. General European Literature. (3, 3, 3) Pr., 193. From approximately 1650 A.D. to approximately 1900. Pr., junior standing. Benham

For other courses that form a part of the general literature program, see English, and the foreign language departments.

GENERAL STUDIES

*Advisory Committee: H. B. Densmore (Greek), Chairman; Viola Garfield (Anthropology); J. R. Huber (Economics); Helen Kaufman (English); E. C. Lingafelter (Chemistry); Dixy L. Ray (Zoology); Frank Williston (Far Eastern)*

151. Sources of the Modern Cultural Crisis. (2 to 6) Individual reading to be assigned by members of the interdepartmental staff. May be repeated in various fields in the same or successive quarters. Primarily for upper-division students. Pr., permission. Interdepartmental Staff  
155-156. Analysis of the Modern Cultural Crisis. (3-3) Economic, psychological, scientific and technological, artistic, moral, religious aspects; essential conflicts; the problem of synthesis. Interdepartmental Staff  
191. Senior Study. (†) Pr., permission.  
Not offered in 1948-1949: 21-22, American Social Trends.

GEOGRAPHY

*Professor H. H. Martin; Associate Professors Earle, Williams; Assistant Professors Lawton, Sherman; Acting Assistant Professor Tien; Instructor Marts; Acting Instructors Rhynsburger, Tennant; Acting Associates Arbingast, Higbsmith, Nishi, Smith*

1. Survey of World Geography. (5) World regions; man's relation to his habitat. Not open to students who have had 7 or 70. Sherman, Nishi  
2. Physical Geography. (5) Land forms; soils; waters; mineral products; topographic maps.  
4-5. Survey of World Geography. (2-2) Similar to Geography 1. Tien, Tennant, Staff  
7. Economic Geography. (5) Regions and resources; factors locating industries; commodities in international trade. Not open to students who have had 1 or 70. Martin, Staff  
11. Weather and Climate. (5) World distribution of temperature, pressure, winds, precipitation. Weather maps. Sherman, Rhynsburger  
15. Mountain Geography. (2) Highland areas of the world, agricultural, pastoral, and industrial; mountain communities; recreational values; barrier and boundary theories. Marts  
70. World Geography. (5) Economic-political; for journalism students. Not open to students who have had 1 or 7. Martin, Staff  
101. World Regional Geography. (5) Same as 1, but with additional work. Not open to those who have had 1, 7, or 70. Pr., junior standing. Lawton  
102. Geography of United States. (5) Regional and industrial. Pr., 1, 7, or junior standing. Marts, Rhynsburger  
103. Geography of Asia. (5) Countries and natural regions; resources; population; transportation; trade. Pr., 1, 7, or permission. Earle

†To be arranged.

104. Geography of Europe. (5) Countries and regions; manufacturing; commercial relationships. Pr., 1, 7, or permission. Martin, Williams
105. Geography of South America. (5) Regions; resources, economic activities, and relations. Pr., 1, 7, or permission.
106. Geography of Africa. (5) Colonization and development. Resources; plantation agriculture; tropical problems. Pr., 1, 7, or permission. Sherman
107. Geography of Australia and New Zealand. (5) Colonization and development; land use; mining; industry. Pr., 1, 7, or permission. Lawton
108. Geography of Canada and Alaska. (3) Regions, resources, economic and social development; northern settlement. Pr., 1, 7, or permission. Marts
109. Geography of Caribbean America. (5) Economic and culture regions; peoples and politics. Pr., 1, 7, or permission.
110. Resources of the Pacific Northwest. (2) Rural and urban development; industry; regional problems. Marts
121. Climates of the Continents. (5) Climatic types and their geographic distribution. Pr., 11 or permission. Lawton
125. Geographic Background of American History. (3) The role of geography in settlement and development. Martin
132. Islands of the Pacific. (5) Climate, resources, peoples, colonial problems. Pr., 1, 7, or permission. Earle
133. Geography of the U. S. S. R. (3) Agriculture, resources, industrial development; national planning. Pr., 1, 7, or permission. Williams
140. Geography in the Social Studies. (2) Pr., 10 credits in geography, or permission.
155. Influences of Geographic Environment. (5) Theory of occupation; urbanization; human adjustment. Pr., 20 credits of geography, or permission. Earle
160. Cartography. (5) Map projections, symbols, scales, sketch mapping, block diagrams. Williams, Sherman
162. Advanced Cartography. (†) Pr., 160. Williams, Sherman
170. Conservation of Natural Resources. (5) Public policy; land reclamation; resource utilization. Sherman
171. Geography of China. (3) Regional divisions; agriculture, home industry, the industrial pattern; village and city development. Pr., 103 or permission. Tien
175. Political Geography. (3) Geographic basis of national and international problems. Pr., 10 credits of geography, or permission. Williams, Tien
177. Urban Geography. (3) Major cities of U.S. Pr., junior standing. Martin
195. Readings in Geography. (†) Pr., permission. Staff
199. Preseminar in Geography. (3) Research methods; presentation of paper. Pr., permission. Martin

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

#### *Courses for Graduates Only*

200. Geographic Theory. (5) Earle
201. Seminar in Source Materials. (3) Earle, Williams
202. Seminar: Writing and Critique. (3) Martin
203. Seminar in Asia. (3) Earle
204. Seminar in Europe. (3) Martin, Williams
205. Seminar in Latin America (3)
207. World Resources and Industries. (†) Staff
213. Seminar on China. (3) Tien
215. Seminar on Japan. (3) Martin, Earle
217. Seminar on Southeast Asia. (3) Earle
220. Land Utilization. (†) Sherman, Lawton
255. History and Theory of Geography. (†) Earle
295. Readings and Conferences. (†) Staff
300. Research. (†) Staff

#### GEOLOGY

*Professors Goodspeed, Weaver, Fuller, Mackin; Associate Professors Barksdale, Coombs;  
Assistant Professor Misch*

1. Survey of Geology. (5) Coombs, Barksdale, Mackin
2. Geology in World Affairs. (5) Geological occurrence, world distribution and production of coal, petroleum, and the important industrial minerals. Pr., 1 or 5. Barksdale
5. Rocks and Minerals. (5) Pr., high school chemistry. Goodspeed
6. Elements of Physiography. (5) Processes and agencies affecting the earth's surface; relation of topography to structure, etc. Pr., 1 or 5. Mackin
7. Historical Geology. (5) Origin and evolution of the earth, with emphasis on the general history of North America. Pr., 5 credits of geology, or Zool. 8. Weaver, Misch

†To be arranged.



8. Structural Geology. (5) Interpretation of rock structures and their genesis. Pr., 5, 6, 7. Barksdale
10. Engineering Geology. (5) Elements of geology for civil engineers. Pr., Civil Engineering or permission. Mackin
100. History of Geology. (3) Required of all majors in geology. Pr., 15 credits in geology. Barksdale
102. Geology in World Affairs. (5) Same as 2, but with additional work. Pr., 1 or 5, junior standing. Barksdale
105. Rocks and Minerals. (5) Same as 5, but with additional work. Pr., high school chemistry, junior standing. Goodspeed
106. Elements of Physiography. (5) Same as 6, but with additional work. Pr., 1 or 5, junior standing. Mackin
107. Historical Geology. (5) Same as 7, but with additional work. Pr., 5 credits in geology, or Zool. 8; junior standing. Weaver, Misch
108. Structural Geology. (5) Same as 8, but with additional work. Pr.; 5, 6, 7. Barksdale
110. Engineering Geology. (5) Elements of geology for civil engineers. Same as 10, but with additional work. Pr., junior standing. Mackin
112. Physiography of Eastern United States. (5) Pr., 5, 6, 7, 131, or permission. Mackin
113. Physiography of Western United States. (5) Pr., as for 112. Mackin
114. Map Interpretation: Constructional Landforms. (5) Pr., 5, 6, 7. Mackin
116. Glacial Geology. (5) Pr., 5 and 6. Mackin
121. Mineralogy. (5) Determinative crystallography and blowpipe analysis. Pr., 5, and high school chemistry. Coombs
123. Optical Mineralogy. (3 or 5) Petrographic microscope and recognition of common minerals in thin section. Pr., 5, 121 (except for upper-division chemistry students). Coombs
124. Petrography and Petrology. (3 or 5) Systematic study of rocks with the petrographic microscope. Pr., 123. Coombs
125. Petrography and Petrology. (3 or 5) Metamorphic rocks, petrogenesis. Pr., 124. Goodspeed
126. Sedimentary Petrography. (3 or 5) Correlation of sedimentary rocks by their mineral constituents. Pr., 124. Coombs
127. Ore Deposits. (5) Their form, structure, mineralogy, petrology, and mode of origin. Pr., 121, 124. Goodspeed
129. Advanced Ore Deposits. (3) Pr., 127. Goodspeed
130. General Paleontology. (5) Systematic study of fossils. Pr., 7, or Zool. 8. Weaver
131. Stratigraphy. (3 or 5) Sedimentation and facies; rock and time units; evaluation of boundaries; principles of correlation. Pr., 5, 6, 7; suggested 130/132. Misch
132. Invertebrate Paleontology. (5) Fossils of each geologic period. Pr., 7, or Zool. 8. Weaver
133. Mesozoic Geology. (5) From a world standpoint with special emphasis upon Europe. Pr., 130, 132. Weaver
134. Tertiary Geology. (5) With special emphasis upon Europe and correlation with North and South America. Pr., 130, 132. Weaver
137. Tertiary Faunas of Washington. (5) Pr., 130, 132. Weaver
143. Advanced Structural Geology. (3 or 5) Pr., 8 or 108. Misch
144. Field Methods. (5) Geologic and topographic surveying and recording. Pr., 8 or 108; G.E. 21. Barksdale
145. Regional Structural Geology. (3 or 5) Pr., 143. Misch
150. Elements of Seismology. (5) Pr., senior standing in geology.
160. Principles of Geomorphology. (5) Pr., permission. Mackin
181. Preparation of Geologic Reports and Publications. (3) Pr., senior in geology. Coombs
190. Undergraduate Thesis. (5) Thesis must be submitted at least one month before graduation. Pr., senior in geology.

*Course Open to Approved Seniors and Graduates*

200. Advanced or Field Work in General Geology. (†) Open to advanced undergraduates upon permission.  
An approved summer field course or approved field experience is a requirement for all advanced degrees in geology.

*Courses for Graduates Only*

- Two modern foreign languages are necessary for graduate work in geology.
201. Advanced Petrography and Petrology of Igneous Rocks. (†) Goodspeed
  202. Advanced Petrography and Petrology of Metamorphic Rocks. (†) Goodspeed
  203. Advanced Petrography and Petrology of Sedimentary Rocks. (†) Coombs, Misch
  312. Advanced Studies, Research or Field Work in Physiography. (†) Mackin
  320. Advanced or Research Work in Mineralogy, Petrography, and Petrology. (†) Goodspeed, Coombs
  327. Advanced or Research Work in Economic Geology. (†) Goodspeed

†To be arranged.

330. Advanced or Research Work in Paleontology and Stratigraphy. (†) Weaver  
 340. Advanced Studies or Research in Structural Geology. (†) Barksdale, Misch  
 Not offered in 1948-1949: 128, Mineral Resources—Nonmetals; 135, Study of Ammonites;  
 136, Geology of South America.

### GERMANIC LANGUAGES AND LITERATURE

*Professors Vail, Eckelman, Lauer, Meisnest; Associate Professor Meyer; Assistant Professors Ankele, Reed, Scherfel, Wesner, Wilkie; Instructors Kahn, Richeimer, Sommerfeld*

Students of mathematics and the applied sciences should take German 1-2, 3, an additional course in second-year German, 60, and the upper-division scientific courses for specialized reading.

Students of history and the social sciences should elect German 10 or 30 and the courses listed in the 130's.

Credit is allowed for any quarter in any course except German 1-2.

- 1-2. First Year. (5-5)  
 3. First-year Reading. (5) Pr., 1-2 or one year of high school German.  
 1S, 2S, 3S. First-year Speaking German. (5, 5, 5)  
 1X, 2X. First-year Intensive Reading. (10, 10)  
 4. Second-year Reading. (5) Pr., 3 or two years of high school German.  
 5. Second-year Reading. (3) Pr., as for 4; not open to those who have had 4.  
 6. Second-year Reading. (2) Pr., as for 4; not open to those who have had 4.  
 7. Second-year Grammar Review. (3) Pr., 3, or 2 years high school German. Wesner  
 10. Advanced Second-year Reading. (3) Pr., 4, 5, or 6.  
 30. Conversation Based on Rapid Reading. (3) For students interested primarily in acquiring a speaking knowledge. Pr., 4, 5, or 6. Ankele  
 60. Lower-division Scientific German. (3) Pr., 4, 5, or 6. Staff  
 113, 114, 115. Upper-division Scientific German. (2 or 3 ea. qtr.) Each student reports on reading in his own field in weekly conferences. Pr., 60, or equivalent. Schertel  
 116. Upper-division Scientific German for Premedics. (3) Pr., as for 113. Schertel  
 117, 118, 119. Grammar and Conversation. (2, 2, 2) Primarily for majors and minors. The materials used in this course aim not merely at the increase in the ability to speak, write, and understand German, but also to broaden the student's understanding of the culture of the German-speaking countries. Open only to juniors. Pr., 8 credits of second-year German including German 7. German 30 is recommended, but not required as a prerequisite to this course.  
 120, 121, 122. Grammar and Composition. (2, 2, 2) Primarily for majors and minors. Open only to seniors. Pr., completion of German 117, 118, 119. Vail, Meyer, Schertel  
 128. Phonetics. (2) Speech sounds, stage pronunciation, phonetic transcription. Meyer, Reed  
 129. History of the German Language. (5) From early Germanic to the present day. Open to senior and graduate majors and minors, and to junior majors. Meyer, Reed  
 130, 131. Introduction to the Classical Period. (3, 3) Lessing, Goethe, and Schiller. Biographical studies. Pr., 8 credits of second-year German or equivalent. Ankele  
 132. Introduction to the German Novelle. (3) Representative writers, such as Keller, Meyer, and Storm; theory of the *Novelle*. Pr., as for 130. Wesner  
 149. The German Lyric. (3) Pr., 130 or equivalent. Sommerfeld  
 162. Goethe. The Early Years. (3) Pr., 130 or equivalent. Vail  
 163. Goethe. Life and Works 1775-1788. (3) Pr., 130 or equivalent. Vail  
 183, 184, 185. History of German Literature. (3, 3, 3) To the Age of Goethe. Pr., 130 or equivalent. Alternates with 180, 181, 182. Wilkie, Vail  
 198. Studies in German Philology. (1 to 5) Pr., 130 or equivalent.  
 199. Studies in German Literature. (1 to 5) Pr., 130 or equivalent.  
 Teachers' Course in German. (See Educ. 75L.)

### Courses in English Translation

No knowledge of German required. Open to all students.

100. Masterpieces of German Literature. (3-5) The Middle Ages to the Age of Goethe. Wilkie  
 102. Goethe. (3)  
 104. Thomas Mann. (3) Conflicting tendencies in German thought and letters during the 20th century; social and economic backgrounds. Schertel

### Courses for Graduates Only

The following graduate courses are regularly offered by the department. Students must consult with the executive officer of the department and secure permission to register for any of the courses listed below.

†To be arranged.

## Literature Courses

- 200. Bibliography and Methodology. (2) Required of all majors and Ph.D. minors.
- 210. Literature of the Middle Ages. (5)
- 211. Reformation and Renaissance. (3)
- 212. Baroque. (3)
- 213. Eighteenth-century Movements. (3)
- 214. Survey of the Classical Period. (3)
- 215. Goethe's *Leben und Werke 1775-1788*. (4)
- 216. Goethe im Zeitalter der Vollendung. (4)
- 221. Schiller. (4)
- 222. Lessing. (3)
- 230. The Romantic Movement. (4)
- 231. The Literature of the Mid-nineteenth Century. (4)
- 232. The Literature of the Later Nineteenth Century. (4)
- 235. The Literature of the Twentieth Century. (3)
- 240. The History of the Novel. (3)
- 241. History of the German Drama. (3)
- 290, 291, 292. Seminar in Literary History. (1 to 5 ea. qtr.)

## Philology Courses

- 201, 202 203. Advanced Syntax and Synonymy. (2, 2, 2) Required of all majors and minors
- 204. Introduction to Linguistics. (3)
- 250. Middle High German. (5)
- 251. Middle High German Literature in the Original. (5)
- 255. Gothic. (5)
- 256. Old High German. (5)
- 257. Old Saxon. (5)
- 260. Modern Dialects. (3)
- 270. Sanskrit. (3-5)
- 295, 296, 297. Seminar in Germanic Philology. (1 to 5 ea. qtr.)

Not offered in 1948-1949: 1R, 2R, 3R, First-year Reading; 3X, First-year Intensive; 101, German Literature of the Nineteenth Century; 140, *Heimatkunst*; 141, Recent Novellen; 143, Expressionism and Twentieth-century Realism; 147, 148, Modern Drama; 160, Lessing's Life and Dramatic Works; 166, 167, Goethe's *Faust*; 168, Schiller's Historical Dramas; 180, 181, 182, Nineteenth-century Literature.

## HISTORY

*Professors Holt, Costigan, Levy, Lucas, Savelle; Acting Professors Fish, Lovell; Associate Professors Dobie, Gates, Katz; Assistant Professor Emerson*

- 1. Medieval History. (5) The history of Europe from the disintegration of the Roman Empire to 1500 as the evolution of the basic values and assumptions of Western civilization. Emphasis is placed upon the aspects of this history which led to the development of law, the maintenance of order, and the growth of ideas with their expression in political, economic, and social institution and in literature and art. Dobie, Fish, Katz
- 2. Modern European History. (5) Political, social, economic, and cultural history of Europe from 1500 to the present time, including evolution of nationalism, democracy, and imperialism, and their interrelation with the results of the industrial revolution. Dobie, Emerson, Fish
- 5-6. English Political and Social History. (5-5) By special work, upper-division students may receive upper-division credit. From earliest times down to the present day. Emphasis is chiefly on political and social developments, with consideration also of general cultural interest. The origins in English history of American political institutions and social patterns are also stressed. Lovell
- 7. Survey of the History of the United States. (5) By special work, upper-division students may receive upper-division credit. Supplies the knowledge of American history which any intelligent and educated American citizen should have. Object is to make the student aware of his heritage of the past and more intelligently conscious of the present. Gates, Holt, Savelle
- 72-73. Ancient History. (5-5) By special work, upper-division students may receive upper-division credit. Ancient Near East, Greece, and Rome, with emphasis on political, social, economic, and cultural development. Special attention to elements of ancient civilization contributing most vitally to the civilization of the medieval and the modern world. Katz
- 100. Greece in the Age of Pericles. (3) A study of the political, institutional, and cultural history of classical Greece, with special emphasis on the legacy of Greece to western civilization. Katz
- 106. English Constitutional History. (5) The development of legal and governmental institutions of the English people to the present time. Fr., 5-6. Lovell
- 110. The Byzantine Empire. (5) A study of the political, institutional, and cultural history of the Eastern Roman Empire from the fourth to the fifteenth centuries. Special emphasis is given to the relations of the Byzantine Empire with the Latin West and the Slavic and Moslem worlds. Katz

112. **Introduction to Roman Law.** (5) Open to qualified sophomores. Levy
114. **Culture of the Renaissance.** (5) Art, literature, politics, philosophy, science, and religion in Italy from 1300 to the death of Michelangelo. Lucas
115. **The Reformation.** (5) Political and religious crisis. Lutheranism, Zwinglianism, Anglicanism, Anabaptism, Calvinism, Catholic reform. Beginnings of Baroque art. Lucas
120. **Medieval Civilization.** (5) Art, letters, religion, science, and thought in Europe outside Italy from 1200 to 1500. Lucas
129. **The French Revolution and Napoleonic Era.** (5) Fish
130. **Europe, 1814-1870.** (5) The reorganization of Europe after Napoleon's fall. The impact of the industrial revolution and the problems of a society in flux. Bureaucratization and politics in the European states. The revolutions of 1848 and the nationalist wars for the reorganization of Europe. Fish
131. **Europe, 1870-1914.** (5) The impact of Bismarckian Germany. The significance of the Paris Commune. The Eastern Question and the Bismarckian organization of the European state system. Politics: people, bureaucracies, and parliaments. Problems of economic change. Imperialism and the problems of the state system. The moral crisis and its challenge to the West. The collapse of the Bismarckian system and the new alliances. Policies leading to war. Emerson
133. **Europe Since 1914.** (5) Broad outline of history from World War I to the present. Levy
137. **Germany, 1916-1945.** (5) A survey of the political history of Germany from the collapse of the Bismarckian empire in 1916 to the collapse of Hitler's empire in 1945. Emerson
140. **Foundations of American Civilization.** (5) A study of the history of the founding of Anglo-Saxon society in the western hemisphere, with particular attention to the earliest colonial establishments, the growth of a new culture, independence, and the organization of the American union. This is a basic course. Open to sophomores and up. Saville
143. **The Intellectual History of the United States.** (5) A series of lectures and discussions devoted to the study of the development of the American "mind" from the beginnings to the present time. Pr., 7 or its equivalent. Saville
147. **History of the Civil War and Reconstruction.** (5) A study of the various aspects of life in America during this great crisis of the nineteenth century. Holt
155. **History of Canada.** (5) A study of the struggle for unity and nationhood as determined by geographical conditions, by racial antagonism, by the impact of modern commercial and industrial society upon an old-world culture, and by pulls toward both Europe and the United States. Dobie
158. **The United States in World Affairs, 1776-1865.** (5) The relation of the United States to world politics and the balance of power will be studied as well as the historical events attending the major episodes in American foreign relations. Holt
159. **The United States in World Affairs, 1865 to the Present.** (5) A continuation of 158 into the period when the United States entered the balance of power as a major factor. Holt
164. **History of Washington and the Pacific Northwest.** (5) Exploration and settlement; economic development; growth of government and social institutions; the period of statehood. Gates
165. **The Westward Movement.** (5) Territorial and economic expansion of the United States from the Revolution to World War I; conditions affecting settlement and development of the West; political and social institutions; inter-regional relations. Gates
180. **History of the British Empire since 1783.** (5) Britain in India, Africa, and the Pacific. The acquisition of a new dependent empire as a phase of modern capitalism and the evolution of imperial policy from autocracy toward self government and from laissez-faire toward economic planning. Dobie
182. **England in the Eighteenth Century.** (5) A study of political, social, economic, and cultural development. Parliamentary government; rise of the British Empire; aristocratic culture. Lovell
183. **England in the Nineteenth Century.** (5) A study of political, social, economic, and cultural development. The Agrarian, Industrial, and French Revolutions; rise of parliamentary democracy, the Victorian age; thought from Utilitarianism to Fabianism; Irish Home Rule. Lovell
184. **England in the Twentieth Century.** (5) England from the Boer War to the Labor Government of 1945. Conservatism, liberalism, and socialism; England in two World Wars, Anglo-Irish relations, decline of British imperialism. Lovell
199. **Individual Conference and Research.** (1 to 5)

#### *Courses for Graduates Only*

201. **Historiography: ancient, medieval, and early modern Europe.** (5) Required of all graduate students majoring in history. Graduate students taking a minor in history may take either 201 or 202. Katz and Staff
202. **Historiography: modern European and American.** (5) Required of all graduate students majoring in history. Graduate students taking a minor in history may take either 201 or 202. Katz and Staff

#### *Courses in Fields of Specialization*

These courses are introductions to advanced study. They are designed to show how important historical conclusions have been reached, to suggest further research, and particularly to give bibliographical guidance to students in their preparation for the examination on the fields selected.

210. **Greek and Roman History.** (5) Katz

214. Medieval and Renaissance History. (5)	Lucas
215. English History. (5)	Lovell
216. British Empire History. (5)	Dobie
221. American History. (5)	Holt
222. American History. (5)	Gates
223. American History. (5)	Saville
231. Modern European History. (5)	Emerson
234. Roman Law (5)	Levy

## Seminars

237-238-239. Seminar in Ancient or Medieval History. (5-5-5)	Staff
240-241-242. Seminar in Modern European History. (5-5-5)	Staff
243-244-245. Seminar in American History. (5-5-5)	Staff
246-247-248. Advanced Seminar. (†) Restricted to students writing doctoral theses.	Staff
300. Individual Research. (†)	Staff

Not offered in 1948-1949: 3-4, Survey of Western Civilization; 41-42, Latin-American History; 101, Alexander the Great and the Hellenistic Period; 103, The Roman Republic; 111, Greek and Roman Institutions; 118, 119, Medieval Civilization; 124, Economic History of Europe and the Industrial Revolution; 128, France from the Reformation to the French Revolution; 132, Modern Colonial Empires; 134, Germany from 1648 to 1914; 141, American Revolution and Confederation; 142, The Colonial Mind; 144, History of the United States, 1789-1829; 149, History of the United States, 1877-1920; 150, Twentieth Century America; 151, American Industrial Society; 157, The Diplomatic History of North America, 1492-1763; 181, The British Empire since 1783, British Commonwealth of Nations; 188, History of Australia; 189, History of New Zealand and Pacific Islands.

## HOME ECONOMICS

*Professors Rowntree, Denny, Payne, Terrell; Associate Professors Bliss, Dresslar; Assistant Professors Bonnell, Featherstone, Johnson, Johnston, Lloyd, McAdams, Obst, Warning; Instructors Parks, Smith; Acting Instructor Rose*

7. Introduction to Home Economics. (1) Orientation; personal budgeting and account keeping. Educational needs of homemakers; opportunities in professional fields of home economics. Rowntree
9. Nutrition and Food Preparation. (5) For student nurses. Nutritive values. Meal planning for various periods in life. Bliss
12. Clothing Construction and Selection. (5) Analysis of student. Selection of clothing and accessories. Wardrobe inventory. Planning and construction of cotton or linen dresses. Obst, Warning
15. Food Preparation. (3) Cookery techniques presented in lecture-demonstrations followed by laboratory experience. Food selection, basic cookery, simple meal planning, service, and cost calculation. Dresslar
24. Textiles. (2) For nonmajors. Comparative study of staple fabrics in cotton, wool, and rayon. Weaves, yarns, fibers, dyes, finishes, textile tests. Denny
25. Textiles. (5) Fabrics for clothing, home furnishing, and industrial uses. Relation of raw materials, construction and finish to quality and cost. Identification of fibers, yarns, fabrics. Microscopic and chemical tests. Simple weaving problem. Economic development of textile industry. Denny
26. Institution Textiles. (3) Textile supplies for hospitals, hotels, and clubs. Specifications for quantity purchasing, laboratory testing of goods. Observation in the plant of marking, storage, laundry, and wear. Denny
41. Home Furnishing. (3) For nonmajors. Selection and arrangement of furniture. Furniture styles. Color harmony in floor coverings, backgrounds, and draperies. Table appointments and flower arrangement. Home furnishing budgets. Obst
83. Food and Nutrition. (5) For nonmajors. Food preparation and selection on the basis of nutritive and economic values to meet individual and family needs. Meal service. Johnson, Lloyd
84. Clothing and Textiles. (5) For nonmajors. Construction using commercial patterns. Planning and selecting a wardrobe. Warning
101. Needlecraft. (2) Italian embroidery and its application to table and other household linens. History of lace. Pr., 12, Art 9. Payne
102. Needlecraft. (2) National and historic embroideries with application to modern use, in the home and in costume. Pr., 12, Art 9. Payne
104. Nutrition. (2) For nonmajors. Fundamentals of food, its digestion and metabolism. Food values and their conservation. Application of knowledge to health promotion in schools. Rowntree
105. Diet in Health and Disease. (5) For student nurses. Practical applications of nutrition principles to feeding problems and to dietary modifications necessitated by disease. Pr., 9, organic chemistry. Johnson

† To be arranged.

106. Nutrition for Public Health Nurses. (\*) Johnson
107. Nutrition. (5) Chemistry of digestion and metabolism. Food values; human requirements and ways of meeting them at different cost levels. Pr., general chemistry. Rowntree
108. Advanced Nutrition. (3) Recent research on vitamins, minerals, amino acids and their inter-relationships. Methods of utilizing knowledge in public health work and in teaching. Pr., 107, organic chemistry. Rowntree
109. Managing Family Finances. (3) For nonmajors. Family practices of spending and saving; social security and other government programs affecting family expenditures. Johnston
110. Food Selection and Preparation. (5) For food technology majors. Instructor demonstrations of modern home food preservation and preparation techniques, theories, costs, and standards for comparison with the commercially produced. Subjective and objective methods of food testing. Field trips and readings in current literature. Dresslar
112. Costume Design and Construction. (3) Flat pattern designing and wool techniques. Original muslin pattern made into wool dress. Study of clothing for children. Pr., 12, Art 9. Obst, Warning
113. Costume Design and Construction. (3) Design by draping. Study of clothing production at all price levels. Silk and rayon technique. Pr., 112. Payne
114. Costume Design and Construction. (3) Basic principles of coat and suit construction; comparative costs of ready-to-wear. Pr., 113. Payne
115. Advanced Food Selection and Preparation. (5; 2 credits for qualified transfer students.) Relation of science to cookery. Food preservation. Simple experimental cookery. Meal preparation and service; food budgeting and purchasing. Pr., 15, general chemistry. Dresslar
116. Meal Planning and Preparation. (3) Advanced study of factors involved in food marketing, preparing and serving nutritious and attractive meals for families on different economic levels. Pr., 108, 115. Lloyd
121. Institution Food Preparation. (5) Laboratory and institution practice in large-quantity food preparation and cost control. Pr., 116. Terrell, Smith
122. Institution Food Purchasing. (3) Market organization, buying procedures, payment and credit; food selection and care, and inspection of merchandise for those who plan to do institution buying. Pr., 116. Terrell
123. Institution Management. (3) Principles of organization, executive qualifications, characteristic responsibilities for an institution manager. Types of institutions, personnel administration, management controls, planning of work and equipment layout, budget analysis. Professional organizations and ethics presented from standpoint of managers of food service institutions. Open to students in institution administration or by permission. Terrell
124. Institution Management. (5) Food and food service accounting problems. Recording financial transactions; cost controls; profit and loss statements. Pr., 123. Terrell, Parks
126. Demonstration Cookery. (3) Techniques and methods adapted to teaching and business. Pr., 115. Dresslar
131. Clothing Selection. (2) Choice of clothing, emphasizing appropriateness to personality and occasion as well as judgment of quality and cost. No credit to those who take 12 or 84. Payne
132. Costume Design by Draping. (3) For art majors. Fabric used as medium to give better understanding of three dimensional aspect of clothing with consideration of texture and motion. No clothing construction. Pr., Art 11. Payne
133. History of Costume. (5) Relationship of fashion of each historic period to its esthetic and social background. National costume collection available for study. Source material for professional designers. Pr., 112, Art 169. Payne
141. The House, Equipment and Management. (3) Study of present emphasis in managing a home, selecting convenient equipment and developing motion economy habits for well being of family. Lloyd
144. Family Economics and Finances. (5) Economic and social conditions affecting consumer, such as credit, marketing practices, taxation; managing family finances in relation to these conditions. Pr., Econ. 1 or 4. Johnston
145. Family Relationships. (3) Principles underlying good family relationships, wholesome adjustment of home to changing society. Rowntree
146. Home Furnishing and Textiles. (5) Economic and esthetic values; historic and modern furniture, pictures, rugs, tapestry, china, glass, silver; textile fabrics and their uses and care. Primarily for art majors. Featherstone
147. Home Furnishing. (5) Selection of furniture, fabrics, accessories, and colors appropriate to all types of homes. A brief history of furnishing shows contribution of the past and of different cultures. Featherstone
148. Home-management House. (3 for prospective teachers; 2 for all others) Residence in House with opportunity to apply principles of homemaking in money management, keeping of records, care of house, group relationships, food buying, preparation and service. Pr., junior or senior standing. Advance reservation required. Lloyd
160. Advanced Costume Design and Construction. (5) Flat-pattern drafting, grading, and designing. Pr., 114, Art 169. Payne
161. Advanced Costume Design and Construction. (5) Advanced designing by draping, and custom work. Pr., 160. Payne
175. Institution Equipment. (3) Institution kitchens and serving units; routing of work; equipment selection, operation and care; repair and depreciation records. Pr., or parallel, 124. Terrell

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\*Not offered in 1948-1949.

181. **Advanced Family Economics and Finances.** (2) Study of source materials, government and other programs related to consumer. Pr., 109 or 144. May carry graduate credit. Johnston
187. **Experimental Cookery.** (3) Food experiments illustrating science applications. Subjective and objective testing of food. Pr., organic chemistry, 115 or permission. Dresslar
188. **Advanced Textiles.** (3) Tests for textile strength, sunfading, washing, weight, thread count, water repellency, quantitative analysis, microanalysis. Survey of developments in synthetics and finishes, distributive education, research centers, technical and trade organizations, legislation, standardization. Pr., Econ. 1 or 4. Denny
189. **Hand Weaving.** (2) Covers mechanism of looms, warping techniques, designing and weaving with various yarns. Survey of handwoven fabrics and contemporary designers. Featherstone
190. **Child Nutrition and Care.** (3) Study of physical, mental and emotional health of children. Experience with parents and children in Child Nutrition Service and Child Health Center. Pr., or parallel, 104 or 107. Rowntree, Wade
191. **Diet Therapy.** (3) Nutrition as curative and preventive factor in disease. Primarily Journal readings. Pr., 108. Johnson
195. **Special Problem in Home Economics.** (\*) Some phase of teaching home economics in secondary schools. Pr., permission. Staff
- 196, 197. **Supervised Field Work.** (7, 8) Twelve months practice and organized classwork for graduates in institution management and dietetics. An administrative dietitian internship approved by the American Dietetic Association. Terrell
198. **Historic Textiles.** (3) Survey of fabrics through the centuries; their relation to political, religious, economic, and social life of the time. The collections in the department and at Seattle Art Museum furnish material for study. Pr., 25, 147, Art 9, 10, 11 or equivalent. Denny

*Courses for Graduates Only*

200. **Readings in Food Selection and Preparation.** (†) Recent development from professional literature. Dresslar
  202. **Home Economics Education.** (†) Critical study of achievements, trends, functions, and relationships. McAdams
  204. **Research in Nutrition.** (†) Introduction to research techniques. Taken with 214. Pr., 108 or equivalent. Johnson
  205. **Research in Nutrition.** (\*) Individual studies of energy, protein, mineral or vitamin metabolism. Animal feeding problems. Child welfare. Johnson
  207. **Research in Textiles** (\*) Pr., permission. Denny
  211. **Research in Costume Design.** (†) Pr., 114, 133. Payne
  214. **Readings in Nutrition.** (†) Library research. Pr., 108 or equivalent. Rowntree, Johnson
  220. **Research in Institution Administration.** (†) Individual and group study of various phases of institution organization, with special emphasis on job analysis, labor management and legislation, routing of work and planning equipment layouts, problems in quantity purchasing of food and equipment, and financial planning. Terrell
  245. **Social and Economic Problems of the Consumer.** (†) Family adjustment to differing social and economic conditions. Social and other legislation in relation to consumers. Interaction of production, distribution, and consumption of consumer goods. Pr., 144, 145, 181. Johnston
- Not offered in 1948-1949: 111, Nutrition (for technology students).

**JOURNALISM**

*Professors Everest, Jones, McKenzie; Associate Professors Benson, Christian, Frost, Kennedy, Mansfield; Assistant Professors Astel, Brier; Acting Assistant Professor Ryan; Associates Helberg, Jacobsen, Murtion*

51. **Preliminary News Writing.** (5) Structure of the news story, types of news leads, feature stories. Staff
84. **Editorial Techniques.** (2) Editing news copy, writing of cutlines and captions, headline writing, newspaper make-up. Pr., 51 or permission. Staff
- 90, 91, 92. **Contemporary Affairs.** (2,2,2) McKenzie
116. **Propaganda as a Social and Political Force.** (5) Development of propaganda and techniques in nineteenth and twentieth centuries. Emphasis on post-1914 period, and on international propaganda as it affects U. S. McKenzie
125. **Principles of High School Journalism.** (5) For teachers in high schools and junior colleges. Editorial, advertising, circulation, and mechanical production of school publications. Not open to students who have had Educ. 75J. Pr., 51. Brier
130. **Fundamentals of Advertising.** (3) Display, attention devices, media. Jones
131. **Display Advertising.** (3) Layouts and copy writing. Open only to majors in journalism or E. and B. majors in advertising and marketing, and commercial art majors. Pr., 130 or E.B. 134. Jones
132. **Advertising Typography.** (3) Laboratory course in display advertising. Pr., 131. Jones
133. **Advertising Campaigns and Media.** (3) Steps involved in planning and preparing an advertising campaign. Each student will make layouts, write copy, and set up a budget for campaigns. Open only to students taking junior journalism advertising sequence, and to E. and B. majors in advertising and marketing, and commercial art majors. Pr., 130 or E.B. 134. Jones

\*Not offered 1948-1949.

†To be arranged.

134. **Advertising Regulation.** (2) National, state, and city laws regulating advertising; provisions governing trade-marks; rulings of F. T. C., F. C. C., and other official bodies. Pr., or concurrent, 130 or E. B. 134. Jones
135. **Radio Advertising.** (3) Analysis of sound as an advertising medium; planning campaigns; costs and coverage; announcements and commercial copy writing; merchandising and audience tests. Ryan
136. **Radio News Writing.** (3) Techniques of gathering, writing and editing news for presentation by radio; planning the news broadcast. Ryan
- 147, 148, 149. **Fundamentals of Journalism.** (5, 5, 5) Editorial sequence: reporting, contemporary affairs, social implications, editing, advertising, printing processes, business office, printing laboratory and photography laboratory. Advertising sequence: principles of advertising, laboratory techniques, editing, printing processes, business office, social implications, and regulation of advertising. Pr., junior standing and permission. Everest, McKenzie, Jones, Benson, Christian
- 150, 151. **Fundamentals of Journalism.** (5, 5) Editorial sequence: history of journalism, contemporary affairs, daily editing, public relations, reporting, urban geography, and radio. Advertising sequence: copy writing, layout, selling techniques, social implications, printing laboratory, photography laboratory, and radio. Benson, Christian, Frost, Mansfield, Astel
- 152, 153, 154. **Fundamentals of Journalism.** (5, 5, 5) Editorial sequence: magazine article writing, contemporary affairs, reporting, editing, law of the press, and radio special events. Advertising sequence: advertising campaigns and media, advanced copy writing, advanced advertising laboratory, radio advertising, selling techniques, and public relations. Everest, McKenzie, Christian, Mansfield
165. **Public Relations.** (3) The improvement of relations between business, the press, and the public. For upper-division students; for lower-division students, pr., permission. Christian
- 171-172. **Magazine and Feature Writing and Trade Journalism.** (3-3) Jones
- 173, 174-175. **Short Story Writing.** (5, 5-5) Professional fiction writing for national magazines. Admission only to upper-division students with permission of the instructor. Mansfield
- 181, 182, 183. **Laboratory Work on University Daily.** (2 to 5 ea. qtr.) Journalism majors or permission. Astel
199. **Problems of Journalism.** (2 to 5) Research and individual study. Upper-division students only. Staff

#### *Courses for Graduates Only*

201. **Propaganda.** (5) Study of the crystallization of public opinion and of propaganda techniques. Pr., 116, or permission. McKenzie
- 225, 226, 227. **Graduate Seminar in Short Story Writing.** (2 to 4 ea. qtr.) Advanced professional fiction writing for national magazines. Limited to eight students. Instructor's permission required. Mansfield
301. **Research.** (3 to 5) Staff

#### **LAW**

*Professors Falknor, Gose, Green, Harsch, Levy, Martin, Nottelmann, Richards, Shattuck, Sholley, Taylor; Visiting Professor Hanna; Professors Emeriti Ayer, O'Bryan; Associate Professors Cross, Gallagher; Assistant Professors Marsh, Rutledge, Wollett; Lecturer Shefelman*

#### **First Year**

*All first-year subjects are required*

- †101. **Contracts.** A. (3-); W. (-4); S. (3) Shepherd, Cases on Contracts. A Study of the formation, incidents and termination of contracts, including mutual assent, consideration, parol evidence rule, statute of frauds, assignments beneficiaries, conditions, breach and remedies. Shattuck
- †102. **Torts.** A. (3-); W. (-4); S. (3) Seavey and Thurston, Cases on Torts. Intended interference with the person or tangible things; the wrong, the defenses; unintended interference with the person or tangible things: negligence, the extent of liability, effect of special relationships, contributory fault, liability without fault; interference with intangibles: misrepresentation, defamation, interference with advantageous relations. Richards
- †104. **Property I, II.** A. W. S. (3-3-3) Aigler, Bigelow and Powell, Cases on Property, Vols. 1 and 2. Personal property including finding, bailment, lien, adverse possession of chattels, accession, confusion, satisfaction of judgment and gift; fixtures; estates in land, waste, emblements, easements, licenses, concurrent ownership. Cross, Marsh
105. **Criminal Law and Procedure.** W. (4) Harno, Cases on Criminal Law, 2nd ed., and Green, Washington Materials on Criminal Law. A study of the origin and purposes of criminal law; the elements of criminal liability; mental states bearing upon criminal responsibility, such as negligence, specific intent, insanity and intoxication; solicitation; attempts; and a study of the major crimes. Green
112. **Agency.** S. (4) Seavey, Cases on Agency. A general study of the relative status, rights and liabilities of master, servant, principal, agent and third person arising in consequence of the agency relationship, actual or apparent. Taylor
130. **Legal Method.** A. (5) Dowling, Patterson and Powell, Materials for Legal Method. Introduction to the study of law: nature and source of law, judicial systems, analysis and synthesis of cases, use of law books, statutory interpretation, comparison of statute and judge-made law. Gallagher, Green, Harsch, Rutledge

†No examination for credit until completion of entire course.



## Second Year

*All second-year subjects are required*

110. Sales. S. (4) Casebook to be announced. Transfer of the property interest in goods; subject matter, price and legal formalities; divided property interests; sellers' warranties; remedies of buyer and seller. Taylor
111. Wills. A. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed. The law of intestate succession, the making and revoking of wills, including testamentary capacity and inducement, the execution of wills, the integration of wills, testamentary character and intent, the revocation of wills, and the operation of wills as affected by subsequent events. Marsh
113. Domestic Relations. S. (3) Casebook to be announced. Marriage, divorce and annulment; the personal and economic relations of the spouses; and the effect of marriage on the ordinary rules relating to contracts, torts, and crimes. Marsh
- †114. Equity. A. W. (4-4) Walsh, Cases on Equity. Nature of equitable jurisdiction, powers of equity courts, principles governing exercise of equitable powers, injunction against torts, specific performance of contracts, law of vendor and vendee, reformation and rescission for mistake, equitable servitudes on land and chattels. Nottelmann
- †115. Evidence. A. W. (4-4) McCormick, Cases on Evidence. Preparing and presenting evidence; examination of witnesses; admission and exclusion; competency of witnesses; privileges; relevancy; demonstrative evidence; writings; the hearsay rule and exceptions; burden of producing evidence, burden of persuasion, presumptions; judicial notice. Falknor
116. Bills and Notes. W. (4) Britton, Cases on Bills and Notes, 3rd ed. Requisites of negotiability; methods of transfer; holder in due course; equities and defenses; liability of parties. Taylor
- †119. Constitutional Law. A.W.S. (3-3-3) Sholley, Cases on Constitutional Law. A study of basic doctrines of American constitutional law as developed by the United States Supreme Court, considered historically, with special emphasis upon the contract, commerce, and due process clauses. Sholley
127. Code Pleading. S. (3) Cathcart and Howell, Cases on Code Pleading, supplemented by the Washington Code and Washington Cases. A study of the nature and function of the code; parties to the code action; general rules of pleading; the complaint; demurrers; the answer; and the reply. Green

## Third Year

*All third-year subjects are required*

117. The Legal Profession. S. (3) Cheatham, Cases and Materials on the Legal Profession. Examination of the history, nature and purpose of law, courts, and the legal profession. Problems, obligations, and duties of the lawyer, with special attention to the practice of law, the work of the lawyer in his office and in court, the relationship between lawyer and client, standards and conduct, ethics of the legal profession, and the selection of judges. Sheffelman
121. Administrative Law. S. (4) Gellhorn, Cases on Administrative Law. Legislatures, Courts, and administrative discretion. Investigation: contempt power; right to be heard, requisites of a fair hearing. Determination: deciding officers, sub-delegation; findings. Powers: types of action; effect of action. Judicial intervention: timeliness; scope; methods; effect. Promulgation of program: methods of disseminating information and communicating notice; informal dispositions, consent action. Rutledge
- †123. Property III. W.S. (3-3) Aigler, Bigelow and Powell, Cases on Property, Vols. 1 and 2. Study of covenants running with the land, adverse possession and prescription, types of conveyances, execution of deeds, descriptions in deeds, covenants for title, estoppel by deed, and recordation. Cross
- †126. Trusts. A.W. (3-3) Scott, Cases on trusts, 2nd ed. Nature of a trust, its creation and elements; transfer of interest of beneficiary; resulting and constructive trusts; charitable trusts; administration of trusts; termination and modification; liabilities to and liabilities of third persons; business utilization of trust. Nottelmann
- †142. Trial and Appellate Practice. A.W. (3-3) Sunderland, Cases and Materials on Trial and Appellate Practice, 2nd ed., supplemented by Washington Code of Procedure and Washington Cases. Proceedings in the trial of a civil action from the discovery procedure prior to trial to the judgment. Discovery techniques; pre-trial hearings; continuances; selection of the jury; conduct of counsel; non-suits and directed verdicts; instructions; verdict; motion for new trial; and judgments. Appellate practice, including methods of review, parties, laying a foundation for review, transferring the case to the appellate court, record on appeal, assignment of errors, briefs, disposition of the case upon review. Each student must participate in the trial of a case in moot court. Green, Falknor, Gose
144. Probate Practice. W. (3) Mechem and Atkinson, Cases on Wills and Administration, 2nd ed., supplemented by the Washington Probate Code and Washington Cases. A study of the practice, procedure and substantive law involved in the probate of wills and the administration of decedents' estates. Each student is required to draft all papers necessary to carry a typical estate through the entire course of probate or administration and to participate in moot probate hearings conducted in accordance with the Probate Code of the State of Washington. Gose
- †145. Credit Transactions. A.W. (3-3) Shattuck, Washington Materials on Security Transactions, revised ed. 1947. A study of personal and property security including suretyship, accommodation parties and instruments, pledges, conditional sales, trust receipts, chattel mortgages, real property mortgages and security assignments of choses in action. Shattuck, Taylor
- †149. Business Associations. W.S. (4-4) Ballantine and Lattin, Cases and Materials on Corporations; Mechem, Cases on Partnerships. A general study of the law of partnerships, corporations and related forms of business organizations with special attention devoted to the Uniform Partnership Act, the Uniform Limited Partnership Act, the Uniform Business Corporations Act and other applicable statute law of the State of Washington and to Washington cases. Gose

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†No examination for credit until completion of entire course.

Fourth Year  
*Required Courses*

118. **Conflict of Laws.** A. (5) Cheatham, Dowling, Goodrich and Griswold, *Cases and Materials on Conflict of Laws*. Domicile, jurisdiction of courts, substance and procedure, choice-of-law rules. Sholley
124. **Community Property.** W. (3) Mechem, Sholley, Luccock, *Cases on Washington Law of Community Property*. Nature and types of community property; management and control, liabilities, power of disposition; effect upon agreements and dissolution. Special emphasis upon Washington law. Marsh
135. **Legislation.** S. (4) Read & MacDonald, *Cases and Materials on Legislation*. Formulation of legislative policy; legislative organization and procedure; statutes and their interpretation. Harsch
146. **Taxation.** A. (5) Griswold, *Cases on Federal Taxation*, 2nd ed. Federal estate, gift, income and miscellaneous taxes; federal tax procedure. Harsch
199. **Seminars and Individual Research Courses.** Ten credits required of the following one-quarter seminars, each carrying five credits.
- 199A. **Property Law.** A. (5) Selected individual research problems in the field of real and personal property. The student is required to submit a final paper embodying the results of his research, as well as make reports and participate in collective discussion at the seminar meetings. Marsh
- 199B. **Advanced Problems in Security.** A. (5) Shatruck
- 199C. **Social Legislation.** W. (5) Workmen's compensation, unemployment compensation, Fair Labor Standards Act. Sholley
- 199D. **Law of Income Taxation.** W. (5) Harsch
- 199F. **Corporation Practice.** A. (5) Problems which must be dealt with by the practicing lawyer in forming corporations and in legal supervision of the conduct of their internal affairs. Individual research problems in the field, including forms of capital structure, corporate finance and general concepts of corporate accounting. Each student must prepare a complete set of corporate papers covering the typical problems which may arise from the time of organization to dissolution. Gose
- 199G. **Comparative Law.** W. (5) Levy
- 199H. **Government Regulation of Business.** A. (5) W. (5) Selected problems in the judicial and administrative regulation of unfair competition. Rutledge
- 199I. **Civil and Criminal Procedure.** A. (5) Falknor
- 199J. **Labor Law.** W. (5) S. (5) Selected problems assigned for investigation, report, group discussion and submission of written paper in final form. Nottelmann, Wollett
- 199L. **Corporate Reorganization.** S. (5) Hanna
- 199M. **Advanced Problems in Torts.** W. (5) Richards

*Elective Fourth-Year Courses*

- †122. **International Law.** A.W. (3-3) Briggs, *The Law of Nations*. Martin
129. **Drafting of Legal Instruments.** S. (3) Harsch
131. **Restitution.** A. (3) Casebook to be announced. Benefits voluntarily conferred; benefits not voluntarily conferred; constraint; waiver of tort. Richards
134. **Federal Jurisdiction and Procedure.** W. (3) Casebook to be announced. The judicial power, courts of the United States. Rules of decision in federal courts. Jurisdiction of the district courts, the circuit courts of appeal, special federal courts, and the Supreme Court. Problems of concurrent and removal jurisdiction and federal interpleader. Rules of Civil and Criminal Procedure. Rutledge
136. **Insurance.** A. (4) Vance, *Cases on Insurance*, 3rd ed. Scope and function of insurance; insurable interest; formation of the insurance relation; ascertainment and control of risk; waiver and estoppel; the respective interests of the beneficiary, insured, insurer, assignee and creditor; construction of the policy. Taylor
138. **Future Interests.** S. (4) Leach, *Cases on Future Interests*, 2nd ed. Study of types of future interests in property and characteristic problems, construction of limitations creating future interests, powers of appointment, the rule against perpetuities, and restraints on alienation. Cross
138. **Administration of Debtors' Estates.** S. (4) Hanna & McLaughlin, *Creditors' Rights*, 3rd ed. A study of the administration, liquidation and reorganization of insolvent enterprises; the equity receivership; the various acts of bankruptcy, including fraudulent conveyances, preferences, legal liens, and general assignments; adjudication of bankruptcy; administration of the insolvent estate, the filing and payment of claims, priorities and liens; discharge, rehabilitation and corporate reorganization. Hanna
147. **Municipal Corporations.** W. (4) Tooke, *Cases on Municipal Corporations*, 2nd ed. A study of the law governing the nature, organization, powers, and duties of local governmental units, including both municipal and quasi-municipal corporations and their relation to the state, with special attention to the problems of police power, revenue, indebtedness, property rights, city planning and zoning, and liability in contract, quasi-contract and tort. Sheffelman
151. **Labor Law.** S. (4) Casebook to be announced. Common law theories of trade union liability; the anti-injunction statutes; the Sherman Act; picketing and the Constitution; the National Labor Relations Act of 1935; the collective agreement; internal problems of trade unions; the Labor Management Relations Act of 1947. Wollett

†No examination for credit until completion of entire course.

152. **Modern Civil Law.** A. (4) Casebook to be announced. Levy  
 199K. **Research Problems in Law.** A.W.S. (1-3 each quarter) Qualified third and fourth-year students may, with the consent of a member of the law faculty and the Dean of the Law School, receive from one to three credits for individual research in any of the major fields covered by the curriculum. Staff

Not offered in 1948-1949: 100, Property I; 125, Trade Regulations; 128, Damages; 132, Legal Accounting; 133, Public Utilities; 137, Water Rights; 140, Mining Law; 141, Admiralty; 190, Roman Law; 191, Comparative Law; and 199E, Administrative Law.

### LIBERAL ARTS

*Instructor Lutey*

1. **Introduction to Modern Thought.** (5) Man's place in the universe; cosmic origins; origin and nature of life; mind and behavior; values. Upper-division students may obtain upper-division credit on the basis of extra reading and conferences. Lutey  
 11. **Introduction to the Study of the Fine Arts.** (5) The appreciation of masterpieces of architecture, painting, sculpture, and music; 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. Lutey

Not offered 1948-1949: 114, 115, 116, Realism in Philosophy, Literature, and the Arts.

### LIBRARIANSHIP

*Associate Professor Gitler; Professor H. C. Bauer; Assistant Professors Bevis, Boughton, Gallagher, Groves, Turner; Associate Stokke*

#### All-University Course§

1. **The Use of Books and Libraries.** A.W.S. (2) Lectures and discussions with assigned problems illustrating the use of libraries, general reference materials and aids, and reference books of various subject fields. Gitler, Staff

#### Preprofessional Courses§

- §151. **Children's Books.** S. (2) An introduction to the field of children's books, with special emphasis on their selection and application to the school curriculum and to the child's recreational reading interests. For teacher-librarians only. Groves  
 §161. **Reference for High School Libraries.** A.S. (3) Dictionaries, encyclopedias, and other outstanding reference books are examined, with emphasis on the factors that make them useful in a school library. Many basic books in the various subject fields are also studied to show how they or similar materials may be used in correlation with the curriculum. Turner  
 §163. **Classification, Cataloging, Subject Headings for High School Libraries.** A.W. (4) Simplified cataloging routines that strive to develop an understanding of the structure and purpose of the catalog in the school library. Boughton  
 §164. **Classification, Cataloging, Subject Headings for High School Libraries.** W.S. (3) Books are cataloged for a permanent high school collection so that the student encounters a real situation in which he may develop speed, accuracy, and increased understanding of cataloging problems. Pr., 163. Boughton

#### Professional Graduate Courses

200. **Libraries, Librarians, and Society.** A. (2) An overview of the library profession, with consideration of the types of libraries and trends in their development; attention is given to personality factors and their relation to successful professional practice. The future of libraries and their place in a changing complex society is also examined. Gitler  
 201. **Organization and Administration: Public Libraries.** W. (2) A study of public-library service and the operation of library units; includes a consideration of legislation, finance and budgets, statistics, buildings and equipment, personnel, and the extension of library service. Bauer  
 202. **Organization and Administration: Academic and Special Libraries.** S. (3) A study of the factors covered in Librarianship 201, as related to college and university libraries, with attention to principles of particular import to them. The field of special libraries is also considered. Bauer  
 204. **Libraries, Librarians, and Society.** S. (2 or 3) Continuation of 200. Pr., 200. Gitler  
 209. **Directed Field Work (Practice).** S. (5) Four weeks, 40 hours a week, of field work in varying types of libraries of the Northwest. Professionally supervised. Gitler  
 210. **Bibliography and Reference.** A. (3) General principles of reference work and study of the most frequently used reference materials. Bevis  
 211. **Bibliography and Reference.** W. (3 or 4) Study of reference material by subject; subject bibliography. Pr., 210. Bevis

§Admission to the School of Librarianship is granted only to graduate students except for courses marked §, which are open to seniors and graduates who wish to qualify for teacher-librarian positions in high schools in accordance with requirements established by the State Department of Public Instruction. Permission of the School should be requested before registering for courses so marked.

§Open to any student but designed primarily for freshmen, sophomores, and new students.

212. **Bibliography and Reference.** S. (3) United States and other government publications. Pr., 211. Bevis
220. **Classification, Cataloging, and Subject Headings.** A. (4) Theory and principles governing the classification and cataloging of book collections. Factors determining choice of subject headings. Study of the Library of Congress and Dewey Decimal schemes of classification. Boughton
221. **Classification, Cataloging, and Subject Headings.** W. (3) Comparative methods of cataloging. Problems in the development of policies and procedures. Pr., 220. Boughton
222. **Classification, Cataloging, and Subject Headings.** S. (3 or 5) Further study of classification systems. Techniques of cataloging special materials such as music, maps, microfilm. Individual problems. Pr., 221. Boughton
230. **Selection of Books for Libraries.** A. (3) Principles and practices of book selection, with attention to community characteristics. A study of standard aids, criteria for evaluating printed materials, both fiction and non-fiction; book reviews and their sources, publishers, translations, and editions are studied. The writing of annotations is included. Bevis
231. **Selection of Books for Libraries.** W. (3) Continuation of 230. Practical problems of selection, stressing the use of *Publishers' Weekly*. Pr., 230. Turner
240. **Advanced Legal Bibliography.** A. (4) Bibliographical data and use of federal and state law reports and statutes; quasi-legal and commissioners' reports of the states, bar association records, legal periodicals, indexes and digests, legal regional bibliographies, cooperative bibliographies of law collections. Gallagher
241. **Order and Accessioning of Law Books.** A. (2) Aids to selection, processing, microphotography of legal material, etc. Gallagher
242. **Legal Reference and Research.** W. (5) Bibliographical lists, law reference questions, briefing, annotations, local legal history. Gallagher
243. **Law Library Administration.** S. (5) Staff, patrons and public relations, circulation, architecture, book arrangements, equipment, rules, publicity, publications, budgets, reports, professional societies, regional service, cooperative buying. Gallagher
250. **Introduction to Library Work with Children.** A. (3) A survey of the philosophy and place of children's work in the public library. A study of the organization and administration of a children's department, with emphasis on its relationship with other social agencies. Lectures, round-table discussions, and comprehensive viewing of children's books. Groves
252. **Story Telling.** £A. S. (3) A practical course on the art of story telling in public libraries, schools, and recreational centers. Folk and fairy tales, myths, epics, and short stories are used as source material. Open to juniors, seniors, and graduates, Autumn Quarter only; for School of Librarianship students, Spring Quarter. Groves
253. **Advanced Children's Work** W. (2) An intensive study of the organization and function of a children's department. Special attention is given to problems of book buying, cooperation with the schools, library lessons, library publicity, and other activities. Pr., 250. Groves
254. **Selection of Books for Children.** W. (3) Attention is focused on some of the problems of actual selection of children's books and on the reading and discussion of books in specific fields. Pr., 250. Groves
255. **Selection of Books for Children.** S. (3) A further discussion of children's reading interests, with special emphasis on the history of children's books. Pr., 254. Groves
- £260. **School Library Administration.** A.W.S. (3 or 4) Discusses methods that may be used in making the library a strongly functioning and integral part of the school. Problems involving personnel, library planning, and simple mechanical routines are stressed. Turner
- £262. **Book Selection for High School Libraries.** A.W.S. (3) A study of the principles underlying the selection of books for young people and the tools used in their selection. Many representative books, differing in subject, form, and reading level, are read and reviewed. Turner, Groves
270. **History of the Book.** W. (3) Early materials and practices in writing and book making; development of printing and publishing, and recent modifications of the processes. Bevis  
Not offered in 1948-1949: **Second-year Library Work with Children.**

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MATHEMATICS

*Professors Winger, Ballantine, Carpenter, McFarlan; Associate Professors Birnbaum, Cramlet, Jerbert, Mullemister, Zuckerman; Assistant Professors Avann, Beaumont, Haller, Hewitt, Kingston, Paulson; Lecturer Tang; Instructors Ball, Dekker, Yagi; Associates Andrews, Cox, Hardy, Hildebrand, Owen, Rodenhouse, Ulrich*

Mathematics 1 may be taken concurrently with Mathematics 4, and Mathematics 2 with Mathematics 4, 5, 6, 107.

No credit for Mathematics 1 if one and one-half units of algebra are presented for entrance. No credit for Mathematics 2 if one and one-half units of geometry are presented for entrance.

1. Advanced Algebra. (5) Pr., one year high school algebra.
2. Solid Geometry. (5) Pr., one year plane geometry.
4. Plane Trigonometry. (5) Pr., one and one-half years algebra, one year plane geometry.
5. College Algebra. (5) Pr., one and one-half years algebra, and qualifying test.
6. Analytic Geometry. (5) Pr., 2, 4, 5.
11. Theory of Investment. (5) Interest, annuities, amortization, capitalization, depreciation, sinking funds, etc. Pr., one year algebra.
12. Mathematics of Finance and Insurance. (5) Pr., 11.
13. Elements of Statistical Method. (5) Pr., one year algebra, one year plane geometry.
22. Advanced Algebra and Plane Trigonometry. (5) Pr., one year high school algebra and one year plane geometry.
- 31, 32, 33. Engineering Freshman Mathematics. (5, 5, 5) Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
- 41, 42, 43. Engineering Calculus. (3, 3, 3) Pr., 33 for 41; 41 and solid geometry for 42; 42 for 43.
- 54, 55, 56. Mathematics for Architects. (3, 3, 3) Pr., one and one-half years algebra, one year plane geometry; each course prerequisite to the following course.
- 107, 108, 109. Differential and Integral Calculus. (5, 5, 5) Pr., 6; 107 for 108, 108 for 109.
- 114, 115, 116. Ordinary and Partial Differential Equations. (3, 3, 2) Pr., 109 or equivalent; 114 for 115; 115 for 116.
- 117, 118, 119. Projective Geometry. (3, 3, 3) Pr., calculus, unless taken concurrently. Winger
- 121, 122, 123. Theory of Equations. (2, 2, 2) Pr., 109.
- 127, 128, 129. Elementary Theory of Numbers. (2, 2, 2) Pr., 109.
- 147, 148, 149. Topics in Applied Mathematics. (2, 2, 2) Pr., 43 or 109. Carpenter
- 152, 153. Interpolation and Approximation. (3, 3) Pr., differential calculus. Ballantine
160. Vector Analysis. (5) Pr., 109 or 42.
180. Matrices and Determinants. (5) Pr., 109.
181. Calculus of Probabilities. (5) Pr., 109. Paulson
182. Classical Methods of Statistical Inference. (5) Pr., 180, 181. Paulson
183. Theory of Correlation. (5) Pr., 182. Paulson
184. Chi-tests. (5) Pr., 183. Birnbaum
185. Biometrics. (5) Statistical methods applied to biological problems. Pr., 4, 5, 6.
- 190, 191, 192. Higher Calculus. (3, 3, 3) Pr., 115.
- 197, 197, 197. Seminar in Mathematics. (2-5) Offered as desired by various members of the staff. May be repeated for credit.

Teachers' Course in Mathematics. (See Educ. 75Q.)

Courses for Graduates Only

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

- 230, 231, 232. Advanced Topics in Algebra. (3, 3, 3) Beaumont
- 241, 242, 243. Functions of a Complex Variable. (2, 2, 2) Hewitt
- 244, 245, 246. Calculus of Variations. (3, 3, 3) McFarlan
281. General Theory of Estimation and Testing Hypotheses. (5) Pr., 184. Birnbaum
282. Analysis of Variance and Design of Experiments. (5) Pr., 182. Birnbaum
283. Multivariate Statistics. (5) Pr., 183.
284. Least Squares Time Series. (5) Pr., 184.
285. Sequential Analysis. (5) Pr., 182.
289. Seminar in Probability and Statistics. (†) Pr., permission. Birnbaum
- 291, 292, 293. Fourier Analysis. (2, 2, 2) Pr., 116, or permission. Yagi
- 294, 295, 296. Partial Differential Equations. (3, 3, 3) Pr., 116 or permission. Cramlet
- 300, 300, 300. Research. (†) Pr., permission.

† To be arranged.

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

**UNDERGRADUATE:** Survey of Mathematics, Advanced Analytic Geometry, Introduction to Actuarial Science, Algebraic Curves, Calculus of Observations, Foundations of Algebra.

**GRADUATE:** Topology, Finite Differences, Analysis Situs, Higher Plane Curves, Theory of Relativity, Functionals and Integral Equations, Orthogonal Functions, Modern Algebra, Collineation Groups, Function of Real Variable, Differential and Riemannian Geometry, Lattice Theory.

## MEDICINE

### I. DEPARTMENTS OF MEDICAL SCIENCE

#### Anatomy

*Associate Professors Becker, Kellog, Everett; Assistant Professors DeMarsh, Johnson, Lasher, Ralph, Scheyer, Skaben; Instructor Laubhan; Clinical Associates Dirstine, Durban, Eggers, Fitzmaurice, Haffly, Hutcbins, Hutcbinson, Jones, Lay, McElmeel, Norgore, Sanderson, Watson*

- 103. General Anatomy. (4 or 5) For students in health education, anthropology, microbiology, physical education, speech. Not open to predoctoral or premedical students.
- 117-118. Elementary Anatomy and Physiology. (3-3) For students in School of Nursing. Others, pr., permission of department chairman.
- 128-129. Human Anatomy. (10-6) Gross, head and neck, microscopic, neurology. For students of the School of Dentistry.
- 151-152-153. Human Anatomy. (8-8-4) For students of the School of Medicine. Graduate students, pr., permission.
- 161-162. Microscopical Anatomy. (4-4) For students of the School of Medicine. Graduate students, pr., gen. zool., embryology, and permission from department chairman.
- 163. The Nervous System. (6) For students of the School of Medicine. Graduate students, pr., 161 and 162, or special permission of department chairman.

#### *Course for Graduates Only*

- 300. Research (†)

#### Biochemistry

*Professor Norris; Assistant Professors Krobs, Kuether*

- 127. Biochemistry. (6) For dental students. Pr., matriculation in the Dental School, or permission. Norris, Staff
- 166. Biochemical Preparations. (2 or 3) Pr., 162.
- 167-168. Biochemistry. (6-6) For medical students. Pr., matriculation in the Medical School, or permission. Norris, Staff

#### *Courses for Graduates Only*

- 200. Seminar. (0) Staff
- 249. Special Topics. (2-3) Pr., permission. Staff
- 300. Research (†) Staff

#### Dermatology

*Clinical Professors Shaw, Parker; Clinical Instructors Bruenner, Campbell, Mumby, Williams*

#### Internal Medicine

*Professors Williams, Turner; Associate Professors Green, Pullen; Clinical Professors Bannick, Bennett, Francis, Palmer, Watts; Clinical Assistant Professors Bowers, Capaccio, Chew, Cramp-ton, Davies, Haviland, Hildebrand, Hynes, King, Krantz, Lincoln, Martin, Sherwood, Soderstrom, Strob, Voegtlin, Zimmerman; Lecturers Ferguson, Jared, Lemere, Rowntree; Clinical Instructors Altose, Aronson, Bender, Bingham, Camber, Collins, Eggers, Fey, Geraghty, Gill, Hanks, Jobb, Johnson, Kidd, Kretzler, Laws, Leede, Lester, Lindahl, McVay, Manchester, Morrow, Narodick, Nelson, Peterson, Richardson, Skubi, Sparkman, Thompson, Weinstein, Wilkinson*

- 151. Introduction to Medicine. (1) Turner
- 152. Introduction to Public Health Economics and Medical Statistics. (1) Powers
- 153. Introduction to Medico-social and Medico-economic Problems. (1) Ferguson, Jared
- 155-156-157. Mechanisms of Disease. (1-1-1) Staff
- 158-159. Introduction to Physical Diagnosis. (2-2) Turner, Pullen, Green
- 160. Therapeutics: Normal Human Nutrition. (1) Rowntree
- 165. Clinical Clerkships. (†) For third-year medical students. Staff
- 170. Clinical Clerkships. (†) For fourth-year medical students. Staff

†To be arranged.

## Microbiology

*Professors Evans, Henry; Associate Professors Weiser, Ordal; Assistant Professors Douglas, Gustafson; Instructors Pennington, Kirchheimer; Associate Duchow*

100. Fundamentals of Bacteriology. (4 or 6) A basic course in bacteriology. The comparative morphology, taxonomy, and physiology of bacteria. Pr., 10 credits in botany or zoology, Chem. 132, and permission. Ordal
101. General Bacteriology. (5) A survey course for non-majors dealing with bacteria and their activities. Pr., Chem. 2 or 22. Staff
120. Applied Bacteriology. (5) Practical work in the preparation of culture media and solutions. Nutritional requirements of microorganisms are considered. Duchow
122. Applied Bacteriology. (5) Practical experience in a public health laboratory. 15 hours per week. Permission and letter to laboratory. Staff
130. Industrial Microbiology. (3 or 5) Microbiological and biochemical aspects of fermentative and oxidative processes of industrial importance. Pr., 100 or 101, Chem. 111, 132. Douglas
131. Food Spoilage. (3 or 5) Microbiological, enzymatic and auto-oxidative factors involved in food spoilage. Pr., 100 or 101, Chem. 111, 132. Douglas
135. Microbiology for Students of Dentistry. (6 for students of the School of Dentistry; 5 for students of pharmacy.) Laboratory work for students of dentistry is more extensive than that for students of pharmacy. Pr., Chem. 132, 10 credits in botany or zoology, and permission. Staff
136. Applied Dental Microbiology. (1) Specific applications of microbiology to dental problems are considered. Pr., 135 and permission. Staff
- 151, 152. Microbiology for Students of Medicine. (6, 6) (Non-medical students who have had previous work in bacteriology may by special permission be allowed to take course 151 for less than the full 6 credits.) Course 151 includes, 1. a survey of microorganisms and a general consideration of the morphology and physiology of bacteria, 2. an introduction to immunology, formation and properties of antibodies, nature of antigen-antibody reactions, blood groups, allergies and an analysis of factors of innate and acquired immunity. During the last part of course 151 and throughout course 152, specific pathogenic bacteria and viruses are studied in detail. Pr., Chem. 132, 10 credits in zoology or botany, and permission. Evans and Staff
153. Medical Parasitology and Mycology. (6) Pr., 151 or equivalent and permission. Gustafson and Henry
199. Undergraduate Research Problems. (†) Qualified senior students are assigned specific problems in industrial, medical, or general microbiology. Staff

## Courses for Graduates Only

Ten undergraduate credits in Microbiology and permission are prerequisite to all graduate courses. Courses 201, 202, and 213 are offered in alternate years.

200. Seminar. (1) Pr., graduate standing. Staff
201. Physiology of Bacteria. (4) Fundamental physiological and metabolic processes of bacteria. Pr., permission of instructor. Ordal, Douglas
202. Filtrable Viruses. (4) Offered in 1949-50. Consideration of the physical, chemical, and biological properties of viruses and methods of working with them. Individual virus diseases are considered in greater detail than is possible in other courses. Pr., 152, histology is desirable, permission. Evans
213. Advanced Immunology. (4) Pr., 151 and permission. Weiser
300. Research. (†) Staff

## Obstetrics and Gynecology

*Professor de Alvarez; Clinical Professor and Sr. Consultant Thompson*

151. Introduction to Obstetrics. (1)
165. Clinical Clerkships. (†) For third-year medical students. Staff
170. Clinical Clerkships. (†) For fourth-year medical students. Staff

## Pathology

*Professor Lippincott; Assistant Professors Chipps, Ellerbrook, Richer; Clinical Assistant Professors Jensen, Larson, Mason; Clinical Instructors Edmonds, Tooley; Research Associates Rhee, Stowell, Thornton*

101. Clinical Pathology for Nurses. (2) For students of School of Nursing.
- 131-132-133. Pathology. (2-2-3) For students of the School of Dentistry.
- 151, 152, 153. General and Special Pathology. (5, 5, 5) For students of the School of Medicine.
160. Autopsy Technique. (†) For third-year medical students.
176. Clinical Pathological Conference. (†) For third-year medical students.

## Courses for Graduates Only

200. Seminar. (†)
300. Research. (†)

†To be arranged.

## Pediatrics

*Clinical Professor Seelye; Senior Consultant Durand; Clinical Assistant Professors Cutts, Rembe, Spickard; Clinical Instructors Billington, Cain, Deering, Evans, Guy, Jaquette, Joy, Tidwell*

151. Introduction to Pediatrics. (1)  
 165. Clinical Clerkships. (†) For third-year medical students. Staff  
 170. Clinical Clerkships. (†) For fourth-year medical students. Staff

## Pharmacology

*Professor Dille; Assistant Professors Farab, Loomis, Matthews*

61. Pharmacology and Therapeutics. (3) For students of the School of Nursing.  
 101, 102, 103. General Pharmacology. (3, 3, 3) For students of the College of Pharmacy.  
 134, 137. General Pharmacology. (4, 4) For students of the School of Dentistry.  
 152-153. General Pharmacology. (6-5) For students of the School of Medicine.  
 185, 186. Experimental Pharmacology. (2, 2) For students of the College of Pharmacy. Pr., 101, 102, 103.  
 187. Biological Assays. (2) Pr., 185, 186.  
 194. Research Problems. (1-5)

## Courses for Graduates Only

209. Graduate Seminar. (No credit)  
 304. Graduate Research.

## Physiology and Biophysics

*Professor Ruch; Associate Professor Martin; Assistant Professors Carlson, Patton, Rushmer, Skahen; Instructor Milford; Clinical Associates Crystal, Davis, Voegtlin*

116. Biophysics. (5) Study of physiological phenomena in physical terms. Three lectures, one quiz, five hours laboratory. Pr., Zool. 2, Physics 3, Chem. 23. Carlson  
 117-118. Elementary Anatomy and Physiology. (3-3) For students of the School of Nursing. Human physiology with anatomical demonstrations. Three lectures, six hours laboratory, one quiz. Open to physiology minors by permission of departmental chairman. Skahen  
 126. Human Physiology. (6) For students of the School of Dentistry. Three lectures, six hours laboratory, two quiz hours. Martin, Staff  
 151-153. Human Physiology. (7-7) For students of the School of Medicine, and for graduate students by permission. Four lectures, six hours laboratory, two quiz hours. Ruch, Staff

## Courses for Graduates Only

200. Seminar. (2 to 5)  
 225, 226, 227. Advanced Mammalian and Clinical Physiology. (†) Guided study of the experimental literature of physiology and biophysics. Pr., graduate student in physiology. Ruch, Staff  
 231, 232, 233. Experimental Mammalian and Clinical Physiology. (†) Supervised practice in the experimental and operative techniques of physiological and biophysical research. Pr., graduate student in physiology. Ruch, Staff  
 300. Research. (†) Pr., permission.  
 Not offered in 1948-1949: 116, Biophysics.

## Psychiatry

*Clinical Professor Lemere; Senior Consultant Nicholson; Clinical Instructors Baker, Goforth, Haertig, Henderson, Hoedemaker, Holmes, Kaufman, Orr, Riley, Stolzbeise, Sugars*

100. Introduction to Mental Hygiene. (2) Open to seniors and graduate students on permission of instructor. Kaufman  
 151. Introduction to Human Behavior. (1) The anatomy and physiology of normal behavior. Lemere  
 153. Normal Personality Development. (1) Baker  
 154. Psychopathology. (1) Hoedemaker  
 155. The Psychiatric Examination. (1) Orr  
 157-158-159. Lectures, Clinic, and Ward Teaching in Psychiatry. (1-1-1) Includes both adult and child psychiatry. Lemere, Kaufman, and Staff  
 160. Out-Patient Clinic and Ward Studies in Psychiatric Diagnosis of Psychotherapy. (1) Staff  
 200. Psychiatric Principles of Counselling. (2) Pr., 100 or permission of instructor. Kaufman

†To be arranged.



Public Health and Preventive Medicine

*Professor Powers; Associate Professor Lazarus; Clinical Associate Professor Ringle; Assistant Professor Farner; Clinical Assistant Professors Kahl, Palmquist; Instructors Freeman, Green; Clinical Instructors Dewey, Giedt, Jensen, Lundy, Noribrop, Vaughn; Pediatrician and Director of University Child Health Center, Rollin E. Cutts*

Courses Open to ALL Upper-division and Graduate Students

104. Food and Milk Sanitation. (3) A study of public health methods of preventing transmission of disease through food and milk. Pr., P.H. 120. Green
108. Environmental Utilities. (2) Plumbing, water, sewage, heating, ventilating, and lighting utilities in buildings; considerations of design and operation for health and comfort. Pr., P.H. 120. Green
110. Field Practice in Sanitation. (10) A 3-month assignment to a large local health department for supervised application of sanitary science, including general sanitation, food, milk, plumbing, nuisances, housing, insect and rodent control, school and recreational sanitation, meat inspection, industrial hygiene, etc. Pr., P.H. 108. Green
112. Problems in Environmental Sanitation. (2-4) This will be a course designed to cover special needs of students planning to enter the field of environmental sanitation who have not had sufficient experience or training in the particular problem. Pr., permission of instructor. Green
119. Introductory Epidemiology. (3) A study of public health methods of the control of the common communicable diseases. Pr., Microbiology 135 or equivalent. Freeman
120. Introduction to Public Health. (3) A study of local, national, and international public health programs and services. Pr., P.H. 119 or permission. Powers
- \*121. Public Health Administration. (3) General principles of organization, public administration, and management in terms of public health services, including discussions and exercises in the use of records, budget making, and methods of appraising health services. Pr., P.H. 120, P.H. 122. Powers
122. Public Health Statistics. (2) Statistical methods used in the compilation, interpretation, and presentation of vital data. Pr., P.H. 120. Powers and Vaughn
124. Industrial Hygiene. (3) A study of public health methods of prevention of occupational diseases and accidents in industry. Pr., P.H. 120. Farner
132. School and Community Health Programs. (5) A study of the organizational structure, function, and services of official and non-official community and school health agencies with particular attention to the interrelated role of teachers, physicians, nurses, and sanitarians. Demonstrations and practice of screening techniques for physical defects are included. Pr., P.H. 220.

Courses for Medical Students

151. Biostatistics. (2) Powers
152. Public Health Economics. (1) Powers
- 153-154-155. Introduction to Public Health and Preventive Medicine. (1-1-1) Powers
156. Industrial Hygiene. (3) Farner
157. Clerkships. (†)

Radiology

*Professor Templeton; Clinical Associate Professor Contrill; Clinical Assistant Professors Addington, Carlile, Hartzell; Clinical Instructors Walker, Roberts; Clinical Consultants Buschke, Hawley*

151. Radiology. Introduction in applications of radiology and the diagnosis and treatment of disease. For third-year students.
170. Radiology. (†) For fourth-year students.

Surgery

*Professor Harkins; Assistant Professors Duncan, McDonald, Ray, Ward; Senior Consultants Coe, Dudley, Forbes, Herrmann, B. King, Lamson, Trueblood, Zech; Consultants Baker, Blackman, Boules, Duncan, W. Hutchinson, Jarvis, Loe, Metheny, Mullen, Speir, Stone; Clinical Instructors Crystal, Hall, C. Hutchinson, Lister, McMahon, Pinkham, Ramsey; Clinical Associates Distine, Evoy, Florer, Hearne, Lundmark, Mathwig, Rosellini, Sanderson, Watson*

- 151-152-153. Introduction to Surgery. (1-1-1) (†) Harkins
165. Clinical Clerkships. (†) For third-year medical students.
170. Clinical Clerkships. (†) For fourth-year medical students.

(†) Radiology.

\* Not offered in 1948-49

† To be arranged.

### METEOROLOGY AND CLIMATOLOGY

*Associate Professor Church; Instructor Schallert*

1. Survey of the Atmosphere. (5) Composition and structure of the atmosphere; meteorological processes and forms of condensation phenomena; atmospheric motions; tropical and extra-tropical storms. Not open to students who have had Geography 11.
10. Air Masses and Fronts. (3) Characteristics of equatorial, tropical, and polar air masses; air mass motion; fronts and frontal phenomena. Pr., 1 or Geog. 11.
50. Meteorological Observations. (2) Technique of weather observations and charting; pilot-balloon observations; measurements at weather station and in the field. Pr., 1 or Geog. 11.
112. Physical Meteorology. (5) Structure, radiation, and heat balance of the troposphere and stratosphere; lapse rates; pseudo-adiabatic diagram; condensation and precipitation processes; general circulation. Pr., 1 or Geog. 11, plus 1 yr. physics and 1 yr. college math. Not open to students who have had Geog. 112.
113. Dynamic Meteorology. (5) Thermodynamics of meteorological processes; geostrophic and gradient winds; dynamics of atmospheric wave motion. Pr., 112 and calculus.
121. Physical Climatology. (5) Climatic elements; classifications; collections, use and interpretation of climatic data; physical factors determining the distribution of radiation, temperature, precipitation, pressure and winds. Pr., 1 or Geog. 11.
122. Regional Climatology. (5) Characteristics of the elements of the various climatic types and the distribution of these types on the continents using both the Koeppen and Thornthwaite classification systems. Pr., 1 or Geog. 11.
129. Microclimatology. (3) Climates, climatic differences, and climatic characteristics in the lower layers of the atmosphere. Pr., 121.
130. Aeronautical Meteorology. (3) Troposphere and stratosphere; radiation temperature, clouds, fog, thunderstorms, ice formation on aircraft. Pr., engineering juniors and seniors only. Not open to students who have had Geog. 122.
150. Meteorological Laboratory. (3) Weather-chart construction and analysis; forecasting. Pr., 114 or concurrent with 114. Not open to students who have had Geog. 153.
151. Meteorological Laboratory. (5) Weather-chart construction and analysis; forecasting. Pr., 150. Not open to students who have had Geog. 154.
152. Meteorological Laboratory. (5) Additional map analysis. Pr., 151.
160. Meteorological Instruments. (3) Fundamental principles and errors involved in meteorological instruments in standard use. Pr., 112. Not open to students who have had Geog. 156.
162. Oceanographic Meteorology. (6) Given at Friday Harbor only. Energy exchange between atmosphere and ocean, moisture gradients above water surface, marine wind structure. Pr., 112. Not open to students who have had Geog. 162.
192. Readings in Meteorology or Climatology. (To be arranged) Pr., permission.
193. Special Problems in Meteorology or Climatology. (To be arranged) Pr., permission.

#### *Courses for Graduates Only*

300. Research. (To be arranged) Pr., permission.

Not offered in 1948-1949: 114, 115, Synoptic Meteorology; 128, Applied Climatology; 194, 195, Climatological Statistics.

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

*Colonel Jones; Major D'Amelio, Major Backstrom, Major Donlon, Major Mix, Major Spawns; Captain Bryant, Captain Carter, Captain Rhea, Captain Swomley, Captain Waddell*

The instruction for the first two years, together with that provided for the third and fourth years, constitutes the courses prescribed by the Department of the Army and Department of the Air Force for institutional units of the Reserve Officers' Training Corps. The advanced courses, those of the third and fourth years, are open to selected students who have completed the first two years (basic course) of instruction and training or have been granted credit for its equivalent in accordance with regulations.

#### *First Year*

- 8, 9, 10. Military Science I. National Defense Act and R.O.T.C.; military organization; hygiene and first aid; leadership, drill and exercise of command; individual weapons and marksmanship; maps and aerial photographs.

#### *Second Year*

- 64, 65, 66. Military Science II. Leadership, drill and exercise of command; physical development methods; maps and aerial photographs; military administration; evolutions of warfare; military law and boards.

#### *Third Year*

- 104, 105, 106. Infantry. (3, 3, 3) Military leadership, psychology, and personnel management; leadership, drill and exercise of command; geographical foundations of national power; military law and boards; tactics and technique (communications, gunnery, technique of fire, fire control, motors and transportation, organization, tactics, the military team, troop movements.)
- 108, 109, 110. Corps of Engineers. (3, 3, 3) Military law and boards; geographical foundations of national power; military leadership, psychology and personnel management; leadership, drill

- and exercise of command; tactics and technique: The place of engineers in the military team, organization of engineer units, engineer reconnaissance, military sketching, explosives and demolitions, military roads, job management, engineer combat principles, organization of the ground and field fortifications, camouflage, bridge design and classification.
- 114, 115, 116. **Artillery.** (3, 3, 3) Military leadership, psychology, and personnel management; leadership, drill and exercise of command; geographical foundations of national power; military law and boards; tactics and technique: (artillery tactics, basic gunnery, characteristics and maintenance of artillery material, communication, motors and transportation, organization, service of the piece, troop movements.)
- 118, 119, 120. **Air ROTC.** (3, 3, 3) Military law and boards; geographical foundations of national power; military leadership, psychology and personnel management; leadership, drill and exercise of command; air force subjects; history of the USAF, organization of the USAF, USAF training, USAF inspection systems, transportation, navigation, USAF statistical control system, USAF supply, aeronautics, meteorology, communications, air intelligence and combat orders, air operations, guided missiles.
- 124, 125, 126. **Quartermaster Corps.** (3, 3, 3) Military leadership, psychology, and personnel management; leadership, drill and exercise of command; geographical foundations of national power; military law and boards; tactics and technique: (administration of civilian personnel, classification of supplies, use of stock catalogues and bases of allowances, depot supply, organization for supply in the Army, property accountability and responsibility, station supply I, organization, function and operation of quartermaster units, unit and organization supply.)
130. **Advanced Camp.** (3) Offered in summer only.
- 134, 135, 136. **Signal Corps.** (3, 3, 3) Military leadership, psychology and personnel management; leadership, drill and exercise of command; geographical foundations of national power; military law and boards; tactics and technique: (organization and missions of the Signal Corps, organization of the infantry and armored divisions, their signal and communication components, communication security, signal orders, message center and signal center procedure, field wire communication fundamentals, field radio communication fundamentals, signal corps property, the place of the Signal Corps on the military team.)
- 144, 145, 146. **Transportation Corps.** (3, 3, 3) Military leadership, psychology and personnel management; leadership, drill and exercise of command; geographical foundations of national power; military law and boards; tactics and technique: (organization and functions of the Transportation Corps, transportation services, transportation control agencies, ZI, military freight movements, ZI, military passenger movements, ZI, military motor transport, ports, zone of interior, amphibious trucks and harbor craft, stevedore operations, transportation services, theatre of operations, the place of the Transportation Corps in the military team.)

#### Fourth Year

- 154, 155, 156. **Infantry.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; leadership, drill and exercise of command; military mobilization and demobilization; tactics and technique (communications, gunnery, technique of fire and fire control, new developments, supply and maintenance, tactics, troop movements).
- 158, 159, 160. **Corps of Engineers.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; tactics and technique; engineer estimates and orders, engineer combat principles, water supply, construction and utilities, engineer reconnaissance; airborne and amphibious operations, river-crossing operations, engineer supply, engineer signal communications.
- 164, 165, 166. **Artillery.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; Leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; tactics and technique: (artillery tactics, advanced, characteristics, capabilities, and limitations of artillery materiel, gunnery, new developments, supply and maintenance, the military team, troop movements).
- 168, 169, 170. **Air ROTC.** (3, 3, 3) Command staff; military teaching methods; psychological warfare; military problems of the United States; Leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; technical supply, maintenance control, supervision of maintenance, inspection and maintenance procedures, flight line maintenance, crew chief system, base shops, specialized maintenance, air inspector, flight test, evaluation and testing.
- 174, 175, 176. **Quartermaster Corps.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; tactics and technique: (depot supply, fiscal procedures, procurement procedures, station supply II, storage, warehousing and materials handling, quartermaster inspection service).
- 184, 185, 186. **Signal Corps.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; tactics and technique: (wire communication-materiel, radio communication-materiel, applied signal communication-division, signal supply and repair, higher echelon signal communication and equipment).
- 194, 195, 196. **Transportation Corps.** (3, 3, 3) Command and staff; military teaching methods; psychological warfare; military problems of the United States; leadership, drill and exercise of command; military mobilization and demobilization; combat intelligence; tactics and technique: (ports, zone of interior, ports, theatre of operations; highway transport service, theatre of operations; military railway service, inland waterways, theatre of operations; transportation logistics, transportation corps supply, movement control, theatre of operations).

## MUSIC

*Professors Chapple, Jacobson, Kinsella, McKay, Munro, Werner, Zetlin; Associate Professors Hall, Harris, Irvine, Lawrence, Normann, Welke, Wilson, Woodcock; Assistant Professors Beale, Bostwick, Creel, Eichinger, Kirchner, Moore, Risegari, Terry; Instructors Adams, Cave, Geissmar, Linden, Snader, Sokol, Thiel, White; Associates Barron, Beck, Benno, Cloud, Graf, Harper, Horsfall, Kachley, Logan, Martin, Peterson, Phillips, Schardt; Acting Associate Johnson*

The following courses are suitable for students not majoring in music: Music 14, 21, 22, 23, 44, and courses in vocal or instrumental study and ensemble.

- 9AX. Elementary Piano. (1 ea. qtr., maximum 6) Group instruction. For music students not majoring in piano. Fee, \$5. Bostwick
- 9CX. Elementary Voice. (1 ea. qtr., maximum 6) Group instruction. For music students not majoring in voice. Fee \$5. Wilson, Adams
4. Introduction to Music Literature and History. (3) Approach to music history through each student's special interest. Technique of listening. For music majors and minors only. Risegari
5. Sight Singing and Analysis. (2) Unison and part singing incorporating simple intervals and rhythmic patterns in major. Staff
6. Ear training and Notation. (1) Scales, intervals, chords, and melodic dictation in major mode. Staff
- 10-11-12. University Singers. (0-0-2) Study, preparation, and performance of oratorios, cantatas, and other large choral works. No prerequisites. Chapple, Lawrence
14. Music Theory. (2) Practical information for the amateur on the theoretical background of music. Non-majors only. A survey of the materials of music, its notation and terminology. Correlation with musical scores by means of singing, writing and the use of recorded music. Not open to students who have had 14s Fundamentals. Staff
15. Intermediate Sight Singing and Analysis. (1) Continuation of 5. Unison and part work in minor; more advanced rhythmic patterns. Pr., 5 or exemption. Staff
16. Intermediate Ear Training and Notation. (2) Scales, intervals, and chords in minor. Dictation of more difficult melodies in major and minor. Pr., 6 or exemption. Staff
20. Instrumental Instruction. (2 or 3 ea. qtr., maximum 18) Secondary vocal or instrumental instruction for majors in another field. See description for 38, 49, 50.
21. Survey of Music. (5) Illustrated lectures with supplementary readings to provide the general student with background for the understanding of common musical forms, idioms, and styles. Kinsella
22. Music Appreciation: Symphonic Music. (2) Illustrated studies aimed at increasing understanding and enjoyment of symphonic music of different periods. Open to the general student. On satisfactory completion of special work assigned by instructor, upper-division students may receive upper-division credit. Kinsella, White
23. Music Appreciation: Opera. (2) Special attention to Metropolitan broadcasts. Upper-division credit for upper-division students. White
24. First-year Theory I. (4) Elementary principles of harmony and counterpoint applied in sight singing, ear-training, creative writing and keyboard improvisation. Pr., 15, 16, and 2 cr. in 9AX or exemption. Beale in charge
25. First-year Theory II. (4) Principles of harmony and counterpoint continued. Pr., 24 and 3 cr. in 9AX or exemption. Beale in charge
26. First-year Theory III. (4) Principles of harmony and counterpoint continued through secondary chords. Pr., 25 and 4 cr. in 9AX or exemption. Beale in charge
- 27, 28, 29. Eurythmics. (1, 1, 1) Experience and understanding of rhythm in music through the synchronization of mind and body. \*
- 30, 31, 32. University Band. (1, 1, 1) For underclassmen not registered in Military Band. Welke
- 37, 38, 39. Piano Ensemble I. (1, 1, 1) Sight reading for piano majors. Exemption by examination. Pr., permission. Bostwick
- 41-42-43. Orchestral Instruments Laboratory. (1-1-2) Class instruction in string, woodwind, and brass. May be repeated on different instrument. Pr., 15, 16. Kirchner, Normann, Welke
44. Music Appreciation: Modern Symphonic Music. (2) General survey of orchestral music since 1900. Upper-division credit for upper-division students. Risegari
- 45-46-47. University Singers. (1-1-1) Men's group, selected from those registered for 10-11-12 on basis of audition. Pr., permission. Lawrence
50. Vocal or Instrumental Instruction. (2 or 3 ea qtr., maximum 18) Weekly studio class in interpretation and repertory, and one or two individual half-hour lessons per week. The course numbers indicate successive grades of advancement, and any number may be used in any quarter. Detailed description of the courses in vocal and instrumental music may be obtained on application to the Secretary of the School of Music. Fee, \$25 or \$37.50. The teacher is designated by a number subjoined to the section letter, and both must be used in all registration procedure.
- A. Piano. Jacobson (A<sub>1</sub>), Creel (A<sub>2</sub>), Woodcock (A<sub>3</sub>), Bostwick (A<sub>4</sub>), Normann (A<sub>5</sub>), Geissmar (A<sub>6</sub>), Harper (A<sub>7</sub>), Moore (A<sub>8</sub>)
- B. Violin or Viola. Zetlin (B<sub>1</sub>), Sokol (B<sub>2</sub>)
- C. Voice. Werner (C<sub>1</sub>), Lawrence (C<sub>2</sub>), Wilson (C<sub>3</sub>), Cave (C<sub>4</sub>), Adams (C<sub>5</sub>), Harris (C<sub>6</sub>)
- D. Violoncello. Kirchner (D<sub>1</sub>), Barron (D<sub>2</sub>), Martin (double bass (D<sub>3</sub>))
- E. Organ. Eichinger (E)

\* By piano (as instrument)

- F. Woodwind. Horsfall (flute, F<sub>1</sub>), Benno (oboe, F<sub>2</sub>, Phillips (clarinet, F<sub>3</sub>), Peterson (bassoon, F<sub>4</sub>)
- G. Brass. Schardt (horn, G<sub>1</sub>), Cole (trumpet, G<sub>2</sub>), Cloud (trombone, G<sub>3</sub>)
- H. Harp. Graf (H<sub>1</sub>), Beck (H<sub>2</sub>)
- 54-55-56. Survey of Music History. (3-3-3) Two lectures and one quiz supplemented by evening concerts and lectures of coordinated material. 54; from Antiquity through the 16th Century, Pr., 4 and 25; 55: 17th. Century through the 18th. Century, Pr., 54: 56; 19th. Century to the Present, Pr., 55. Risegari, Woodcock
58. Ear-Training and Notation. (4) A concentrated laboratory course in ear-training for music students who desire further work in this branch of theory; covers intervals, chords, melodic dictation, two-part contrapuntal dictation and harmonic progressions. Risegari
60. Advanced Orchestral Instruments. (Wind). (2) Class instruction. Pr., permission. Welke
62. Advanced Orchestral Instruments. (String). (2) Class instruction. Pr., permission. Kirchner
- 65-66-67. Choral Ensemble. (1-1-1) Women's Glee Club. Werner
- 77, 78, 79. Advanced Eurythmics. (1, 1, 1) Experience and understanding of rhythm in music taught through the synchronization of mind and body. Pr., 29. \*
- 80-81-82. University Singers. (1-1-1) A cappella choir of mixed voices selected from those registered for 10-11-12, on basis of audition. Pr., permission. Lawrence
- 90, 91, 92. University Concert Band. (1, 1, 1) Audition required first week of quarter. Welke
- 93, 94, 95. University Symphony Orchestra. (1, 1, 1) Auditions every afternoon, first week of quarter. Chapple, Kirchner
98. Choral Literature. (2) Singing and analysis of contrapuntal music, practice in the techniques of presentation and interpretation. Pr., 26 or permission. Hall, White
99. Counterpoint I. (5) Regulation of concurrent melodies. Sixteenth-century motet style. Pr., 98. Creel
101. Advanced Harmony. (5) Basic principles and processes with particular emphasis upon contemporary harmonic meaning. Pr., 99. \*
- 102, 103, 104. Opera Workshop. (2, 2, 2) Active participation in standard opera repertoire. Pr., permission. Chapple, Linden
108. Music in Broadcasting. (3) Program planning, adaptation and selection of music for various types of broadcast, development and care of score and record library. Pr., 21. \*
112. Musical Forms. (5) Analysis and exercises in composition. Pr., 26. Woodcock
116. Junior High School Music. (3) The psychology of adolescence in relation to music, the changing voice, presentation of part songs, appreciation, and analysis of materials. Hall
- 121-122-123. Madrigal Singers. (1-1-1) Singing and analysis of the music of the sixteenth century. Hall
- 124, 125, 126. Chamber Music. (1, 1, 1) Small instrumental groups both with and without piano. Pr., permission. Jacobson, Zetlin
128. Choral Literature. (2) Singing and analysis of choral music suitable for high school chorus, practice in the techniques of presentation and interpretation. Hall, White
132. Haydn, Mozart, and Beethoven. (2) Orchestral and chamber music. Pr., 112. Risegari
133. Repertory IV. (2) Pr., permission. \*
- Section A. Piano. Brahms and Liszt.
- Section C. Voice. Oratorio. Harris
134. Repertory V. (2) Pr., permission. \*
- Section A. Piano. Debussy and Ravel.
- Section C. Voice. Opera. Wilson
135. Repertory VI. (2) Pr., permission. \*
- Section A. Piano. Contemporary.
- Section C. Voice. Modern and Contemporary. Lawrence
136. Technique of Conducting. (3) Experience in directing choral groups. Pr., 98. Munro
138. Accompanying. (2) For pianists. Study and performance of music of different types and periods for voice or instrument in combination with piano. Woodcock
139. Piano Ensemble II. (1) Two-piano literature for advanced pianists. Pr., permission. Bostwick
143. Orchestration. (3) The technique of writing for orchestra and other large ensembles, with an analytical and historical approach to problems of organization and sonority. Pr., 99, 112. \*
145. Church Music. (2) Comprehensive study of the chant, anthem, solo, and small ensemble. Pr., 136. Adams
150. Vocal or Instrumental Instruction. (2 or 3 ea. qtr., maximum 18) See description for 50. Pr., 50.
154. Band Arranging. (2) Includes the study of tone color, range, registers, voicing, transposition, fingering, arranging, transcriptions. Pr., 26, 43. Welke
155. Supervision. (5) The organization and planning of the music program in the public schools with special attention to methods and materials for the elementary grades. Pr., 116. Normann
156. Instrumental Music in the Schools. (2) Methods of instruction; organization plans; equipment; instrumentation; rehearsal techniques; materials; technical problems of the various band and orchestral instruments. Normann
- 157, 158, 159. Composers' Laboratory, First Year. (3, 3, 3) Pr., permission. McKay
161. Music in the Americas. (3) The 17th, 18th, and 19th centuries. Contributions of music to church and social life in various sections of western hemisphere during 17th and 18th cen-

\* By piano (as instrument).

- turies. A study of American composition during 18th and 19th centuries, through performance. Pr., junior standing. Kinscella
162. **Music in the Americas.** (3) The 20th century. Study through performance of American compositions of this period. Their idioms and tendencies in widely diversified fields. Survey, use and influence of folk and regional materials; new trends in music education, composition and performance in Latin-American countries. Pr., junior standing. Kinscella
163. **Counterpoint II.** (4) Style of Bach. The invention and fugue. Pr., 99. \*
170. **Vocal or Instrumental Instruction.** (2 or 3 ea. qtr., maximum 18) See description for 48, 49, 50. Pr., 150.
- 173, 174, 175. **Keyboard Transposition and Improvisation.** (2, 2, 2) Pr., permission \*
- 177, 178, 179. **Composers' Laboratory, Second Year.** (3, 3, 3) Individual work in original composition. McKay
180. **Orchestral Conducting.** (3) Pr., 43, 136. Welke
181. **History of Keyboard Music.** (3) Survey, development of organ, clavichord, harpsichord and piano; idioms of corresponding types of keyboard music, and styles of performance through four centuries. Study of representative music of each instrument and period, through performance. Pr., 112. Kinscella
187. **Music of the Middle Ages.** (3) Pr., 193. Munro
190. **Palestrina to Bach.** (3) Munro
192. **Contemporary Music.** (3) Pr., senior standing. McKay, Wilson
193. **Music-history Reading Course.** (5) Required of senior music majors and of graduate students from other institutions. Irvine
195. **Choral Conducting.** (3) Pr., 136. Munro
199. **Senior Recital.** (2) Teachers' Course in Music. (See Educ. 75R)

#### *Courses for Graduates Only*

200. **Introduction to Musicology.** (2) Survey of scope, aims, and methods; training in research procedure. Lectures, reports, and discussions. Pr., permission. Irvine
210. **History of Musical Performance.** (2) Munro
220. **Graduate Vocal or Instrumental Instruction.** (2 or 3 ea. qtr.) Pr., thirty credits in the same branch of music. See description for 48, 49, 50.
230. **Seminar in Music Education.** (3) Selected topics in secondary school music and supervision. Pr., permission. Munro
240. **Graduate Composition.** (†) Independent composition in larger forms to include compositions submitted as theses. McKay
300. **Research.** (†) Individual study. Pr., permission. Irvine, Munro

Not offered in 1948-1949: 83, 84, 85, Repertory I; 87, Gregorian Chant; 160, Song; 165, 166, 167, Piano Teaching; 191, Vocal Literature; 211, Music of the Elizabethan Age; 212, Opera; 221, History of Instruments; 222, History of Notation; 223, History of Music Theory.

### NAVAL SCIENCE

*Captain Emory; Commander Tyree; Lieutenant-Commander Hanset; Lieutenant-Commander Dye; Major Milne; YN2 Walling*

#### *First Year*

1. **Naval Orientation.** (3) Naval customs, traditions, law, organization. Types of naval vessels, duties of officers.
2. **Seamanship and Communications.** (3) Basic seamanship, Rules of the Nautical Road, communications.
3. **Ship Control and Naval Justice.** (3) Navy publications, correspondence, basic ship handling, maneuvering board, Naval Courts Martial.

#### *Second Year*

51. **Ordnance.** (3) Basic principles of gun construction, manufacture of explosives, rockets, nuclear explosives.
52. **Fire Control.** (3) Exterior ballistics, methods of control of surface and anti-aircraft fire.
53. **Applied Naval Electronics.** (3) Advanced methods of fire control. Electronic fire control equipment carried aboard naval vessels.

#### *Third Year*

101. **Piloting.** (3) Introduction to navigation, navigation instruments, compasses, chart reading, the sailings, piloting, lines of position. Pr., trig.
102. **Navigation.** (3) Celestial navigation, time, air almanac, nautical almanac, identification of stars and planets, moon and tides, navigators day's work at sea. Loran equipment. Radar navigation.
103. **Tactics.** (3) Fleet tactics, tactical publications and orders, naval operations.

\* By piano (as instrument).

† To be arranged.

(Marine Corps)

- 104M. Military Policy. (3) Fundamental concepts of military policy, power and principles.  
105M. Military Policy (Continued). (3)

Fourth Year

151. Naval Machinery. (3) Marine engineering installations, boilers, power plants, auxiliary machinery, turbines, distillers, refrigeration plants.  
152. Internal Combustion Engines—Ship Construction and Stability. (3) Diesel engines, aircraft engines, warship construction, compartmentation, fire fighting, stability.  
153. Ship Construction and Stability (Continued). (3) Free surface curves of form and stability diagrams, underwater explosives, control of damage, officer of the deck duties, latest developments and future trends.

(Marine Corps)

- 155M. Marine Tactics. (3) Tactical employment and supply of a Marine infantry unit.  
156M. Combat Technique. (3) Advanced combat tactics and duties of a company officer.  
157M. Amphibious Operations. (3) Amphibious warfare and combined operations.

(Supply Corps)

- 158S. Introduction to Supply and Supply Ashore. (4) Supply organization, material procurement, receipt, expenditures, and inventory control.  
159S. Supply Ashore (Continued) and Supply Afloat. (4) Accounting reports and returns. Receipt and storage of material afloat.  
160S. Supply Afloat (Continued). (4) Expenditure of material afloat, reports and returns; commissary, ship's store, clothing and small stores.

NURSERY SCHOOL

*Assistant Professor Evans; Associate Alliger*

101. Personality Growth of the Preschool Child. (3) Development trends and age-level expectancies from birth to six years; motor controls and adaptive learning with emphasis on communications and social-personal adjustments. Scheduled observation. Pr., Psych. 1. Staff  
102. Affective Influences During Preschool Years. (3) Interpretations of common behavior manifestations of preschool children, individual and group, with discussion of possible causes and treatment. Parent-child relationships. Scheduled observation. Pr., 101. Evans  
103. Nursery School Curriculum and Methods. (3) A laboratory analysis of the nursery school program. Formulation and adaptation of a program to meet age-level differences, individual and group needs. Teacher-child relationships. Scheduled observation. Pr., 102. Alliger  
107. Books and Stories in the Nursery School. (2) Analysis of books and stories, based on verbalization, comprehension, attention span and age-level differences of young children. Techniques in meeting individual and group needs. Two hours lab., scheduled observation. Pr., 102. Staff  
109. Guidance of Individual Children in the Nursery School. (2) Staffing individual children; analysis of procedures and techniques used in group situations; study of child-parent relationships. Attendance at parent group meetings required. One hour weekly conference. Pr., 102. To be taken with 117. Staff  
111. Creative Activities in the Nursery School. (2) Preparation and presentation of art materials. Guidance and interpretation of child's use of materials. Two hours lab. Scheduled observation. Pr., 102, 112. Staff  
112. Play and Play Materials in the Nursery School. (2) Selection and arrangement of toys and equipment to meet developmental needs of children. Interpretation of play behavior. Two hours lab. Scheduled observation. Pr., 102. Staff  
113. Introduction to Nursery School Parent Counselling. (2) Reading and discussion of various methods used in parent counselling; case studies. Attendance at parent group meetings required. One hour weekly conference. Pr., 117. To be taken with 118. Staff  
117. Nursery School Practice Teaching. (5) Scheduled participation in group guidance of the preschool child. Development of techniques and skills. Individual conferences. Pr., 103, or equivalent. Permission. Staff  
118. Advanced Nursery School Practice Teaching. (5) Program planning, organization, and administration. Techniques in working with children. Concepts of parent-teacher-child relationships. Individual conferences. Pr., 117, or equivalent. Permission. Staff

NURSING

*Professor Soule; Associate Professors Leaby, Olcott; Assistant Professors Boyle, Burke, Cross, Ehling, Hoffman, Korngold, Patterson, Svelander, Tschudin; Instructors Airth, Anderson, Barry, Blackman, Carnevali, Chinqua, Coffman, Crouch, Felton, Forsberg, Gray, Guibridge, Haasc, Holland, Jamison, Kerby, Kintner, Lamberty, Lankford, Larson, Linblom, Luby, MacIvor, Markham, Martin, Mitchell, Northrop, Prindiville, Robbraugh, Rowland, Smith, Stamatakis, Steele, Stoleson, Tillotson*

1. History of Nursing. (3) A study of nursing from earliest times with emphasis on the place of nursing in world history and the present social order. Open to any woman student. Leaby

5. **Care and Prevention of Illness in the Home.** (3) A study of health and safety factors in the home and community; recognition of early symptoms of physical or mental illness as an important factor in the prevention of disease or disability. First aid in the home; conditions commonly treated at home; giving medications and supportive treatments; care before and after pregnancy; infant care; child growth and development; common psychological reactions to illness or disability; choosing a doctor and hospital; consideration of community health resources. Anderson, Cross
- Courses 120-149 inclusive are Hospital Division courses. They are open only to students in Curriculum Group I, Basic Course, or in approved schools of nursing.
120. **Principles and Practices of Elementary Nursing.** (5) Elementary nursing techniques, practice in elementary nursing care. Two lectures, 2 two-hour laboratory periods and 4 hours supervised clinical practice. Felton, Hoffman, Kerby
121. **Advanced Nursing Procedures and Methods of Planning Individualized Nursing Care.** (3) Advanced general nursing procedures. Clinical nursing care study. Practice in planning nursing care with reference to physical, mental, social, and economic needs of the patient. Felton, Hoffman, Jamison, Kerby
122. **Practice in Elementary Nursing and Special Hospital Departments.** (3) Practice in elementary medical and surgical nursing correlated with laboratory X-ray and pharmacy experience. Felton, Hoffman, Jamison, Kerby
123. **Introduction to Medical and Nursing Science.** (3) Orientation to disease conditions in general and to the way in which the problems of disease are approached. Sevelander, Felton
124. **Principles of General Medicine, Surgery, Otolaryngology and Nursing Care.** (5) Survey of these fields with etiology, pathology, symptoms, complications, treatments, prevention and specialized nursing of each condition. Lecture, demonstration, clinics. Recording and nomenclature included. \*, Carnevali
125. **Principles of Medical and Surgical Specialties and Their Nursing Care.** (5) Includes fields of gynecology, endocrinology and metabolism, dermatology, neurology, orthopedics, first aid and ophthalmology. Holland, Crouch, Carnevali, \*
127. **Public Health Nursing and Community Health Agencies.** (3) Discussion of principles of public health nursing and those community resources which can be utilized in care of the patient and family. Burke
128. **Medical Nursing Practice.** (6) Practical application of principles of nursing in medical diseases. Twelve weeks experience in general medical, communicable disease nursing and related out-patient clinics. Weekly conference and clinic. Case assignment. Stoleson, Kerby, \*
129. **Principles of Special Therapy.** (2) The use of light, electricity, heat, water, massage, exercise, and occupation as aids in the care or control of disease processes. Anderson
130. **Principles of Preventive Medicine and Nursing Care in Communicable Disease.** (4) 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 public health and social aspects. Stoleson, Svelander
131. **Introduction to Health Teaching.** (2) Orientation to teaching functions of the nurse in both hospital and community situations. Burke
132. **Surgical Nursing and Diet Therapy Practice.** (6) Six weeks experience in general surgical nursing with experience in Central Service. Weekly clinic and conference. Case assignment. Six weeks in diet therapy. Weekly conference. Holland, Crouch, Gray, Northrop, Carnevali, Forsberg
133. **Operating Room and Orthopedic Nursing Practice.** (6) Nine weeks experience in operating room nursing and anaesthetic care. Three weeks in orthopedic nursing. Weekly clinic and conference. Guthridge, Gray, Smith
134. **Nursing Practice in Surgical Specialties.** (3) Six weeks experience in urology, gynecology, eye, ear, nose and throat, head injury, and emergency surgery nursing. Weekly clinics, conferences. Case assignment. Holland, Crouch, Carnevali
135. **Generalized Nursing in the Community.** (3) Discussion class on community problems with case illustrations from hospital and public health agencies. Runs concurrently with Nursing 146. Patterson
138. **Professional Problems in Nursing.** (2) Includes study of professional organizations, legislation, accrediting of schools of nursing, and similar topics. Jamison, Svelander
139. **Principles of Pediatrics and Pediatric Nursing.** (5) Physical and mental development of normal children, principles of their care and feeding. Common diseases of infancy and childhood, appropriate medical and nursing care, together with program of prevention. Markham, MacIvor
140. **Pediatric Nursing and Nursery School Practice.** (6) Ten weeks practice in pediatric nursing including formula room and out-patient clinics. Two weeks observation in Nursery School. Weekly clinic, conference. Case assignment. Observation in well child clinics. Markham, MacIvor
141. **Principles of Obstetrics and Obstetrical Nursing.** (5) Anatomical, physiological aspects of pregnancy, labor, and puerperium. Care during normal, operative, and complicated labors. Nursing care of mother and newborn. Public health and social aspects. Lectures, demonstrations. Barry, Lankford
142. **Obstetrical Nursing Practice.** (6) Twelve weeks experience in obstetrical nursing. Nursing care of patients during ante-natal, labor, and post-partum periods, including care of the newborn. Experience in out-patient clinic. Weekly clinic, conference. Barry, Gray, Lankford
143. **Nursing Practice in Special Fields.** (6) Twelve weeks advanced nursing practice in tuberculosis or out-patient nursing. Airth, Haase, Blackman

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\* To be appointed.



144. **Senior Nursing Practice.** (6) Twelve weeks advanced nursing practice in one field (i.e. medical nursing, operating room) in a hospital or a public health agency. Experience in elementary ward teaching and administration. Individual projects. Weekly clinics, conference. Svelander, Tschudin, Staff
145. **Tuberculosis Nursing Practice.** (3) Six weeks clinical practice with planned assignment and rotation through departments in a tuberculosis sanatorium, with out-patient department experience, community agency and clinic. Includes weekly ward clinic and nursing conference. Blackman, Haase
146. **Visiting Nursing Practice.** (6) Twelve weeks experience in one public health agency. Concurrent experience in clinics. Patterson, Burke, Staff
147. **Principles of Psychiatry and Psychiatric Nursing.** (5) Lectures, demonstrations, and clinics, dealing with various types of mental diseases, principles of mental hygiene, and nursing care of mentally ill patients. Lamberty, Rowland
148. **Psychiatric Nursing Practice.** (6) Practical application of principles of psychiatric nursing. Twelve weeks clinical practice in psychiatric nursing with rotation through departments of a mental hospital including occupational, recreational, and special medical therapies. Weekly ward clinic, nursing conference, and case study. Martin, Lindblom
149. **Principles of Ward Management and Bedside Teaching.** (3) Management of ward routines and assistant head nursing including individual and bedside teaching. Tschudin
150. **Principles of Teaching Nursing and Health.** (5) Application of principles of learning to teaching methods and techniques effective in nursing with opportunity for course planning, demonstration, and practice teaching. Pr., Psych. 1. Boyle, Tschudin
151. **Administration of Schools of Nursing.** (5) Deals with the principles of organization and functioning of a school of nursing, including selection and organization of the faculty, student selection and welfare, health and guidance programs, curriculum planning and scheduling, and accreditation. Olcott, Boyle
152. **Supervision of Hospital Departments.** (5) Organization of hospitals for administration of nursing service and education, selection and placement of personnel, principles of supervision, ward management and teaching, methods of student clinical assignment and rotations. Olcott, Boyle, Tschudin
153. **Hospital Administration in Relation to Nursing Service.** (5) Pr., Nurs. 150, 152, graduate registered nurse. Hoffman
154. **Practice Teaching and Ward Supervision in Hospitals.** (10) Twelve weeks experience in the student's major clinical field with opportunity for supervised practice in administrative and teaching functions of the head nurse and supervisor, and for interdepartmental observation of hospital departments. Pr., Nurs. 150, 152, or concurrent.
- 155, 156, 157. **Advanced Nursing Practice in Clinical Specialties.** (3 ea. qtr.) Twelve weeks planned experience in one clinical field with experience in related out-patient department clinics. Includes weekly clinic and nursing conference. Staff
159. **Principles of Advanced Nursing.** (2) Integration of all aspects of nursing in the solution of nursing problems in special clinical fields. Cross
160. **Teaching Functions of the Public Health Nurse.** (5) The principles of teaching as applied to individual, family, and group health conferences. Analyses and interpretations of family health studies and methods of teaching health. Pr., 167, Psych. 1. Leahy
161. **Orientation in Public Health and Community Nursing.** (3) Survey of the field of public health and community nursing including planned field trips. For students in teaching and supervision in schools of nursing. Patterson
162. **Field Practice in Public Health Nursing.** (5) Health teaching and nursing. Patterson
163. **Field Practice in Public Health Nursing.** (5) Administrative activities and record work. Patterson
164. **Field Practice in Public Health Nursing.** (6) Family health planning. Use of social agencies and maintenance of community relationships. Patterson
165. **Reading in Current Literature in Public Health Nursing.** (2) Pr., 167, and consent of instructor. Leahy
166. **Advanced Field Practice in Public Health Nursing.** (12) Pr., 164. Experience in public health nursing supervision or special fields. Patterson
167. **Principles, Organization, and Administration of Public Health Nursing.** (3) Policies and developments in national, state, and local public health nursing services in official and nonofficial agencies. Leahy
168. **Special Fields of Public Health Nursing.** (5) Study of the functions, objectives, and programs in the special fields of public health nursing. Patterson
178. **Principles, Organization, and Administration of Industrial Nursing.** Jahncke
182. **Survey of Orthopedic Conditions and Nursing Problems.** (3) Principles of orthopedic nursing applied toward prevention, home care, and rehabilitation of persons with orthopedic and plastic defects. Anderson
183. **Advanced Orthopedic Nursing.** (5) Lectures and teaching clinics on orthopedic conditions by an orthopedic surgeon, demonstration and practice of advanced orthopedic nursing procedures and integration of orthopedic principles into all patient care. Anderson
185. **Teaching of Nursing Arts and Science.** (3) A study of principles and methods in their application to the specific field of teaching nursing arts. Pr., 150, Psych. 1. Hoffman
190. **Methods of Supervision in Public Health Nursing.** (3) Principles and methods of supervision in public health nursing and their relation to administration. Pr., preparation and experience in public health nursing, and approval of instructor. Leahy
191. **Personnel and Counseling Problems in Nursing.** (3) Leahy

192. Field Work in Placement and Counseling. (8-10) Practice in offices where placement for nurses is carried on and in the general field of personnel work such as department stores and industry. 20 to 40 hours per week. Patterson
195. Survey of Trends in Contemporary Nursing. (3) Particular emphasis is placed on immediate problems. Soule

#### Courses for Graduates Only

- 201, 202, 203. Seminar in Nursing Problems. (†) Pr., graduate registered nurse, thirty credits in nursing. Soule, Staff
205. Research in Nursing Education, Hospital Administration, Public Health Nursing. (†) Open only to qualified graduate students in the field of nursing. Soule, Staff

#### Service Courses for Other Hospitals

Requirements: Student must be employed as an attendant in an approved hospital.

6. Principles and Practice of Elementary Attendant Nursing. (3) Lamberty, Lindblom
9. Principles of Psychiatry and Psychiatric Attendant Nursing. (3) Lamberty, Lindblom
11. Sociology for Hospital Attendants. (3) Lamberty, Lindblom

### PHARMACY, PHARMACOGNOSY, PHARMACEUTICAL CHEMISTRY, AND TOXICOLOGY

*Professors Goodrich, Rising, Fischer, Langenhan; Associate Professor Plein; Assistant Professors Arrigoni, Youngken; Instructors Rasanen, Neva, Krupski*

#### Practical Pharmacy

- 1-2-3. Fundamental Principles and Processes of Pharmacy, Elementary Pharmaceutical Preparations. (3-3-3) 2 lectures, 1 laboratory. A study of the practical application of mathematics and physics to pharmacy. Manufacture of U.S.P. and N.F. galenic preparations; development of laboratory technique; study of the U.S.P. and N.F. Langenhan
4. History of Pharmacy. (2) 2 lectures. A study of the development of the science and profession of pharmacy and a survey of its literature; contributions of various nations to the profession. Langenhan
- 9-10-11. Prescriptions. (3-3-3) 2 lectures, 1 laboratory. A study of the fundamental principles of prescription compounding and dispensing with special emphasis on accuracy and technique. Pharmaceutical Latin and prescription reading are included. Pr., 3, Chem. 10 or equivalent. Plein
15. Home Remedies. (2) 2 lectures. A study of the remedies and cosmetics preparations commonly used in the home, from the point of view of composition, effectiveness, and safety. Rising
51. Elementary Pharmacy. (2) For nurses only. 2 lectures. Survey of fundamental knowledge of the theory of dispensing pharmacy. Larson
- 113-114-115. Professional Management, Professional Pharmacy, Advanced Prescriptions. (5-5-5) 2 lectures. 1 quiz, seminar, and laboratory. Principles of management and the laws governing the practice of pharmacy are studied. The divisions of professional pharmacy are discussed under such headings as general practice, veterinary, and dental pharmacy. The advanced techniques in prescription practice are stressed in both laboratory and lecture. Pr., 11. Rising
118. Pharmaceutical Accounting. (5) Five lectures. Basic principles of accounting are used in pharmacy with special emphasis on state and federal taxes and deductions. Fiscal reports for comparing business trends under accepted business procedures. Fordon
173. Cosmetic Manufacturing. (3) 1 lecture, 1 laboratory, term paper and reports. Preparation of many types of cosmetics and a study of their physical, chemical, and physiological properties. Pr., Chem. 39. Rising
182. New Remedies. (5) 5 lectures. A study of the new and more important pharmaceuticals found in modern practice considered from the standpoint of composition, manufacture, properties, and dosage. Plein
183. Hospital Pharmacy. (3-5) 2 lectures, 1-3 laboratories. Principles and techniques of hospital dispensing and dispensary management. Pr., permission and not less than junior standing. Plein
191. Undergraduate Research. (1 to 5) Open to juniors and seniors. Research problems in manufacturing and dispensing pharmacy. Rising, Plein

#### Course for Graduates Only

304. Research. (Maximum of 25 credits for M.S.; 45 for Ph.D.) Rising, Plein

### PHARMACOGNOSY

- 12, 13, 14. Pharmacognosy. (3, 3, 3) 3 lectures. Plant and animal drugs—their sources, production, identification, active constituents, and uses. Pr., Bot. 13. Goodrich, Youngken, Neva
104. Microscopy. (3) 1 lecture, 2 laboratories. The application of stains and microchemical techniques in examining powdered drugs, spices and related substances. Included is a consideration of adulteration and fungus contamination. Pr., 14, Bot. 13. Youngken, Neva

†To be arranged.

105. **Microscopy.** (2) 1 lecture, 1 laboratory. Stains and procedures in the study of blood and urine components. Clinical techniques of value to the pharmacist are studied in the laboratory. Pr., 104, Zool. 7. Youngken, Neva
106. **Medicinal Plants.** (2) 1 lecture, 1 laboratory. Considerable time is spent in the medicinal plant garden and greenhouse. Problems are given on the cultivation of a few important alkaloid-, glycoside-, and oil-yielding plants. Herbicides and insecticides are studied. Preparation of herbarium specimens. Analysis of marketing and market values. Pr., 14, Youngken
111. **Glandular Products.** (3) 3 lectures. The study of substances used in pharmacy produced by exocrine and endocrine glands. Among such substances are glandular extracts and hormones. Pr., 14, Zool. 7. Youngken, Neva
112. **Serums, Vaccines, and Allergens.** (2) 2 lectures. The study of the production, quality, and use of serum, vaccine, virus and allergenic products currently employed in the prevention and treatment of disease. Pr., 111, Microbiology 101. Youngken, Neva
193. **Histological Technique and Research Problems.** (1 to 5) Open to juniors and seniors. Youngken, Neva

*Course for Graduates Only*

304. **Research.** (Maximum of 25 credits for M.S.; 45 for Ph.D.)

**PHARMACEUTICAL CHEMISTRY AND TOXICOLOGY**

5. **Gravimetric Quantitative Analysis.** (5) 2 lectures, 1 quiz, 2 laboratories. The principles of gravimetric analysis, including its application to pharmaceutical compounds. Pr., Chemistry 10. Rasanen
6. **Volumetric Quantitative Analysis.** (5) 2 lectures, 1 quiz, 2 laboratories. The principles of volumetric analysis, including its application to drugs and preparations of pharmaceutical importance. Pr., 5. Rasanen
107. **Urinalysis.** (2) 1 lecture, 1 laboratory. The qualitative and quantitative detection and determination of physiological and pathological constituents of urine. Pr., 6, Chemistry 39. Rasanen
108. **Drug Assay.** (3) 1 lecture, 2 laboratories. The assay of various official products involving the application of special analytical techniques and a study of the methods of standardization of pharmaceutical products. Pr., 6, Chemistry 39. Rasanen
140. **Organic Medicinal Products.** (3) 3 lectures. The nomenclature, properties, reactions, and synthesis of organic medicinals. Pr., Chemistry 33. Staff
192. **Research Problems.** (1 to 5) Open to juniors and seniors. Research problems in pharmaceutical chemistry. Fischer, Arrigoni
- 195-196. **Pharmaceutical Chemistry.** (5-5) 2 lectures, 1 recitation, 2 laboratories. The pharmacy and chemistry of carbohydrates, proteins, fats, fixed and volatile oils, waxes, glycosides, resins, dyes and preservatives used in food, and other plant and animal principles. The laboratory work consists of qualitative tests and quantitative methods for determining component parts. Pr., 6 and Chemistry 39. Fischer
197. **Pharmaceutical Chemistry and Toxicology.** (5) 2 lectures, 1 recitation, 2 laboratories. History, source, structure, synthesis, qualitative detection, and quantitative determination of alkaloids. The study includes the classification of poisons, symptoms, methods of treatment of poisoning, and the separation and identification of poisons from animal tissues. Pr., 6 and Chemistry 39. Fischer

*Courses for Graduates Only*

304. **Research.** (Maximum of 25 credits for M.S.; 45 for Ph.D.)
- 211-212-213. **Advanced Pharmaceutical Chemistry.** (5-5-5) 3 lectures, 2 laboratories. Deals with pH determinations and buffer systems, fluorometry, gasometric methods of analysis, chromatography, combustion analysis, plant chemistry, spectroscopic methods, the use of various instruments for scientific investigations, and vitamin determinations. Open to qualified students after conference with instructor. Arrigoni

**PHILOSOPHY**

*Professors Nelson, Rader; Visiting Professors Murphy, Salmon; Assistant Professors Melden, Phillips, Smullyan*

1. **Introduction to Philosophy.** (5) The basic problems of life and existence and how they are answered by the great philosophers. These problems include the relation of religion to science, the nature of morality, the meaning of human history, and the nature of knowledge. Melden, Phillips, Smullyan
2. **Introduction to Social Ethics.** (5) The nature of a good social order and right social action. The rival ideals of aristocracy, fascism, liberalism, and socialism. Special emphasis upon the nature and ideals of democracy. Rader
3. **Introduction to Ethics.** (5) A study of typical analyses of the problems and principles of morality. Particular reference will be made to the moral problems of justice, good and evil, duty, and freedom. Readings in Plato, Kant, Hume, and Mill. Melden
5. **Introduction to Logic.** (5) Deductive and inductive logic. Conditions of clear statement and valid reasoning. Propositions, contradiction, definition, inference, typical types of argument, detection and avoidance of fallacies. Probability, and the methods by which theories and laws are established in daily life and in the sciences. Applications of logic to other fields. Nelson, Melden, Smullyan

- 101-102. *History of Philosophy.* (5-5) The development of Occidental philosophy from the Sixth Century B.C. until the late Nineteenth Century. Primary stress upon such major figures as Plato, Aristotle, Augustine, Aquinas, Descartes, Hume, and Kant, with attention to their historical and cultural background. Melden, Rader
- 104-105-106. *Metaphysics.* (3-3-3) Theories of reality; nature of existence; appearance and reality; substance, causation, and law; relation of mind to body; pluralism and monism; the self and human freedom. Pr., 1 or 102 or permission. Nelson
107. *Introduction to the Philosophy of Science.* (5) A study of concepts and methods which are fundamental in mathematics and in the physical and social sciences. The interrelations of the sciences to one another as well as to art, religion, and philosophy. Speculations concerning the nature of the world which have been suggested by past and present scientific theories. Operationist tendencies in recent interpretations of science. Pr., 1 or 5. Smullyan
110. *Philosophy of Mind.* (5) Theories of the nature of the mind, the relation between mind and body, the self, memory, the unconscious, introspection, and our knowledge of other minds. Pr., 1. Melden
111. *Semantics.* (5) Survey of the main theories of the origin and functions of language, including its logical, descriptive, emotive, and expressive uses. Attention will be given to semantical problems of the social sciences and of the humanities. Pr., 5. Smullyan
112. *Philosophy of History.* (5) An analysis of the basic concepts employed in historical interpretation. Phillips
113. *Philosophy of Religion.* (5) The origin, nature, and types of religion. The grounds of religious belief: mysticism, faith, reason, and evidence. The main religious problems: free will, immortality, the existence and nature of God, the problem of evil, religion as a basis of ethics, the social implications of religion. Rader
117. *Epistemology.* (5) Problems in the theory of knowledge. The nature, possibility, criteria, and limitations of knowledge. Critical evaluation of subjectivism and realism, dogmatism and skepticism, intuitionism, pragmatism, empiricism, rationalism, and positivism. Theories of meaning, truth, and perception. Synthesis of various positions around the scientific method. Pr., 1. Phillips
120. *Recent Speculative Philosophy.* (5) Recent speculative philosophy, with special reference to the development of Whitehead's metaphysics. Amongst the metaphysicians studied will be Bradley, Royce, James, Santayana, Russell, the new realists and naturalists. Pr., 1. Murphy
125. *Philosophy in Literature.* (5) A study of philosophical ideas as embodied in great works of literature: Lucretius, *On the Nature of Things*, the Book of Job, Dante's *Divine Comedy*, Goethe's *Faust*, Shelley's *Prometheus Unbound*, and Hardy's *The Dynasts*. Rader
129. *Philosophy of Art.* (5) Introduction to the principal systems of esthetics. Interpretations of the creative activity of the artist, the work of art, the contemplation and criticism of art-objects, and the relation of art to the social order. Salmon
133. *Ethical Theory.* (3) A critical examination of the concepts and judgments of value, including an analytical treatment of the notions of right and wrong, obligation, good and bad, and the relations between ethical and aesthetic value. Pr., 2 or 3. Phillips
136. *British Liberal Social Philosophy.* (3) Consideration of British social philosophers from Locke to Hobhouse, but with special emphasis on the nineteenth century radicals. Pr., 1 or upper-division standing. Salmon
- 142, 143. *American Philosophy.* (3, 3) A brief account of early American philosophy and a more extended treatment of America's contribution to the main currents of western philosophy. The freedom of the will in Jonathan Edwards; Emerson's transcendentalism; the pragmatism of Peirce, James, and Dewey; the pluralism of James; mysticism in James; Santayana's doctrine of essences; twentieth century realism, naturalism, and positivism. Pr., 1. Murphy
172. *Chinese Philosophy Before the Ch'in Dynasty.* (3) The rise of Chinese philosophy in the classical times; different aspects of the philosophical schools in ancient China, with special emphasis on Confucianism, Mohism, Taoism, the Dialecticians, and the Legalists. Shih
173. *Chinese Philosophy Since the Ch'in Dynasty.* (3) The introduction of Buddhism into China; controversy between Confucianism, Taoism, and Buddhism; their synthesis in Neo-Confucianism in the Sung, the Yuan, and the Ming dynasties; the decline of philosophical interest in the Ch'in dynasty; the new trend of thought after the impact with the West. Shih
184. *Reading in Philosophy.* (1-4) Reading of approved philosophical works. Primarily for graduate students, though under special conditions advanced undergraduates will be permitted to register for this course. Credit will be granted only on passing a written examination on the reading. Pr., permission of Executive Officer of the Department of Philosophy. Staff
193. *Advanced Logic.* (5) Symbolic logic; deductive systems; types of order; infinity; propositions, classes, relations; logical paradoxes and theory of types; critical examination of logical doctrine and analytic methods bearing on philosophical questions. Pr., 5. Nelson
- 197, 198, 199. *Philosophical Classics.* (2, 2, 2) A study of the outstanding ideas of selected classical philosophers. Emphasis will be placed on their relationship to the historical background which occasioned them. Pr., upper-division standing and permission of the instructor. Phillips

## Courses for Graduates Only

- 214-215-216. *Seminar in Logic.* (2 to 4) Pr., 193. Smullyan
300. *Research.* (1 to 6) Pr., permission. Staff
- Not offered in 1948-1949: 103, *Contemporary Philosophy*; 123, *Philosophy in English Literature of the 19th Century*; 137-138-139, *Development of Social Philosophy*; 207-208-209, *Seminar in Philosophy of Science*; 234-235-236, *Seminar in Descartes, Spinoza, Leibniz*; 237-238-239, *Seminar in Locke, Berkeley, Hume*; 241-242-243, *Seminar in Plato and Aristotle*; 244-245-246, *Seminar in Kant and Hegel*.

## PHYSICAL AND HEALTH EDUCATION

## I. FOR MEN

*Professor Belshaw; Assistant Professors Auerbeimer, Kundo, Peek; Associate Professors Cutler, Reeves, Tornay; Instructors Mills, Stevens; Associates Buckley, Clark, Edmundson, Eriksen, Jefferson, McLarney, Ulbricksen, Odell*

- 1, 2, 3. Adapted Activities. (1, 1, 1) Gymnastics, games, and sports to meet the needs of the individual. Cutler
4. Basic. (1, 1, 1) Staff
- 7, 8, 9. Physical Education Activities for Freshman Majors. (2, 2, 2) Staff
- 10, 11, 12. Physical Education Activities for Sophomore Majors. (2, 2, 2) Staff
- 16 to 90. Physical Education Activities. (1 each) Course 16, handball; 17, basketball; 18, tennis; 19, softball; 20, golf; 21, track; 22, crew (class); 23, fencing; 24, boxing; 25, tumbling; 26, apparatus and stunts; 27, wrestling; 28, volleyball; 29, swimming; 30, soccer; 31, touch football; 32, badminton; 33, archery; 34, calisthenics; 36, speedball; 37, bowling; 38, weight lifting; 51, freshman crew; 52, varsity crew; 53, freshman football; 54, varsity football; 55, freshman track; 56, varsity track; 57, freshman swimming; 58, varsity swimming; 59, baseball; 63, freshman tennis; 64, varsity tennis; 65, freshman varsity golf; 66, varsity golf; 67, freshman skiing; 68, varsity skiing; 69, freshman volleyball; 70, varsity volleyball; 71, freshman wrestling; 72, varsity wrestling; 73, freshman fencing; 74, varsity fencing; 76, varsity handball; 90, Pack Forest. Staff
15. Personal Health. (2) Health information that affords a basis for intelligent guidance in the formation of health habits and attitudes. Reeves and Staff

## II. FOR WOMEN

*Associate Professors deVries, McLellan, Rulifson, Wilson; Assistant Professors Broer, Fox, Gunn, Horne, Kidwell, McGownd, MacLean, Waters; Acting Instructor Rowley; Associate Miller*

## Activity Courses

- 11, 12, 13. Physical Education Activities for Freshman Majors. (2, 2, 2) Hockey, soccer, speedball, basketball, badminton, tennis, stunts and tumbling.
- 16, 17, 18, 19. Physical Education Backgrounds. (Academic 1, 1, 1, 1) Fundamental information for methods and materials in the presentation of gymnastics, tap dance, folk dance, social dance, modern dance, swimming and life saving. Basic skills with emphasis for professional training. Horne, Rowley, Kidwell, deVries, MacLean
- 57 to 99. Physical Education Activities. (1 ea. qtr.) Course 57, fencing; 58, advanced fencing; 61, folk and national dancing; 62, clog and tap dancing; 64, hockey; 65, basketball; 66, advanced folk dancing; 67, tennis; 68, stunts and tumbling; 69, advanced tennis; 70, athletic games; 75, archery; 76, advanced archery; 81, advanced canoeing; 82, volleyball; 83, indoor baseball; 84, badminton; 85, canoeing; 86, advanced badminton; 87, golf; 89, bowling; 90, skiing; 91, modern dancing; 92, advanced modern dancing; 93, advanced bowling; 94, riding; 95, elementary swimming; 96, intermediate swimming; 97, advanced swimming; 98, diving; 99, life saving.

## Health Education Course

10. Health Education. (2) Health problems of freshman women. McLellan, Horne, Gunn, Waters

## III. PROFESSIONAL COURSES FOR MEN AND WOMEN

101. Methods and Materials in Gymnastics, Stunts, and Tumbling. (3) WOMEN. Methods and opportunities for presentation of these activities including marching tactics. Pr., or accompanying course, Anat. 110 and Zool. 7, and P.E. 16. MacLean, Broer
102. Problems in Physical and Health Education and Recreation. (2) Orientation to these fields; professional opportunities; problems encountered; and qualifications and training necessary for teaching, recreational leadership in communities and organizations, coaching (men), and physical therapy (women). Horne, Peek
- 104, 105, 106. Officiating. (2, 2, 2) WOMEN. Techniques for officiating in volleyball, aquatics, basketball, badminton, softball, and tennis; opportunity for national and local ratings. Fox
107. Personal and General Hygiene. (3) MEN. Advanced course designed primarily for professional students in physical education. Pr., sophomore standing. Reeves
109. The School Dance Program. (2) MEN and WOMEN. Practice in basic skills and dances in areas of folk, square, and social dancing; methods and opportunity for presentation, including "calling"; source materials; organization of co-educational dance program. Wilson
111. Rhythmic Activities for Small Children. (2) WOMEN. Observation of children. Pr., junior standing. deVries
112. Elementary School Athletic Program. (3) WOMEN. Program planning, small group play, and team game activities for elementary grades. Rulifson
115. Physiology of Muscular Exercise. (3) MEN and WOMEN. Relation to physical activities. Muscular efficiency, fatigue, recovery, chemical changes, and neuro-muscular control, with special reference to games, sports, corrective work and body mechanics. Pr., Zool. 7. Belshaw

♣Golf instruction fee (payable to golf club), per quarter, \$3.

†Bowling instruction fee (payable at bowling alley), per quarter, \$2.50.

- tion. Nuclear Physics: radioactivity, nuclear reactions, the cyclotron, chain reactions. Pr., senior in E.E. Schmidt
- 160, 161. Optics. (3, 3) Lectures and laboratory work in wave motion and harmonic analysis, interference and diffraction, polarization, introduction to electromagnetic character of light and interactions with matter, geometrical optics. Pr., 3 or 6, calculus. Higgs, Geballe
- 167, 168, 169. Special Problems. (†) Pr., permission. Staff
170. Spectrometry. (3) The theory and use of spectroscopic equipment; the practice of qualitative and quantitative spectrum analysis. Pr., 160 or permission. Staff
180. History of Physics. (2) Pr., 3 or 6. Staff
185. Nuclear Physics. (3) Natural radioactivity; alpha, beta, and gamma spectra, nuclear energy states, energy-mass conservation. Properties of the radiations: stopping power and range for charged particles, absorption of gamma rays by photoelectric and Compton effects and by pair production. Accelerators, artificial disintegrations, examples of reactions, measurement of reaction energy. Induced radioactivity. Nuclear structure, systematics of the stable nuclei. Pr., 102. Neddermeyer
- 191, 192. Theoretical Mechanics. (4, 4) An analytical study of the basic theorems of classical mechanics, utilizing vector methods. An introduction into the methods of Hamilton and La Grange with all basic principles well illustrated by a large number of problems which the student solves. A laboratory accompanies the class work. Pr., Math. 43 or 109. 30 credits in physics. Staff
- 195, 196. Experimental Atomic Physics. (3, 3) A laboratory course designed to acquaint the student with a group of phenomena representative of modern experimental atomic physics. Pr., 30 credits in physics. Higgs

#### Courses for Graduates Only

- 200, 201, 202. Introduction to Theoretical Physics. (6, 6, 6) Foundation for subsequent specialization and more intensive study. Pr., 40 credits in physics; Math. 114 concurrently. Staff
205. Classical Kinetic Theory Concepts. (6) Motion and spatial distribution of molecules. The general transport problem with applications. The equation of state. Contributions of Kinetic Theory to other phases of Physical Science. Pr., 40 credits in physics. Staff
210. Mathematical Theory of Sound. (6) The study of small vibrations beginning with the free, forced, and coupled oscillations of mass particles, the concept of normal modes is introduced early in the treatment. The method of normal coordinates is then used throughout to analyze the more complex problems of one, two, three, and  $n$  dimensional distribution of mass. The general theory is then applied to the important problems of radiation, propagation, and scattering of sound in two and three dimensional spaces. Some extension of the theory to finite amplitudes is made. Pr., 202. Staff
- 213, 214. Electricity and Magnetism. (5, 5) A study of the properties of electric and magnetic fields as boundary value problems. Practice in the application of harmonic functions and conformal representation. Consideration of the motion of charged particles in various types of force fields. Pr., Phys. 201, Math. 216. Staff
216. X-Rays. (6) Experimental methods of observation, absorption, diffraction, scattering, continuous and line emission spectra, absorption spectra, Moseley's law and the periodic system. Other topics to be selected for more detailed study, such as theory of radiation, photoelectric absorption, Compton scattering, crystal structure, statistical distribution of electrons in atoms. Pr., 40 credits in physics. Staff
221. Collision Theory. (6) Applications of quantum mechanical principles to the study of atomic and elementary particle interactions. The general theory of elastic and inelastic scattering, including the effects of statistics, exchange and spin, is fully developed. Applications are made to the calculation of probability cross-sections for many important processes not involving the emission and absorption of light. Particular attention is given to recent experiments on the interaction of elementary particles and the determination of the fundamental laws of force. Pr., 239 or 240. Staff
- 239, 240. Wave Mechanics. (6, 6) Introductory summary of the experimental and philosophical basis of quantum-mechanics followed by a precise statement and development of fundamental principles. Discussion of the general theory of representations and transformations is accomplished by illustrative application culminating in the full development of the stationary state properties of the hydrogen atom. The theory is then further developed to provide an introduction to the concept of identity and associated statistics, and to the theory of transitions. Pr., 202. Staff
245. Advanced Quantum Mechanics. (5) The first quarter of advanced quantum mechanics is devoted to the study of several of the more important transitional processes involving the emission and absorption of radiation. The quantum-mechanics of electromagnetic fields is developed, and applications are made specifically to the photoelectric, bremsstrahlung and pair production processes among others. Pr., 240. Staff
250. Seminar. (2-5)
300. Research. (†)

Not offered in 1948-1949: 166, Physical Oceanography; 204, Thermodynamics; 211, Statistical Mechanics; 212, Conduction of Electricity Through Gases; 219, Hydrodynamics; 220, Advanced Dynamics; 222, The Metallic State; 226, 227, Electromagnetic Theory; 230, 231, Atomic Structure; 243, Relativity.

†To be arranged.

POLITICAL SCIENCE

*Professors Martin, Ballis, Bone, Cole, Cook, Levy, Mander, Shipman; Visiting Professor Hsiao;  
Associate Professors von Brevern, Michael, Webster; Assistant Professor Hirschner;  
Acting Assistant Professor Riley; Instructor Hosson; Associate Urquhart*

*Elementary Course Primarily for Freshmen*

1. Survey of Political Science. (5) Principles and problems of government. The state in theory, law, politics, and administration. Cole, Mander, Cook

*Intermediate Courses Primarily for Sophomores*

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

*Upper-Division Courses*

101. The American Constitutional System. (3) Fundamental principles; function; evolution; unwritten constitution. Recent tendencies. Webster
111. The Western Tradition of Political Thought. (5) Origin and evolution of the major political concepts of the Western world. Nineteenth-century modifications. Cook
112. American Political Thought. (5) Major thinkers and movements from the Colonial period to the present. Cook
113. Contemporary Political Thought. (5) Changing political ideas since the French and Industrial Revolutions, as bases for contemporary philosophies of democracy, communism, and fascism. Cook
114. Oriental Political Thought. (5) Theories of the Oriental state as exhibited in the writings of statesmen and philosophers. Hsiao
115. Analytical Political Theory. (5) An analysis of the major concepts of political theory, such as state, authorities, sovereignty, law, liberty, rights, equality, from a non-historical viewpoint. Cook
116. Introduction to Roman Law. (5) Its importance, sources, and civil procedure; classic law of persons, property, contracts, torts, and succession in the light of modern research. For advanced undergraduates; open to qualified sophomores. Levy
118. The Evolution of Western Political Institutions. (5) The conflict between law and force in conditioning the character of modern government. Cole
121. American Foreign Policy. (3) Major policies as modified by recent developments. International cooperation. von Brevern
122. The Foreign Service. (3) Department of State; diplomatic and consular services; American diplomatic practice and procedure. Martin
- Law 122. International Law. (3, 3) As developed by custom and agreement and as exhibited in decisions of international tribunals and municipal courts. Martin
123. International Relations of the Western Hemisphere. (5) The Monroe Doctrine; Pan-Americanism; special interests in the Caribbean; hemispheric solidarity. "Good Neighbor" policy; Latin America and the War. von Brevern
124. Contemporary International Relations in Europe. (5) Foreign policies of the major powers; international organization between the two World Wars; recent and contemporary developments. von Brevern
127. International Government and Administration. (5) Law and organization in international relations; foreign offices; regional and global international institutions. Mander
129. International Relations in the Far East. (5) China, Japan, Russia, and the Philippines; the Western powers and the Orient; the Far East in world politics. Michael
130. International Relations in the Middle and Near East. (5) Egypt, Turkey, Afghanistan; mandates; critical problems today. Mander
132. American Foreign Policy in the Far East. (5) In relation to diplomacy, trade, and internal politics. Michael
133. Europe Since 1914. (5) Broad outline of history from World War I to present. Levy
136. National Power and International Politics. (5) Geographical, economic, and political foundations of the Major Powers as factors in international relations of the world. For advanced undergraduates only. von Brevern
137. The Balkans in Politics and Diplomacy. (5) The governments of southeast Europe; constitutional systems, political structure, and international relations of the lower Danubian states, Yugoslavia, Bulgaria, Greece, and the Levant. von Brevern

141. **Comparative Federal Systems.** (5) Federalism as exhibited in the governments of Canada, Australia, Switzerland, and Russia. Mander
143. **The Authoritarian State.** (5) Ideologies and institutions of the "power" states, with special consideration of Germany and the Soviet Union. von Brevern
145. **Comparative Political Institutions.** (5) Analytical study of doctrines, forms, functions, processes, and controls of all governmental systems, without regard to region or country. Martin
147. **Comparative Governments of the Far East.** (5) Structure and organization in China and Japan; puppet regimes; colonial administration. Michael
148. **Modern British Government.** (5) Contemporary British government and politics; current problems of the parliamentary system, political parties, civil liberties. Hitchner
150. **Government and Interest Groups.** (5) Agrarian, labor, professional, business, and industrial interest in politics; impact on representative institutions and governmental processes. Bone
151. **The American Democracy.** (5) Nationalism and federalism; regionalism; the presidency; the representative system; judicial institutions; reconciliation of policy and administration. Riley
152. **Political Parties and Elections.** (5) Organization and methods. Bone
153. **Introduction to Constitutional Law.** (5) Growth and development of the United States Constitution as reflected in decisions of the Supreme Court; political, social, and economic effects. Cole
154. **Administrative Management.** (5) Introduction to the problems of the public service, emphasizing managerial supervision and control, personnel administration, budgetary and fiscal administration, administrative analysis, program planning and reporting. Shipman
155. **Introduction to Public Administration.** (5) Including relationship of administration to other agencies of government. Shipman
161. **Government and the American Economy.** (5) Government regulation, promotion and services affecting general business, public utilities, agriculture, banking, investments, and social welfare. Hossom
162. **Problems of Municipal Government and Administration.** (5) The city charter; relations with the state and other local units; municipal functions and services, with special reference to the city of Seattle. Webster
163. **State and Local Government and Administration.** (5) Structure; functions; procedures; suggested reorganization; with special reference to Washington State, King County, and other units of government. Webster
166. **Chinese Government.** (5) Imperial government; transition period; national government; present forms of local government; constitutional draft; present political situation. Hsiao
167. **Introduction to Administrative Law.** (5) Creation of administrative authorities, scope of limitations on their powers, remedies, judicial control of administrative action. Shipman
168. **Comparative Administrative Systems.** (5) Principles and practice of administration under foreign governments, especially in Europe and the British Commonwealth. Hossom
169. **Japanese Government.** (5) Emergence of modern government; the emperor; position of the military; central and local government; diet; parties and popular movements. Pr., 1. Maki
175. **Japanese Colonial Administration.** (3)

#### *Course for N.R.O.T.C. Only*

- 170, 171, 172. **Foundations of National Power.** (3, 3, 3) Basic factors in international politics in terms of population, national resources, political organization of National States, and the distribution of power among them; the strength, aims, and policies of the major powers. von Brevern
- Public Finance. See Economics and Business 171.

#### *Courses for Advanced Undergraduates*

195. **Honors Course for Seniors.** (5) Open to qualified majors in the last term of the senior year. Staff
199. **Individual Conference and Research.** (2 to 5) Pr., permission. Staff

#### *Courses for Graduates Only*

- 201, 202, 203. **Graduate Seminar.** (3, 3, 3) Oral and written studies in contemporary problems, domestic and foreign. For candidates for higher degrees in political science. Martin
- 211, 212, 213. **Seminar in Readings in Political Science.** (3, 3, 3) Writings of first importance of the masters in political science; the political classics. Required of candidates for higher degrees. Cole
214. **Seminar in Problems in Political Theory.** (3 to 5) Selected topics, historical and conceptual, national, regional, and universal. Cook
215. **Methods and Research in Political Science.** (3 to 5) Political science and the social sciences; methods of research; bibliography of general and special fields. Cook
217. **Seminar in the Theory of International Relations.** (3) A discussion of the principal theories underlying the interstate relations. The sovereign state as a unit in the community of states. The theory of the state and the theory of the society of nations. Cook, Mander
- 224, 225, 226. **Seminar in Foreign Policy.** (3, 3, 3) The European states system. Foreign policies of the major European powers. Alliances and the balance of power. Leading principles of American foreign policy. Current problems in American diplomacy. International practice and procedure. International conferences. Foreign offices. Martin



234. Seminar in Roman Law. (3) Modern research. Readings in Justinian's *Institutes and Digest* in English translation. **Levy**
- 251-252-253. The Administrative Process. (3-3-3) Forms and characteristics of administrative activity, organization, and function; the executive; administrative discretion; administrative legislation and adjudication; responsibility and control. Pr., admission to graduate curriculum in public administration or special approval. **Shipman**
- 257-258-259. Public Law. (3-3-3) Constitutional and legal concepts governing governmental authority and institutions and the conduct of governmental activities. Pr., admission to graduate professional curriculum in public administration or special approval. **Cole**
- 261-262-263. Administrative Problems. (3-3-3) Supervised analysis of selected administrative problems in local, state, and national government and the preparation of action reports. Pr., admission to graduate curriculum in public administration. **Staff**
300. Individual Research. (2 to 5)
- Seminar in Far Eastern Diplomacy. See Far Eastern 225, 226.
- Constitutional Law. See Law 119, 120.
- Administrative Law. See Law 121.
- Propaganda as a Social and Political Force. See Journalism 116.

Not offered in 1948-1949: 100, Postwar Problems in Government and Administration, National and International; 112, American Political Thought; 117, Modern Theories of Law; 135, Comparative Colonial Policies and Administration; 142, Comparative Unitary Systems; 164, Public Policy in Governmental Planning.

### PSYCHOLOGY

*Professors Smith, Guthrie, Wilson, Esper, Horst, Strother, Edwards, Loucks; Associate Professors Gundlach, Horton; Assistant Professors Heathers, Hermanns*

1. General Psychology. (5) An introduction to the principles of human behavior. **Wilson, Staff**
2. Psychology of Adjustment. (5) Applications of psychological principles to the problems of everyday life. Pr., 1. **Wilson**
3. Applied Psychology. (3) Psychological approaches to human efficiency and happiness; with emphasis upon vocational and industrial, advertising, and consumer problems; and with applications to legal and medical fields. **Gundlach**
4. Industrial Psychology for Engineers. (3) A survey of important psychological problems in business and industry. The course stresses awareness of psychological problems rather than techniques of solving them. For students in the College of Engineering only. No prerequisites. **Horst**
51. Advanced General Psychology. (5) A survey of the fundamental principles and experimental methods of psychology, with laboratory demonstrations. For psychology majors only. Pr., 1. **Hermanns**
102. The Neural Basis of Behavior. (5) The anatomical and physiological principles underlying the integrative action of the nervous system, and the relation of these principles to the problems of behavior. Pr., 10 hrs. biology and permission. **Esper**
103. Physiological Psychology. (5) The physiological process in attention, emotion, fatigue, and sleep. Recent research on muscle potentials and brain waves. Pr., 102. **Loucks**
106. Experimental Psychology. (5) Practice in planning, conducting, and reporting laboratory research. Pr., 108 and permission. **Loucks**
107. Advanced Experimental Psychology. (5) Principles of the design and operation of psychological apparatus. Supervised individual research. Pr., 106. **Loucks**
108. Statistical Methods. (5) Application of statistical methods to psychological problems. Description of psychological data in terms of averages, measures of variability, and measures of relationships. Problems of prediction. Frequency distributions and elementary sampling theory. Pr., 51 or permission. **Edwards**
109. Experimental Design. (3) Planning research problems; formulation of hypotheses; techniques of equating groups; sampling problems; factorial design and analysis of variance; interpretation of data. Pr., 108 or equivalent courses in elementary statistics. **Edwards**
111. History of Psychology. (3) The experimental and theoretical backgrounds of modern psychology, especially in the 19th Century. Pr., 51 or permission. **Gundlach**
112. Modern Viewpoints in Psychology. (3) The theoretical and experimental bases for behaviorism, structuralism, Freudianism, and Gestalt; the integration of these into contemporary psychological systems. Pr., 15 credits in psychology. **Gundlach**
114. Psychology of Motivation. (2) A survey of theories and experimental research concerning the role of organic conditions and of social rewards and punishments in determining the direction and efficiency of effort. Pr., 2. **Staff**
116. Animal Behavior. (3) The principles of animal behavior in relation to human behavior. Special emphasis upon the principles underlying the organism's mode of adjusting to its environment. Pr., 51. **Loucks**
118. Social Psychology. (3) Psychology of human institutions. Pr. 1. **Esper**
119. Animal Laboratory. (5) Supervised training in experimental work with animals. Pr., 116 **Loucks**
120. Psychology and the Arts. (2) Analysis of the circular social relations between the artist, his personality, creative products, the appreciative and critical audience, and society; data from painting, architecture, music, dance, theatre, literature. Pr., 1. **Gundlach**

121. **Vocational Psychology.** (3) Employment trends; analysis and classification of occupations and of worker characteristics; the principles of selection of personnel and of individual guidance. Pr., 1. Horst
123. **Industrial Psychology.** (3) A survey of the applications of psychological principles and methods of investigation to problems of industrial relations. Employee selection, training and motivation. Factors influencing morale and employee productivity. Criteria of job proficiency. Pr., 1. Horst
124. **Psychology of Learning.** (5) A survey of theories and experimental research in the field of human learning. Pr., 108. Staff
126. **Abnormal Psychology.** (5) Origin and mechanism of behavior that interferes with proper adjustment; physiological pathology; psychotherapy. Pr., 15 hrs. in psychology, including Psych. 2. Smith, Loucks
127. **Tests and Measurements.** (5) Survey of standard group psychological tests and of their theoretical and statistical bases. Practice in administering and scoring group tests. Pr., 108. Staff
128. **Psychology of Social Attitudes.** (2) Theory and techniques of attitude-scale construction. Scaling by the method of equal-appearing intervals, the method of summated ratings, and scale analysis. Applications of attitude scales in education, industry, and the social sciences. Determinants of attitudes and experimental studies of attitude change. Pr., 108 or permission. Edwards
129. **Individual Testing I.** (3) The construction, administration, and scoring of individual mental tests used with children. Pr., 127, 131, and permission. Heathers
130. **Clinical Psychology.** (3) Techniques of history taking, diagnosis, and therapy. Cooperation with schools and social agencies. Pr., 126, 129, 131. Smith
131. **Child Psychology.** (5) Individual and social development and their causes, from infancy to adult age. Pr., 1. Smith
134. **Individual Testing II.** (3) The construction, administration, and scoring of clinical psychological tests used with adults. Pr., 126, 127, and permission. Heathers
135. **Counseling and Interviewing.** (3) Methods of securing information in the interview concerning an individual's personal problems, and interviewing procedures for helping the individual solve his problems. Emphasis on non-directive counseling. Pr., 126. Heathers
136. **Psychology of Social Movements.** (3) The establishment of roles and stereotypes during the socialization of the individual; group organization, membership and leadership; social drift and control; conflict, crisis, change and resistance to change. Pr., 118. Gundlach
141. **Sensory Basis of Behavior.** (5) An account of sensory and perceptual phenomena; sensory equipment; theories of sense-organ function. Pr., 51 or 102 or permission. Horton
143. **Individual Differences.** (2) The interrelationships and patternings of human traits and capacities. Pr., 1. Gundlach
145. **Public Opinion Analysis.** (3) Nature and structure of public opinion. Propaganda and shifts in public opinion. Accuracy and validity of modern polling techniques. Construction of questionnaires for opinion surveys. Problems of interviewing and sampling in opinion research. Pr., 108 or permission. Edwards
- 151, 152, 153. **Undergraduate Research.** (1 to 3 each quarter) Pr., permission. Staff
160. **Psychological Factors in the Design and Operation of Industrial Machines.** (2) A survey of experimental studies on the relation of human abilities and limitations to problems of design and operation of machines, display systems, and special devices. Pr., 1. Horton

*Courses for Graduates Only*

222. **Psychology of Language.** (2) Psychological principles applied to linguistic development and organization. Relation of symbolism to human behavior. Pr., permission. Esper
225. **Factor Analysis.** (3) Methods of analysis. Practice in the use of centroid method. Applications. Pr., permission. Staff
230. **Projective Personality Tests.** (5) Theory of projective tests. Practice in scoring and interpreting projective tests with emphasis on the Rorschach. Pr., 126 or 129. Strother
234. **Interpretation of Projective Tests.** (5) Training in interpretation of normal Rorschach records. Review of literature on use of the Rorschach in psychopathology. Pr., 230. Strother
240. **Conditioning.** (5) Experimental work on conditioning. Significance for the several fields of psychology. Emphasis on specific research techniques. Pr., 124 and permission. Loucks
242. **Personality.** (3) Theories of personality development. Pr., graduate standing. Staff
260. **Occupational Analysis.** (3) Survey of methods used in obtaining occupational information and study of current sources. Uses of occupational information in industry. Critical characteristics of jobs and methods for determining them. Special emphasis on the use of statistical methods in occupational analysis. Pr., 123, 127. Horst
261. **Employment Psychology.** (3) Recruiting and interviewing industrial personnel. Non-test selection tools and procedures. Methods of statistical validation. Development and administration of industrial personnel tests. Coordination of continuous selection research program with operating procedures. Pr., 123, 127. Horst
262. **Proficiency Evaluation.** (2) Fundamental role of systematic proficiency evaluation programs in industry. Development and administration of merit rating programs. Objective measures of employee proficiency. Statistical problems and techniques involved in efficient employee evaluation programs. Pr., 123, 127. Horst
263. **Industrial Training.** (3) Functions and scope of training programs in industry. Development and administration of training programs. Psychological principles of learning applied to industrial training programs. Training aids and their use in various types of training.

- Experimental and statistical techniques for improving and evaluating training techniques and programs. Pr., 123, 124, 127. Horst
264. **Motivation and Morale in Industry.** (2) Techniques for evaluating employee morale. Financial and non-financial techniques for employee motivation. Experimental and statistical procedures necessary for obtaining definite results. Administrative aspects of motivational and morale building programs. Pr., 123, 127. Horst
265. **Industrial Efficiency.** (2) Survey of experimental work on fatigue and human efficiency and applications to industrial personnel. Relation of equipment and environmental factors to employee productivity. Research techniques in the determination of efficient working conditions. Pr., 123, 127. Horst
270. **The Teaching of Introductory Psychology.** (2) A course in methods and materials which is required of associates in the department who are teaching sections of Psychology 1. Pr., permission. Wilson
281. **Test Construction.** (3) Correlational analysis. Statistical bases of test construction and of the use of test batteries. Practice on test construction. Pr., 108, 127, and permission. Staff
- 289A, B. **Seminar in the History of Psychology.** (2, 2)
- 290A, B. **Seminar in Theoretical Psychology.** (2, 2)
- 291A, B. **Seminar in Physiological Psychology.** (2, 2)
- 292A, B. **Seminar in Experimental Psychology.** (2, 2)
- 293A, B. **Seminar in Clinical Psychology.** (2, 2)
- 294A, B. **Seminar in Animal Psychology.** (2, 2)
- 295A, B. **Seminar in Vocational Psychology.** (2, 2)
- 296A, B. **Seminar in Social Psychology.** (2, 2)
- 297A, B. **Seminar in Industrial Psychology.** (2, 2)
- 298A, B. **Seminar in Tests and Measurements.** (2, 2)
- 299A, B. **Seminar in General Psychology.** (2, 2)
300. **Graduate Research.** (†) Pr., graduate status in psychology and permission. Staff

## RADIO EDUCATION

*Assistant Professor Adams*

70. **Backgrounds.** (2) History of broadcasting; organization of radio industry; social, educational, and cultural responsibilities of radio. Pr., sophomore standing.
71. **Commercial Aspects.** (2) Relation of the radio industry to advertising agencies, unions, and the press; laws and regulations controlling radio broadcasting. Pr., sophomore standing.
72. **Radio Techniques.** (2) Studio organization and operation; radio as entertainment. Pr., sophomore standing.
169. **Station Management.** (3) Pr., permission.

### Radio Courses in Other Departments

- Drama 141, 142, 143. **Radio Acting and Production.** (2, 2, 2)
- Drama 144, 145, 146. **Radio Writing.** (3, 3, 3)
- Journalism 135. **Radio Advertising.** (3)
- Journalism 136. **Radio News Writing.** (3)
- Music 108. **Music in Broadcasting.** (3)
- Speech 61. **Radio Speech.** (3)
- Speech 62. **Advanced Radio Speech.** (3)
- Speech 162. **Radio Production Methods.** (3)
- Speech 163. **Radio Program Building.** (3)

## ROMANCE LANGUAGES AND LITERATURE

*Professors Nostrand, Garcia-Prada, Goggio, Umbrey, W. Wilson; Professors Emeriti Frein, Helmings; Associate Professors Chessier, Simpson; Assistant Professors Creore, David, Whitlsey, C. Wilson; Instructors Keller, Esteves*

The department wants to place each student in whatever course will best meet his individual needs, though no duplicate credit can be granted for duplicate class work. A placement test will gladly be given to any entering student who asks for it. Any of the prerequisites stated can be waived, at the instructor's discretion, and indeed the student with an A or high B standing is encouraged to skip one or more quarters between courses 1 and 101.

The first two high-school years of French or Spanish are to be regarded as corresponding to courses 1-2, 3 at this University, the third high-school year as corresponding to courses 4, 5, 6, and a fourth high-school year, if devoted to advanced composition and conversation, as equivalent to courses 101, 102, 103.

In case a foreign language must be taken to satisfy an entrance deficiency of two high-school units (i.e. four semesters), fifteen quarter credits or the equivalent will be required, and students who enter with two semesters of high-school French or Spanish will be required to take courses 21 and 4; with three high-school semesters, course 3.

† To be arranged.

Terminal credit in course 1 (not 21) may be granted by the executive officer upon recommendation of the student's major department, where this clearly serves the best interest of the student's education. For any other exception involving credit, the student must petition the Graduation Committee, using the blank provided for this and obtaining the endorsements of the department concerned and his major department.

### *Romance Linguistics and Literature*

- 34, 35, 36, and 134, 135, 136. Comparative Literature of France, Italy, and Spain in English. (3, 3, 3) The purpose of this course is to show the influence of each literature upon the other two and their contributions to human thought, and so provide a literary background for the further pursuit of a more detailed study in each. The course may be counted as an elective in either French, Italian, Spanish, or English, but no more than three credits may be applied towards the fulfillment of the minimum required credits in literature for the major or minor in any of the Romance languages. May be entered any quarter. Lectures and reading. No prerequisites. Goggio

### *Courses for Graduates Only*

- 284, 285, 286. Seminar in Romance Culture. (3, 3, 3) A cooperative study aiming to integrate the literary histories of the Romance-language countries on the basis of their common movements of ideas, manners, and taste. 284: Beginnings through the 16th century; 285: 17th and 18th centuries; 286: 19th and 20th centuries. Pr., graduate standing or permission.

### *French*

- 1-2, 3. Elementary. (5-5, 5) Pr., for 3 is 2 with a grade not less than "C," or three high-school semesters, or equivalent. See 21.
- 1-2X. Elementary. (5-5) A course designed for the rapid acquisition of a reading knowledge of French. For graduates and specially qualified undergraduates. No auditors.
- 4, 5, 6. Intermediate. (3, 3, 3) Modern texts, composition, functional grammar. Pr., for 4 is 3, or 21 (21=3R), or four semesters in high school, or equivalent.
- 10, 11. Elementary French Conversation. (2, 2) Pr., 3 or equivalent; 10 or permission for 11. Staff
21. Basic Grammar Review. (5) Refresher course; should be taken instead of 3 by those who have received a grade lower than "C" in French 2, and by students with two semesters of French in high school. No student may receive credit for both French 3 and 21. No credit for 21 until 4 or equivalent has been completed. Staff
- 37, 38, 39. Lower-Division Scientific French. (3, 3, 3) Class reading, with emphasis on constructions and scientific terms. For upper-division scientific French, see 137, 138, 139. Pr., 4 or equivalent. Whitlesey
41. Phonetics. (3) Analysis of sounds, intonation, rhythm; training in correct and natural pronunciation. Upper-division credit to upper-division students. Pr., 3 or equivalent. Creore
- 101, 102, 103. Advanced Composition and Conversation. (2, 2, 2) The first half of 101 will be given to an intensive review of grammar at the intermediate level. Pr., 6 or equivalent. Chessex, David
- 104, 105, 106. Survey of French Literature. (3, 3, 3) Detailed study of masterpieces from the seventeenth century to the present. Lectures, in French as soon as practicable, on French literature and civilization from the beginning. Pr., 6 or equivalent. Simpson
- 107, 108. Themes. (2, 2) Writing of original compositions. Pr., 102 or equivalent. Staff
- 118, 119, 120. Survey of French Literature and Culture (in English). (2, 2, 2) The history of ideas and social and cultural evolution in France, through French masterpieces in translation. (This course does not count as credit toward a major in French.) Chessex
- 127, 128, 129. Advanced Conversation. (2, 2, 2) For majors and others admitted by the instructor. Pr., 101 or equivalent. Chessex, David
- 137, 138, 139. Upper-Division Scientific French. (2, 2, 2) Individual conferences. Students read material in their own fields. Pr., 37 or 38 or 39 with grade "B," or permission. Whitlesey
- 141, 142, 143. The French Drama. (3, 3, 3) 141: Middle Ages, Renaissance, Classicism; 142: Eighteenth-century Romanticism to 1850; 143: Realism, Symbolism, and contemporary theater. Lectures in French. Pr., 6 or equivalent. Chessex
- 158, 159. Advanced Syntax. (2, 2) From the teacher's standpoint. Should precede the teachers' course. Pr., 103 or 107 or 108. David
- 161, 162, 163. Eighteenth-century Literature. (2, 2, 2) 161: Criticism of social and literary canons—Fénelon, Bayle, Fontenelle, Montesquieu; 162: Encyclopedists and rise of middle-class liberalism—Voltaire, Diderot; 163: Jacobin spirit and idéologues—d'Holbach, Helvétius, de Tracy. Lectures in French and English. An essay each quarter. Pr., 6 or equivalent. David
- 181, 182, 183. French Literary Criticism. (2, 2, 2) 181: troubadours and romancers, Renaissance, classicism, eighteenth-century functionalism; 182: Romanticism, scientific approaches of Sainte-Beuve, Taine, the naturalists and evolutionists; 183: art for art's sake, art for life's sake, forms of modernism, literary history, existentialism. Relation to general movements of ideas in France and other countries. Pr., 6 or permission. Nostrand
190. Supervised Study. (†) Staff  
Teachers' Course in French. (See Educ. 75K.)

## Courses for Graduates Only

- 221, 222, 223. Unified Course in Old French Reading and Philology. (3, 3, 3) This course consists of the literary and linguistic study of Old French texts, the systematic derivations therefrom of principles of phonology, morphology and syntax, and individual investigations of specific problems. Simpson
290. Conferences and Special Studies. (†) Staff  
Not offered in 1948-1949: 7, 8, 9, Intermediate Grammar; 131, 132, 133, Lyric Poetry; 151, 152, 153, French Literature of the Nineteenth Century; 154, 155, 156, Contemporary French Literature; 171, 172, 173, Seventeenth-Century Literature; 201, 202, 203, French Renaissance; 213, French Stylistics; 231, 232, 233, History of Old French Literature; 241, 242, 243, French Historical Grammar; 281, 282, 283, Problems and Methods of French Literary History.

## Italian

- 1-2, 3. Elementary. (5-5, 5) Goggio
- 34, 35, 36. Comparative Literature. (3, 3, 3) See Romance Languages 34, 35, 36. Goggio
- 111, 112, 113. Modern Italian Literature. (2 or 3 ea. qtr.) Masterpieces of the principal literary types from the eighteenth century to the present. Pr., 2 with a grade of "B," or instructor's permission. Goggio
- 181, 182. Dante in English. (2, 2) The thought and expression of the *Divine Comedy* against its background of medieval philosophy and art. May be counted as an elective in English major or minor. Goggio
184. Renaissance Literature of Italy in English. (2) Lectures and collateral reading. May be counted as an elective in English major or minor. Goggio
190. Supervised Study. (†) Pr., permission.

## Course for Graduates Only

250. Individual Conference. (2 to 5 each quarter) Pr., consent of executive officer.  
Not offered in 1948-1949: 121, 122, 123, The Italian Novel; 221, 222, 223, Italian Literature of the 12th to the 15th Centuries; 231, 232, 233, History of Old Italian Literature; 243, Italian Historical Grammar; 291, 192, 293, Theses and Special Studies.

## Portuguese

- 1-2, 3. Elementary. (5-5, 5) Esteves
- 4, 5, 6. Intermediate. (3, 3, 3) Modern texts, composition, functional grammar. Pr., 3 or permission. Esteves
100. Intensive Reading Course. (5) Intensive reading of Brazilian literature for the purpose of acquiring a reading knowledge of Portuguese. Pr., Spanish 101 or permission of the instructor. Esteves
- 115, 116, 117. Brazilian Literature and Culture (in English). (2, 2, 2) 115: Colonial Period; 116: Empire; 117: Contemporary period. Esteves
190. Supervised Study. (†) To be taken with the permission of the instructor. Esteves

## Provençal

234. Old Provençal. (3) Simpson

## Spanish

- 1-2, 3. Elementary. (5-5, 5) Pr., for 3 is 2 with a grade of not less than "C," or three high-school semesters or equivalent. See 21.
- 4, 5, 6. Intermediate. (3, 3, 3) Modern texts, composition, functional grammar. Pr., for 4 is Spanish 3 or 21 (21=3R), or four semesters in high school, or equivalent.
- 10, 11. Elementary Spanish Conversation. (2, 2) Pr., 3 or 21 or equivalent; 10 or permission for 11. W. Wilson, Keller
21. Basic Grammar Review. (5) Refresher course; should be taken instead of 3 by those who have received a grade lower than "C" in Spanish 2, and by students with two semesters of Spanish in high school. No student may receive credit for both Spanish 3 and 21. No credit for 21 until 4 or equivalent has been completed. Staff
- 34, 35, 36. Comparative Literature. (3, 3, 3) See Romance Languages 35, 36. Goggio
- 101, 102, 103. Advanced Composition and Conversation. (3, 3, 3) Pr., 6 or equivalent. García-Prada, W. Wilson
- 104, 105, 106. Survey of Spanish Literature. (3, 3, 3) From early times to the present. Pr., 6 or equivalent. Umphrey
- 115, 116, 117. Latin-American Literature and Culture (in English). (2, 2, 2) 115: The pre-Hispanic and Colonial periods; 116: the 19th century; 117: the contemporary period. García-Prada
- 127, 128, 129. Advanced Conversation. (2, 2, 2) Pr., 102 or permission. García-Prada
- 141, 142, 143. Spanish Drama. (3, 3, 3) Historical development of the drama in Spain from its beginnings down to the present time. Selected texts, collateral reading and reports. Pr., 6 or equivalent. W. Wilson
- 151, 152, 153. Spanish Literature Since 1700. (2, 2, 2) Pr., 6 or equivalent. García-Prada

## 248 *Courses in Romance Languages, Scandinavian Languages and Literature*

- 158, 159. *Advanced Syntax*. (2, 2) Elementary principles of philology and their application to teaching; difficulties of Spanish grammar from the teacher's point of view. Pr., 102 or equivalent. Umphrey
185. *The Costumbrista Movement in Spanish-American Literature*. (3) A study of the leading costumbrista writers of Spanish America (1860 to 1900). Pr., 6 or equivalent. García-Prada
186. *The Modernista Movement in Spanish-American Literature*. (3) A study of the leading poets, essayists, and novelists of Spanish America (1890 to 1920). Pr., 6 or equivalent. García-Prada
187. *Contemporary Spanish-American Prose Fiction*. (3) A study of the leading novelists and short story writers of Spanish America from 1900 to the present. Pr., 6 or equivalent. García-Prada
190. *Supervised Study*. (†) Staff
- Teachers' Course in Spanish*. (See Education 75Y.)

### *Courses for Graduates Only*

221. *Old Spanish Literature*. (5) Study of the origins and early development of various types of literature. Umphrey
231. *Epic Poetry*. (5) The epic material in Old Spanish literature and its later treatment in poetry and drama. Special investigations and reports. Umphrey
241. *Spanish Historical Grammar*. (5) Umphrey
290. *Conferences and Special Studies*. (†) Staff

Not offered in 1948-1949: 121, 122, 123, *Spanish Prose Fiction*; 131, *Lyric Poetry*; 171, 172, 173, *Seventeenth-century Literature*; 181, 182, 183, 184, *Spanish-American Literature*; 201, *Spanish Renaissance*; 252, 253, *Graduate Spanish Studies*.

## SCANDINAVIAN LANGUAGES AND LITERATURE

### *Professor Vickner; Assistant Professor Arestad; Acting Instructor Thomle*

- 1-2, 3. *Elementary Swedish*. (3-3, 3) May be taken with 4-5, 6, making five-credit courses; 1, 2, 3 are hyphenated if 4-5 are not taken. Vickner
- 4-5, 6. *Swedish Reading Course for Beginners*. (2-2, 2) Supplementary to courses 1-2, 3, but may also be taken separately. No previous knowledge of Swedish necessary. Arestad
- 10-11, 12. *Elementary Norwegian or Danish*. (3-3, 3) May be taken with 13-14, 15, making five-credit courses; 10, 11, 12 are hyphenated if 13-14 are not taken. Thomle, Staff
- 13-14, 15. *Norwegian or Danish Reading Course for Beginners*. (2-2, 2) Supplementary to 10-11, 12, but may also be taken separately. No previous knowledge of Norwegian or Danish necessary. Thomle, Staff
- 16-17-18. *Elementary Modern Icelandic*. (3-3-3)
- 20, 21, 22. *Norwegian or Danish Literature*. (2, 2, 2) Pr., ability to read easy Norwegian or Danish. Arestad
- 23, 24, 25. *Swedish Literature*. (2, 2, 2) Pr., ability to read easy Swedish. Vickner
- 103, 104, 105. *Modern Swedish Writers*. (2 or 3 each quarter; 4 by permission) Pr., fair reading knowledge of Swedish. Vickner, Arestad
- 106, 107, 108. *Modern Norwegian or Danish Writers*. (2 or 3 each quarter; 4 by permission) Pr., fair reading knowledge of Norwegian or Danish. Vickner, Arestad

### *Courses in English*

98. *Early Scandinavian Literature in English Translation*. (1) Upper-division credit to upper-division students. Vickner
99. *Outline of Modern Scandinavian Culture*. (1) Upper-division credit to upper-division students. Arestad
- 109, 110, 111. *Modern Scandinavian Authors in English Translation*. (1 ea qtr.) Arestad
- 180, 181, 182. *Recent Scandinavian Literature in English Translation*. (2 ea qtr.) Vickner

### *Comparative Philology*

- 190-191. *Introduction to the Science of Language with Special Reference to English*. (2-2) Pr., some knowledge of one of the classical languages or of one modern foreign language. Vickner
192. *Life of Words*. (2) Etymology and semasiology; growth of vocabulary; word values. Pr., same as for 190-191. Vickner

### *Courses for Graduates Only*

- 205-206. *Scandinavian Literature in the Nineteenth Century*. (2 to 4 each quarter) Vickner
- Not offered in 1948-1949: 201-202, *Old Icelandic*; 208, *Scandinavian Lyric Poetry*.

† To be arranged.

**SOCIAL WORK, GRADUATE SCHOOL OF**

*Professor Ferguson; Assistant Professors Brown, Coleman, Jonquet, McCullough,, Mills; Lecturers Hoedemaker, Hollenbeck, Orr; Field Work Supervisors Bradford, Macdonald, Reiss, Saibel*

**Permission of School of Social Work Required Before Registration**

***Preprofessional Undergraduate Courses***

192. **Field of Social Work.** (3) Survey course of the principles and practices in the total field of social work, with a comprehensive picture of available services and future needs. Pr., permission. Brown and Lecturers
193. **Introduction to Public Welfare.** (3) Changing concepts as reflected in reports and legislation for the care and treatment of dependent, delinquent, and handicapped persons; development and present responsibility of welfare agencies with special reference to Washington State. Pr., permission. McCullough
195. **Problems of Child Welfare.** (3) A survey of the social welfare programs relating to the well-being of children, including standards and objectives of foster home care, adoptions and institutional placement, as well as measures affecting children in their own homes. Pr., 192. Staff
200. **Social Case Work.** (3) Introductory survey of the generic theory covering basic principles in the philosophy, psycho-social theory of behavior, and the methods of treatment in social case work. Study of the case work process through the analysis and discussion of case records, with emphasis on the interview and interviewing techniques as illustration and demonstration of the basic principles. Jonquet
201. **Social Case Work.** (3) A continuation of generic case work theory, with intensive study of diagnosis, treatment, the treatment relationship (including rapport, transference, and counter-transference), common types of case situations, use of special treatment resources, use of supervision and consultation, and agency function as it affects selection of cases and treatment procedures. Pr., 200. Jonquet
202. **Social Case Work.** (3) Continuation of generic case work theory. Intensive drill in the use of basic theory in the analysis of case material, with further study of the processes of diagnosis, tentative diagnosis at intake, the comprehensive diagnostic formulation, diagnostic review, definition of the aims of treatment, differentials of treatment, selection of treatment techniques. Jonquet
203. **Growth and Development of the Individual.** (4) The development and structure of the human personality as derived from psychoanalytic psychology and as presented by the field of dynamic psychiatry. Pr., professional students only. Orr
204. **Growth and Development of the Individual.** (2) Continuation of dynamic theory of emotional development, and factors which disturb that development. Physical growth and development of the individual as correlated with factors in emotional and social development, particularly in the first six years of life. Pr., 203. Hoedemaker, Ferguson, and Medical Lecturers
205. **Growth and Development of the Individual.** (2) The viewpoint and approach of dynamic psychiatry in relation to the causation and treatment of neurotic behavior patterns. Pr., 204. Hoedemaker
206. **Introduction to Public Welfare.** (3) Care of needy under poor laws, emergency relief and modern public assistance programs; characteristics of state assistance plans; administration of work relief; federal grants-in-aid; adult probation and parole; vocational rehabilitation services. Pr., permission. McCullough
207. **Statistics in Social Work.** (3) Elementary statistical method applied to social welfare problems; sources for continuing statistical reports; interpretation and use of statistics in welfare administration. Pr., permission. McCullough
208. **The Child and The State.** (3) The development of the rights of the child in relation to those of parents, the responsibility of the state in safeguarding those rights through laws and their administration by agencies; and their significance to family and children's social agencies. Pr., 200. Staff
209. **Social Group Work.** (3) Professional group work as a method and process within the total field of social work; its objectives, techniques, skills and media; criteria for evaluation of results. Pr., 200, 203. Hollenbeck
210. **Administration of Social Insurances.** (3) The social insurance movement in the U. S. and selected countries. Present legislation and administrative problems in unemployment compensation and the insurances for the aged, survivors, disabled, and sick. Pr., 206. McCullough
212. **Social Welfare Organization.** (3) Historical development of the fields of social work, its professional leadership and literature, effect of social and economic order on development of services, philosophy, principles and standards of care, responsibilities for maintaining and developing services, current trends in public and private agencies. Pr., permission. Brown
213. **Social Welfare Organization: Public Assistance and Related Services.** (3) Administrative aspects of a public welfare agency program as related to case work services. The development and effective use of policy in agency planning and provision of individualized services as applied to practice. Pr., 212, 206. Brown
214. **Community Organization for Social Welfare.** (3) The problems involved in bringing about an adjustment between social welfare needs and resources, understanding the social forces of the community, and the methods used by public and private agencies to organize to meet these needs; the interpretation of agency programs to the community, and the place of boards and committees. Pr., 212. Brown
- 215, 216, 217, 218. **Field Work: Family Social Case Work.** (4, 4, 4, 4) Pr., permission. Jonquet, Staff

220. **Family Case Work.** (3) Introduction to family case work as a specialized field of practice. Study of family case work agencies; auspices, functions, programs, structure, personnel relations, research, and public relations. Study of family case work, its specific nature, operational concepts of the family, and common types of cases. Pr., 202. Jonquet
222. **Seminar: Family Social Work.** (2-3) Intensive study of treatment in cases of disturbed marital relationship through analysis of case records and review of the literature. Re-examination of generic principles as applied in family case work with adults in conflict. Principles and procedures in treatment of two individuals in conflict with each other, management of treatment by one case worker, managements of the divided case in treatment. Pr., second-year students only. Jonquet
223. **Seminar: Family Social Work.** (2-3) Intensive study of treatment of adolescent children through analysis of case records and review of the literature. Review of puberty and adolescence as periods in the growth and development of the individual. Drives and fears deriving from sexual development in adolescence. The struggle to throw off parental controls and to achieve independent adult standards. The role of the case worker in helping child and parent in this period of growth, with emphasis on the normal and near-normal child. Pr., second-year students only. Jonquet
224. **Seminar: Family Social Work.** (2-3) Intensive study of case work treatment of young (pre-adolescent) children and their parents in family service agencies. Review of growth and development in the first ten years of life, with special reference to family relationships, and the family as the chief source of nurture of growth. Analysis of case records of indirect treatment and direct treatment methods. The play interview method as adapted to the treatment resources of the family case worker and family agency. Emphasis is on treatment of normal and near-normal children. Pr., second-year students only, by permission. Jonquet
- 226, 227, 228, 229. **Field Work: Family Social Work.** (4, 4, 4, 4) Pr., permission. Jonquet, Staff
- 234, 235, 236. **Seminar: Social Work with Children.** (2-3 each) Pr., permission. Staff
- 238, 239, 240, 241. **Field Work: Social Work with Children.** (4, 4, 4, 4) Pr., permission. Staff
244. **Medical Social Case Work.** (3) The generic aspects of case work in the medical setting; the integration of dynamic psychiatric theory of human behavior with medicine and case work; the role of the case worker in relation to that of the physician and other professional persons in the study and treatment of the social, emotional, and physical aspects of the ill person. Extensive use of case material. Pr., completion of first year. Ferguson
246. **Seminar: Medical Social Work.** (2-3) Continuation of 244, with emphasis on analysis of student's own case material, and correlated with original papers based on integration of data from current professional literature in case work and related fields. Participation in clinical demonstration emphasizing the integration of case work, medicine, dentistry, nursing, and dietetics, as presented in the hospital setting and in the clinics. Pr., 244. Ferguson
247. **Seminar: Medical Social Work.** (2-3) Continuation of 246. Additional study of the role of the case worker in extra-mural practice, as case worker, counselor, supervisor, or consultant. Observation participation and original papers. Pr., 246. Ferguson
248. **Seminar: Medical Social Work.** (2-3) Organization and administration of medical social work programs within hospitals, health centers; in health departments; in departments of public welfare; and in national voluntary agencies and federal health and welfare programs. Methods of evaluation of medical social work practice; clarification of areas needing study and research based on original papers. Pr., 247. Ferguson
- 250, 251, 252, 253. **Field Work: Medical Social Work.** (4, 4, 4, 4) Pr., 244. Ferguson, Staff
258. **Psychiatric Social Case Work.** (2-3) Course content is a general introduction and orientation to the field of psychiatric social work. The relationship of psychiatric social work to generic case work is brought out, emphasizing the relationship of the psychiatric social worker to the psychiatrist and, in addition, the role of the psychiatric social worker in the clinical child guidance team. How the social worker practices psychiatric case work treatment within the area of his professional competence in the hospital, clinic or other psychiatric auspice, will be discussed. Case material selected by the instructor and when possible from student's field work placement will be utilized. Pr., permission. Coleman
261. **Seminar in Psychiatric Social Work.** (2-3) Through the seminar method, the content of previous courses and field work experience is synthesized into a concept of psychiatric social work and a philosophy of social case work through the use of material chosen by the instructor and supplemented by students. Pr., 203, 204, 205, 258. Coleman
262. **Seminar in Psychiatric Social Work.** (2) An intensification of subject matter initiated in course 261, with greater emphasis on technical content in developing treatment. Pr., 203, 204, 205, 258, 261. Coleman
- 264, 265, 266, 267. **Field Work: Psychiatric Social Work.** (4, 4, 4, 4) Pr., 258. Staff
270. **Public Welfare Administration.** (3) Administrative structure at federal, state, and local levels; federal and state responsibilities in supervision; financing welfare services; research and reporting by welfare departments. Pr., 206. McCullough
- 272, 273, 274. **Seminar: Public Welfare Administration.** (2-3 each) Seminar content varies but is planned to cover areas in public welfare of particular significance to students enrolled. Pr., 270. McCullough
- 276, 277, 278, 279. **Field Work: Public Welfare Administration.** (4, 4, 4, 4) Pr., 270. McCullough, Staff
280. **Social Welfare Administration.** (3) Pr., 214. McCullough
- 282, 283, 284. **Seminar: Community Organization for Social Welfare.** (2-3 each) Pr., 280. Brown
- 286, 287, 288, 289. **Field Work: Community Organization for Social Welfare.** (4, 4, 4, 4) Pr., permission. Brown, Staff
301. **Social Work Research.** (3) Methods used in the study of social work practice, program evaluation and community needs and resources; procedures in collection, analysis and presentation of data. Pr., 207, or equivalent. McCullough



305. Administration of Social Agencies. (3) Problems of administration that confront the administrator and his staff in any public or private agency; relations with board, staff; problems of finance and budget-making, office management. The dynamic principles of the administrative process will be emphasized. Pr., 212 and 270. Brown
308. Seminar: Supervision. (2-3) Functions of the supervisor in case work agencies, as teacher, case consultant, and administrative officer. Review of literature. Study of supervisory processes and techniques through analysis of case material illustrating the three functions of the supervisor. The supervisory relationship, transference and counter-transference in supervision. Management of supervisory load. Pr., permission. Jonquet
- 310, 311, 312, 313. Field Work: Supervision. (4, 4, 4, 4) Pr., 308. Jonquet
- 320, 321, 322, 323. Readings in Social Work. (2-3 each) Pr., permission. Staff
334. Seminar: History of Social Work. (2-3) Pr., permission. Staff
340. Seminar: Social Work as a Profession. (2-3) The origin and nature of social work as a profession; its relation to other professions such as law and medicine; the history and status of its major professional associations; and its relation to the philosophy of human rights as clarified through religions and great documents of the past. Pr., advanced standing. Ferguson

## SOCIOLOGY

*Professors Lundberg, Dodd, Hayner, Schmid, Steiner; Professor Emeritus Woolston; Associate Professor Miller; Assistant Professors Bowerman, Cohen, Inglis, Miyamoto, O'Brien, Sabagh; Instructors Jahn, Schrag; Acting Instructor Parks*

1. Survey of Sociology. (5) Basic principles for understanding social relationships. (Juniors and seniors take 100 rather than 1.) O'Brien and Staff
16. American Housing Problems. (5) For students in architecture only. Cohen
27. Survey of Contemporary Social Problems. (5) Suicide, crime, population, unemployment, mental deficiency, mental diseases, family disorganization, etc. Pr., 1 or 100. Schmid, Schrag
31. Social Statistics. (5) Methods and sources for quantitative investigation as applied to sociology and related fields. Pr., 1 or 100. Miyamoto, Cohen, Bowerman, Sabagh
55. Human Ecology. (5) Factors and forces which determine the distribution of people and institutions (Juniors and seniors take 155.) Pr., 1 or 100. Schmid
60. Collective Behavior. (5) Socialization of the individual, social processes, and interactions of persons in groups. Pr., 1 or 100, Psych. 1. Inglis
100. General Sociology. (5) Major concepts of sociology and the scientific point of view in dealing with social phenomena. (Juniors and seniors are advised to take this course in place of 1, if possible. Credit cannot be received for both 1 and 100.) O'Brien and Staff
112. The Family. (5) The family as a social institution; personality development within the family; marriage adjustment; changing family patterns; disorganization and reorganization. Pr., 1 or 100. Hayner, Bowerman
114. Social Factors in Marriage. (3) Analysis of courtship and marriage interaction; marital adjustments; specific problems of marriage and family life. Pr., 1 or 100. Bowerman
116. American Housing Problems. (5) A survey of housing needs, conditions, production, problems, and policies. Emphasis is placed upon the interrelation between the house, the neighborhood, and community. Pr., 1 or 100. Cohen
120. Criminology. (5) Individual and social factors in delinquency; history and methods of criminal justice. Field trips to local penal institutions. Pr., 1 or 100. Hayner, Schrag
121. Penology. (3) Social treatment of adult offenders. Pr., 120 or approved equivalent. Hayner, Schrag
122. Juvenile Delinquency. (5) Family and community backgrounds; institutional treatment; juvenile court and probation; programs for prevention. Pr., 120 or approved equivalent. Hayner, Schrag
131. Advanced Social Statistics. (5) The application of statistical methods to the analysis of sociological data. Pr., 31. Jahn
132. Methods of Social Research. (5) Investigation of communities, institutions, and social conditions. Field and laboratory work. Pr., 31 or approved equivalent. Schmid
135. Graphic Techniques in Sociology. (3) Theory and practice of constructing maps and graphs used in sociological research and exhibits. Pr., 31. Schmid
138. Advanced Social Statistics. (5) Pr., 131. Jahn
141. Contemporary American Institutions. (5) Study of origins and development of major social institutions. The sociology of economic structure, political organization, religion, education, recreation, and other institutionalized patterns. Pr., 1 or 100. Miller
142. Race Relations. (5) Study of interracial contacts and conflicts. Pr., 10 credits in social science. Steiner, O'Brien
143. American Negro Community. (3) Internal structure, class and caste patterns; resultant personality and institutional development. Pr., 1 or 100. O'Brien
144. Rural Community. (5) Social and economic problems. Pr., 1 or 100. O'Brien
146. Industrial Sociology. (5) Social analysis of work plants such as factory, office, and store, with special reference to work group behavior; the processes of personality. Socialization in work plants. Field trips to local business establishments. Pr., 1 or 100 and upper-division standing. Miller

148. **Japanese Social Institutions.** (3) A study in social change using Japanese data. Pr., 1 or 100. Steiner
149. **Latin-American Social Institutions.** (3) Social gradients and changing institutional patterns in representative Latin-American communities. Pr., 1 or 100. Hayner
150. **Population Problems.** (5) Major quantitative and qualitative problems of population in our contemporary society. Pr., 1 or 100. Sabagh
151. **Human Migration.** (5) Determining factors and problems arising therefrom. Pr., 5 credits in sociology or economics. Steiner
155. **Human Ecology.** (5) Factors and forces which determine the distribution of people and institutions. Pr., 1 or 100. Schmid
161. **Social Attitudes.** (3) Problems, methods, and results of research involving the measurement and prediction of social attitudes. Pr., 1 or 100, 60 and 31, or approved equivalents. Jahn
162. **Public Opinion.** (3) The nature of public opinion, how it is formed, and how it is measured. The operation of public opinion polls. Pr., 60 or approved equivalent. Inglis
163. **Mass Communication.** (3) Control, structure, and functioning of the mass media of communication as a force in social life, and methods of research in this field. Pr., 60 or approved equivalent. Inglis
166. **Social Adjustment of the Worker.** (3) Adjustments worker makes during span of work life; cultural background of work values; transition from school to work. Pr., 60 or approved equivalent. Miller
171. **Social Control.** (5) Analysis of the technique and process by which changes in individual and collective actions are effected. Pr., 1 or 100. Miyamoto
172. **Social Change.** (5) Forces causing social change, basic trends in American life. Pr., 15 credits in social science. Miller
173. **Social Stratification.** (5) Analysis of societal divisions; class, race, caste. Pr., 15 credits in social science. O'Brien
174. **History of Social Thought.** (5) Background and trends in social thought from Comte to the present. Pr., 1 or 100. Sabagh
175. **Systematic Sociology.** (5) I. Acquaintance with dimensional analysis and synthesis of all social data. Pr., permission of instructor. Dodd
176. **Systematic Sociology.** (5) II. Manipulation of dimensional analysis and synthesis. Pr., 175. Dodd
177. **Systematic Sociology.** (3) Research problems in dimensional analysis and synthesis. Pr., 176. Dodd
178. **Sociological Theory.** (5) Modern scientific theory applied to social behavior. Sociology as a natural science. Pr., 20 credits in social science. Lundberg
- 210, 211, 212. **Marriage and the Family.** (3, 3, 3) Analysis of marriage and family patterns and problems. Initial emphasis on research findings and methods. Individual research on selected projects. Bowerman
220. **Correctional Institutions.** (3) Prisons and juvenile reformatories as communities. Pr., 120 or approved equivalent. \*
221. **Analysis of Criminal Careers.** (3) Personal and social factors in criminal maturation and reformation. Pr., 120 or approved equivalent. \*
222. **Basic Crime Prevention.** (3) Critical consideration of programs for delinquency prevention. Pr., 120 or approved equivalent. \*
- 231, 232, 233. **Seminar in Methods of Sociological Research.** (3, 3, 3) Pr., 31, 132, and 178, or approved equivalents. Lundberg
242. **World Survey of Race Relations.** (3) Pr., 25 credits in social science. Steiner
246. **Industrial Sociology Seminar.** (3) Research training in industrial sociology. Readings in method and development of original field projects. Pr., 146 or approved equivalent. Miller
250. **Demography.** (3) Population and vital statistics. Pr., 150 and 15 credits in social science, or approved equivalents. Schmid
251. **World Migration.** (2) Population movements in Eastern Asia with special emphasis upon Oriental migration to North and South America. Pr., 25 credits in social science. Steiner
255. **Advanced Human Ecology.** (2) Pr., 155 and 15 credits in social science. Steiner
263. **Communications Seminar.** (3) Pr., 163 or approved equivalent. Inglis
- 281, 282, 283. **Reading in Selected Fields.** (2 to 5 ea.) Open only to qualified graduate students by consent of instructor. Staff
- 291, 292, 293. **Field Studies in Sociology.** (2 to 5 ea.) Original field projects, carefully planned and adequately reported. Open only to qualified graduate students by consent of instructor. Staff

Not offered in 1948-1949: 145, Urban Community; 147, Chinese Social Institutions and Social Change; 160, Social Action; 200, Seminar; 235, Methodology: Quantitative Techniques in Sociology; 236, Methodology: Case Studies and Interviews; 260, 261, 262, Social Criticism.

\* To be appointed.

SPEECH

*Professors Rabkopf, Carrell, Orr; Associate Professors Bird, Curry, Franzke; Assistant Professors Baisler, Bangs, Hoshor, Hile, Nelson, Pence; Instructors Brittin, Enquist, Gormley, Jenks, McCrery, Murphy, Starr, Wagner; Associates Nilsen, Tiffany; Acting Associates Hogan, Shapley, Smid*

General Courses

- 1-2. **Basic Speech Improvement.** (3-3) A training course in fundamental elements of good speech, such as orderly thinking, emotional adjustment, adequate voice, distinct articulation, effective oral use of language. A study of speech as man's primary means of social interaction, with emphasis on the more informal uses of speech in daily life. Frequent conferences with instructor. Required for major or minor in speech. Hoshor in charge
100. **Backgrounds in Speech.** (5) Consideration of the nature of speech as an activity of daily life and as a field of study. Required for major or minor in speech. Not open to students who received credit for 186 prior to September 1948. Rabkopf
190. **Undergraduate Research.** (2 to 5 ea. qtr.) Sec. A. Public Address. Sec. B. Voice and Phonetics. Sec. C. Oral Interpretation. Sec. D. Radio Speech. Sec. E. Speech Correction and Hearing. Pr., permission. Staff
198. **Senior Seminar in Speech.** (2) Required for major. Rabkopf

Voice and Phonetics

10. **The Speaking Voice.** (5) A fundamental training course in voice and articulation. Not open to students who received credit for 43 prior to September 1948. Baisler in charge
110. **Advanced Voice and Phonetics.** (5) Continuation of 10, with emphasis on the physiology of voice production, the sound system of English, and the improvement of articulation. Pr., 10 (43 if taken prior to September 1948) or permission. Baisler
112. **Experimental Methods in Voice and Phonetics.** (5) A survey of experimental methods and findings. Lectures and demonstrations. Curry

Public Address

20. **Essentials of Public Speaking.** (5) Audience analysis, choice and organization of material, oral style, and delivery. Frequent speeches before the class, followed by conference with instructor. Upper-division credit for upper-division students. Not open to students who received credit for 40 prior to September 1948. Franzke in charge
21. **Advanced Public Speaking.** (3) Continuation of 20 with special emphasis on organization and delivery. Not open to students who received credit for 41 prior to September, 1948. Pr., 20 (40 if taken prior to September 1948). Franzke
25. **Forms of Public Address.** (3) Practice in the preparation and delivery of a variety of types of public speeches based on study of their structure and form. Not open to students who received credit for 139 prior to September 1948. Upper-division credit for upper-division students. Pr., 20.
27. **Extempore Speaking.** (3) Primarily for students in Engineering. Not open to students in the College of Arts and Sciences, nor to students who have credit for 20 (Speech 40 prior to September 1948). Upper-division credit for upper-division students. Franzke
120. **Advanced Problems in Speaking.** (5) Study of purposes, proof, organization, style, and delivery in public address, with emphasis on the speaker's personal problems and his relation to his audience. Not open to students who received credit for 188 prior to September 1948. Pr., 20. Hoshor
125. **Public Speaking in America.** (5) Studies in the criticism of great speeches and their influence on American life and thought.

Argument and Discussion

30. **Essentials of Argument.** (5) Bibliographies; briefs; methods of analysis, proof and refutation. Practice in argumentative speaking. Upper-division credit for upper-division students. Not open to students who received credit for 38 prior to September 1948. Pence
35. **Parliamentary Procedure.** (3) Methods of organizing and conducting public meetings. Based on Robert's *Rules of Order*. Upper-division credit for upper-division students.
39. **Public Discussion.** (3) Open only to members of the University discussion groups. No more than 3 credits may be earned in one year, and the total credits may not exceed 9 (including credits for 101 earned prior to September 1948). Upper-division credit for upper-division students.
130. **Advanced Argument.** (5) Continuation of 30. Not open to students who received credit for 138 prior to September 1948. Pr., 30. Pence
136. **Discussion Techniques Applied to Current Problems.** (5) Study of the various types of public discussion and practice in their use. Pr., 20 or 30. Franzke

Oral Interpretation

42. **Oral Interpretation.** (5) Development of fundamental techniques for analysis and readings aloud of prose and poetry. Includes directed listening projects of artists' speech recordings. Required of students seeking a secondary certificate in English. Upper-division credit for upper-division students. Not open to students who received credit for 79 prior to September 1948.
49. **Oral Interpretation Workshop.** (2) Selection, integration, and presentation of materials for specific occasions, purposes, and audiences. Involves performance before audiences on and off campus. No more than 2 credits may be earned in one year, and the total cannot exceed

6 credits. Open only to members of the Oral Interpretation Program Workshop. Upper-division credit for upper-division students. Pr., 42 (79 prior to September 1948) and permission. Hile

142. **Advanced Oral Interpretation.** (3) Study and practice in interpretation of problems peculiar to various types of literature, the needs and interests of specific audiences, and definite themes or points of view. Includes directed listening projects. Not open to students who received credit for 179 prior to September 1948. Pr., 42 (79 prior to September 1948) or permission. Hile
145. **Interpretation of Dialect.** (3) Study of the phonetic, vocal, and dictional changes in the common dialects of English found in America and the British Isles; and practice in the interpretation of poetic, dramatic, and narrative material employing them. Pr., 10 (43 prior to September 1948) and 42 (79 prior to September 1948) or permission. Hile

#### Teaching of Speech

50. **Introduction to the Teaching of Speech.** (2) Deals with the viewpoints, methodology, and curricula of speech education. Observation of teaching procedures. Required of candidates for the three-year Secondary Certificate with a major or minor in Speech, and of those preparing for special speech and hearing rehabilitation work in the public schools. Nelson

See also Education 75X. **Special Methods in Speech.** (3) Required for three-year Secondary Certificate with major or first minor in speech. For upper-division students only. Nelson

#### Radio Speech

61. **Radio Speech.** (3) Basic microphone techniques, reading of script, announcing, interviews, and talks. Special attention to voice and diction. Upper-division credit for upper-division students. Pr., 10 (43 prior to September 1948) or 42 (79 prior to September 1948). Bird, Hogan
62. **Advanced Radio Speech.** (3) Analysis of audience situations, group discussions, audience participation programs. Upper-division credit for upper-division students. Pr., 61. Bird, Hogan
162. **Radio Production Methods.** (3) Sound effects, music in broadcasts, studio set-up, timing, cutting of scripts, direction of programs. Pr., 61, 62. Bird
163. **Radio Program Building.** (3) Adaptation of literary, informational, and persuasive material for radio. Pr., 61, 62. Bird

See also Radio Education 70, **Backgrounds** (2), and other radio courses listed in the Department of Radio Education, the School of Drama, and the School of Journalism.

#### Speech Correction

##### A. Speech Clinic. No credit.

- Sec. A. Articulation Problems.  
Sec. B. Foreign Dialect.  
Sec. C. Stuttering.  
Sec. D. Voice Problems.  
Sec. E. Hearing Problems.

170. **Introduction to Speech Correction.** (5) Nature and etiology of disorders of speech. Carrell
171. **Methods of Speech Correction.** (5) Pr., 170. Carrell
173. **Diagnostic Methods in Speech Correction.** (2) Pr., 171. Bangs
174. **Clinical Training in Speech Correction.** (1-5) May be repeated for total not to exceed 15 credits. Total undergraduate credits in Speech 174 and 184 together cannot exceed 20. Pr., 171, (191 if taken prior to September 1948). Staff
175. **Stuttering.** (2) Nature, etiology, and treatment of stuttering. Pr., 170 (190 if taken prior to September 1948) or permission. Carrell

#### Hearing

180. **Introduction to Hearing.** (5) Description of normal audition; elementary structure and functioning of the hearing mechanism; deficiency types of hearing; effects on speech; considerations of hearing education. Curry
181. **Methods in Aural Rehabilitation.** (5) Pr., 180.
184. **Clinical Practice in Aural Rehabilitation.** (1-3) May be repeated for total not to exceed 9 credits. Total undergraduate credits in Speech 174 and 184 together cannot exceed 20. Pr., 180, 181 (194 if taken prior to September 1948).
185. **Medical Backgrounds for Audiology.** (2) Discussion of diseases and injuries of the ear resulting in reduced audition.
189. **Audiometry.** (2) Theory and practice of audiometry and other methods of measuring hearing. Curry

#### Courses for Graduates Only

201. **Introduction to Graduate Study in Speech.** (2) Required of all graduate students in speech. Rahskopf
209. **Studies in Greek and Roman Rhetoric.** (5) Critical analysis of the writings on rhetoric by Plato, Aristotle, Cicero, Quintilian, and others. Rahskopf

210. *Studies in Modern Rhetoric*. (5) Critical analysis of the writings on rhetoric by Cox, Wilson, Bacon, Campbell, Blair, Whately, and others. Pr., 209. Pence
271. *Organic Disorders of Speech*. (5) The course covers the anatomy, neurology, etiology, symptoms, and principles of correction related to the following disorders: cerebral palsy, cleft palate, aphasia, idiopathic language retardation, esophageal speech, and significant neurological diseases in which speech disorders constitute a major symptom. Pr., 171 (191 prior to September 1948) or permission. Bangs
300. Research. (†)

# ZOOLOGY

*Professors Hatch, Svihla; Professor Emeritus Kincaid; Associate Professor Martin; Assistant Professors Ferguson, Fernald, Ray, Whiteley; Instructors Easton, Pettibone; Associate Clark*

- 1, 2. *General Zoology*. (5, 5) Survey of the animal kingdom, stressing structure, classification and economic relations. Three lectures, one quiz, four hours laboratory. Hatch, Ferguson, Ray, Whiteley, Clark
7. *Elementary Human Physiology*. (5) Three lectures, one quiz, five hours laboratory. Pr., high school or freshman chemistry. Easton
8. *Survey of Zoology*. (5) Students who expect to continue with zoology should begin with 1, 2. Four lectures, two hours laboratory. Ray
11. *Survey of Physiology*. (5) Five lectures, no laboratory.
16. *Evolution*. (2) Two lectures. Hatch
17. *Eugenics*. (2) Evolution and heredity as related to human welfare. Two lectures.
101. *Cytology*. (5) The animal cell, its structure, activities, and development; sex determination; heredity. Three lectures, three hours laboratory. Pr., 1, 2. Svihla
105. *General Vertebrate Embryology*. (5) Three lectures, six hours laboratory. Pr., 1, 2. Fernald
106. *Marine Plankton*. (5) Three lectures, six hours laboratory. Pr., 1, 2. Pettibone
107. *Parasitology*. (5) Animal parasites. Three lectures, six hours laboratory. Pr., 1, 2. Ferguson
108. *Limnology*. (5) Fresh-water biology. Three lectures, six hours laboratory. Pr., 1, 2.
111. *Entomology*. (5) Three lectures, six hours laboratory. Pr., 1, 2. Hatch
114. *Comparative Physiology*. (3) Pr., 125, 126; Chem. 131, or permission. Ray
- 114L. *Comparative Invertebrate Physiology*. (2) Laboratory must be accompanied by 114. Six hours laboratory. Ray
115. *Cellular Physiology*. (3) Study of fundamental physiological processes. Three lectures. Pr., 2, Physics 3, Chem. 131. Whiteley
- 115L. *Cellular Physiology Laboratory*. (2) Must be accompanied by 115. Six hours laboratory. Whiteley
- 116, 117. *Chemical Embryology*. (3, 3) The physical and biochemical basis of fertilization and early embryological development. Three lectures. Pr., 115 or permission. Whiteley
- 116L, 117L. *Chemical Embryology Laboratory*. (2, 2) Must be accompanied by 116, 117. Six hours laboratory. Pr., permission. Whiteley
121. *Microscopic Technique*. (4) Making microscopic preparations. One lecture, six hours laboratory. Pr., 1, 2, and permission. Ferguson
122. *Comparative Histology*. (5) Morphology and physiology of representative animal tissue. Three lectures, six hours laboratory. Pr., 1, 2, and permission.
- 125, 126. *Invertebrate Zoology*. (5, 5) Exclusive of insects. Three lectures, six hours laboratory. Pr., 1, 2. Ray
- 127-128. *Comparative Anatomy of Chordates*. (5-5) Three lectures, six hours laboratory. Pr., 1, 2.
129. *Natural History of Amphibia, Reptiles, and Birds*. (5) Three lectures, six hours laboratory. Pr., 1, 2. Svihla
130. *Natural History of Mammals*. (5) Three lectures, six hours laboratory. Pr., 1, 2. Svihla
131. *History of Zoology*. (3) Three lectures. Pr., 20 credits in zoology. Hatch
135. *Museum Technique*. (3) Preparation of museum specimens. Six hours laboratory. Pr., permission. Flahaut
- 155, 156, 157. *Elementary Problems*. (3, 3, 3) Pr., 30 credits in zoology and permission. Staff
- Teachers' Course in Zoology. (See Educ. 75Z.)

## Courses for Graduates Only

- 210, 211, 212. Seminar. (1, 1, 1) Staff
300. Research. (†) Staff

## Courses Offered Only at Friday Harbor

- \*213-214. *Advanced Invertebrate Embryology*.
- \*216. *Zooplankton*.
225. *Advanced Invertebrate Zoology*. (6) Marine invertebrate animals from the point of view of biological oceanography. Pr., two years of college zoology.
239. *Advanced Invertebrate Physiology*. (6) Lectures, discussions, readings, and experimental work in the physiology of marine animals. Open to qualified students after consultation with the instructor. Easton

\*Not offered, 1948.

†To be arranged.

## FOOD TECHNOLOGY\*

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

DEGREE: Bachelor of Science in Food Technology

A major in food technology provides training for students who intend to enter the field of food production as control or research laboratory workers. Women interested in home economics research or in teaching food and nutrition in college should follow this curriculum. Emphasis may be placed upon microbiology, chemistry, or food utilization, by selection of various optional courses in the fourth year. Furthermore, an elective course may be substituted for any prescribed 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 microbiology, chemistry, and home economics, and a grade-point average of 2.5 in all other subjects are required for graduation.

## FIRST YEAR

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

## SECOND YEAR

Chem. 131. Organic.....	5	Chem. 132. Organic.....	5	Chem. 111. Quant. Analysis	5
Zoology 1. General.....	5	Zoology 2. General.....	5	Microb. 100. Fundamentals	6
or		or		Elective .....	4
Bot. 1. Elementary.....	5	Bot. 2. Elementary.....	5		
Group Option		Group Option			
(a) Math. 4 or 5.....	5	(a) Math. 5 or 6.....	5		
(b) H.E. 15.....	5	(b) H.E. 115.....	3		
		Elective .....	2		

## THIRD YEAR

Chem. 161. Biochem.....	5	Chem. 162. Biochem.....	5	Chem. 104. Food Anal....	4
Soc. Science Elective.....	5	Chem. 140. Elem. Physical	3	Chem. 141. Elem. Physical	3
Group Option		Group Option		Bot. 115. Yeasts & Molds.	5
(a) Elective .....	5	(a) Elective .....	7	Group Option	
(b) H.E. 107. Nutrition..	5	(b) H.E. 108. Nutrition..	3	(a) †H.E. 110. Food Prep.	3
		Elective .....	4	(b) †H.E. 111. Nutrition.	3

## FOURTH YEAR

Microb. 130. Industrial... 5	Microb. 131. Industrial... 5	Microb. 199. Problems... 5
Optional† .....	Optional† .....	Group Option
Group Option	Group Option	(a) Elective .....
(a) Chem. 121. Industrial. 5	(a) Chem. 122. Industrial. 5	Chem. 123. Industrial 5
(b) Elective .....	(b) Elective .....	(b) Elective .....

\* In College of Arts and Sciences.

† Offered alternate years.

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

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

## OCEANOGRAPHY

Professors T. G. Thompson, Machin, Norris, Robinson, Utterback; Associate Professors Barnes, Church, Martin, Ordal; Assistant Professors Blaser, DeLacy, Ray, Swan

- Survey of Oceanography. (5) Origin and extent of the oceans; nature of the sea bottom; causes and effects of currents and tides; animal and plant life in the sea. Church

## Courses for Graduates Only

- 201-202. General Oceanography. (3-3) Distribution and characteristics of water masses and ocean currents; circulation of inshore waters; waves; oceanographic theories, methods and instruments. Fr., graduate standing in one of physical sciences, or permission. Barnes
249. Graduate Seminar. (2 to 6) Staff
300. Research in Oceanography. (To be arranged) Staff

## Related Work in Other Departments

Courses in Fisheries. (See Fisheries.)

Courses in Geology. (See Geology 106, 114, 126, 131, 200, 212.)

Courses in Marine Botany. (See Botany 199, 210, 211, 233, 275.)

Courses in Marine Zoology. (See Zoology 106, 125, 126, 201, 213-214, 216, 225, 239.)

Courses in Meteorology. (See Meteorology 162, 211.)

Courses in Microbiology. (See Microbiology 250, 251.)

Courses in Oceanographical Chemistry. (See Chemistry 155, 156, 225.)

Courses in Physical Oceanography. (See Physics 166.)

## SUMMARY OF DEGREES, DIPLOMAS, AND CERTIFICATES GRANTED 1946-1947

### Bachelor's Degrees

B.A. (College of Arts and Sciences).....	602	B.S. in Commercial Engineering.....	3
B.A. (College of Education).....	41	B.S. in Electrical Engineering.....	44
B.A. in Economics and Business.....	315	B.S. in Fisheries.....	7
B.A. in Education.....	3	B.S. in Forestry.....	31
B.A. in Home Economics.....	2	B.S. in Home Economics.....	17
B.A. in Law Librarianship.....	1	B.S. in Industrial Engineering.....	2
B.A. in Librarianship.....	12	B.S. in Law.....	23
B.A. in Mathematics.....	1	B.S. in Mathematics.....	3
B.A. in Music.....	18	B.S. in Mechanical Engineering.....	68
Bachelor of Architecture.....	18	B.S. in Metallurgical Engineering.....	4
Bachelor of Laws.....	42	B.S. in Microbiology.....	4
B.S. (College of Arts and Sciences).....	147	B.S. in Mining Engineering.....	3
B.S. (College of Education).....	8	B.S. in Nursing.....	81
B.S. in Aeronautical Engineering.....	22	B.S. in Pharmacy.....	33
B.S. in Bacteriology.....	1	B.S. in Physics.....	1
B.S. in Basic Medical Science.....	6	B.S. in Zoology.....	10
B.S. in Chemical Engineering.....	24		
B.S. in Chemistry.....	11	Total.....	1646
B.S. in Civil Engineering.....	38		

### Advanced and Professional Degrees

Master of Arts.....	48	Master of Science in Electrical Engineering..	3
Master of Arts in Music.....	5	Master of Science in Forestry.....	3
Master of Business Administration.....	2	Master of Science in Mechanical Engineering	1
Master of Fine Arts.....	4	Master of Science in Mining Engineering....	2
Master of Education.....	6	Master of Science in Pharmacy.....	1
Master of Forestry.....	7	Master of Science in Physical Education....	3
Master of Nursing.....	1	Professional Degree, Electrical Engineering..	1
Master of Science.....	13	Professional Degree, Mechanical Engineering	1
Master of Social Work.....	1	Doctor of Philosophy.....	13
Master of Science in Ceramic Engineering...	2		
Master of Science in Chemical Engineering...	6	Total.....	134
Master of Science in Civil Engineering.....	11		

### Diplomas and Certificates

Certificate in Nursing Supervision.....	6	Three-Year Secondary Certificate.....	72
Certificate in Public Health Nursing.....	32	Total.....	110

## SUMMARY OF ENROLLMENT — TOTALS

### EXTENSION STUDENTS

Classes.....	3148
Men.....	1125
Women.....	2023
Home Study.....	3485
Men.....	2154
Women.....	1331
Total.....	6633

### STUDENTS IN RESIDENCE

Academic Year.....	17861
Summer Quarter.....	6517
Summer Session A.....	466
Summer Session B.....	173
Short Courses.....	152
Education.....	20
Nursing.....	47
Economics and Business.....	19
Forestry.....	66
Deduct Summer Duplicates.....	4622
Total (Academic Year and Summer).....	20547

# SUMMARY OF ENROLLMENT BY SCHOOLS AND COLLEGES, UNIVERSITY OF WASHINGTON, YEAR 1946-1947

COLLEGE	Summer A		Summer B		Summer Qtr.		Total Individuals		Autumn		Winter		Spring		Total Individuals† Academic Year	
Arts and Sciences.....	157		81		2722		2960		8145		7855		7390		9286	
Men.....	32		28		1918		1978		4950		4807		4516		5752	
Women.....	125		53		804		982		3195		3048		2874		3534	
Dentistry.....	..	..	..	..	..	..	..	..	50	50	50	50	50	50	50	50
Men.....	..	..	..	..	..	..	..	..	50	50	50	50	50	50	50	50
Women.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Economics and Business.....	17		1		1068		1086		2480		2522		2351		2783	
Men.....	10		..		977		987		2191		2275		2128		2481	
Women.....	7		1		91		99		289		247		223		302	
Education.....	80		39		151		270		133		172		186		146	
Men.....	7		22		68		97		68		98		109		74	
Women.....	73		17		83		173		65		74		77		72	
Engineering.....	3	3	2	2	789		794		1896		1856		1709		2029	
Men.....	3	3	2	2	788		793		1887		1847		1702		2020	
Women.....	..	..	..	..	1		1		9		9		7		9	
Forestry.....	2	2	..	..	45	45	47	47	331	317	298	369	369	369	369	369
Men.....	2	2	..	..	45	45	47	47	331	317	298	369	369	369	369	369
Women.....	..	..	..	..	..	..	..	..	1	2	1	1	1	1	1	1
Graduate School.....	199		48		915*		1162*		1285*		1237*		1248*		1576*	
Men.....	79		21		609		709		876		879		881		1052	
Women.....	120		27		306		453		409		358		367		524	
Law.....	1	1	..	..	267		268		432		407		382		442	
Men.....	1	1	..	..	258		259		416		394		370		425	
Women.....	..	..	..	..	9		9		16		13		12		17	
Medicine.....	..	..	..	..	..	..	..	..	50	49	48	50	48	50	48	50
Men.....	..	..	..	..	..	..	..	..	46	45	44	46	44	46	44	46
Women.....	..	..	..	..	..	..	..	..	4	4	4	4	4	4	4	4
Mines.....	..	..	..	..	27		27		80		98		92		113	
Men.....	..	..	..	..	25		25		78		96		90		111	
Women.....	..	..	..	..	2		2		2		2		2		2	
Nursing.....	6		2		446		454		448		461		447		717	
Men.....	6		2		446		454		448		461		447		717	
Women.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pharmacy.....	1		..		87		88		264		266		261		300	
Men.....	1		..		77		77		196		198		196		226	
Women.....	..	..	..	..	10		11		68		68		65		74	
TOTALS.....	466		173		6517		7156		15594		15290		14462		17861	
Men.....	134		73		4765		4972		11088		11004		10383		12605	
Women.....	332		100		1752		2184		4506		4286		4079		5256	

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

\*To this number add 235 Graduate Students enrolled in Law, Medicine, and Dentistry.



# SUMMARY OF ENROLLMENT BY CLASSES, UNIVERSITY OF WASHINGTON, YEAR 1946-1947

CLASSES	Summer A		Summer B		Summer Qtr.		Total Individuals		Autumn		Winter		Spring		Total Individuals† Academic Year	
FRESHMEN.....	18	26	6	11	1542	1717	1566	1754	4304	5424	3699	4671	3003	3976	5148	6530
Men.....	8		5		175		188		1120		972		973		1382	
Women.....																
SOPHOMORES.....	5	16	6	11	935	1181	946	1208	2402	3599	2686	3832	2633	3652	2614	3916
Men.....	11		5		246		262		1197		1146		1019		1302	
Women.....																
JUNIORS.....	6	26	5	10	714	1044	725	1080	1622	2530	1668	2572	1724	2583	1775	2771
Men.....	20		5		330		355		908		904		859		996	
Women.....																
SENIORS.....	9	46	6	16	497	774	512	836	1282	1975	1493	2218	1605	2430	1364	2111
Men.....	37		10		277		324		693		725		825		747	
Women.....																
GRADUATES.....	79	199	21	48	609	915	709	1162	876	1285	879	1237	881	1248	1052	1576
Men.....	120		27		306		453		409		358		367		524	
Women.....																
SPECIALS.....	1	4	4	7	53	268	58	279	90	249	90	254	73	93	131	415
Men.....	3		3		215		221		159		164		20		284	
Women.....																
TRANSIENTS.....	15	148	25	70	157	351	197	569	...	...	...	...	...	...	...	...
Men.....	133		45		194		372		...		...		...		...	
Women.....																
TOTALS.....	133	465	73	173	4507	6250	4713	6888	10576	15062	10515	14784	9919	13982	12084	17319
Men.....	332		100		1743		2175		4486		4269		4063		5235	
Women.....																

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

**SUMMARY OF ENROLLMENT BY CLASSES—DENTISTRY, LAW, MEDICINE—UNIVERSITY OF WASHINGTON, YEAR 1946-1947**

YEAR	Summer A	Summer B	Summer Qtr.	Total Individuals	Autumn	Winter	Spring	Total Individuals Academic Year
FIRST.....					337	326	240	343
Men.....					326	317	234	332
Women.....					11	9	6	11
SECOND.....					103	99	129	106
Men.....					100	96	126	102
Women.....					3	3	3	4
THIRD.....	1		83	84	39	35	60	39
Men.....	1		82	83	37	33	56	37
Women.....	..		1	1	2	2	4	2
FOURTH.....			39	39	52	45	50	53
Men.....			37	37	48	42	47	49
Women.....			2	2	4	3	3	4
GRADUATE.....			143	143	229	227	217	235
Men.....			137	137	*{ 219	*{ 217	*{ 206	*{ 224
Women.....			6	6	10	10	11	11**
SPECIAL.....			1	1	1	1	1	1
Men.....			1	1	1	1	1	1
Women.....			..	..	..	..	..	..
TRANSIENTS.....			1	1				
Men.....			1	1				
Women.....			..	..				
TOTALS.....	1		267	268	532	506	480	542
Men.....	1		258	259	512	489	464	521
Women.....	..		9	9	20	17	16	21
GRAND TOTALS.....	466	173	6517	7156	15594	15290	14462	17861
Men.....	134	73	4765	4972	11088	11004	10383	12605
Women.....	332	100	1752	2184	4506	4286	4079	5256

\*Graduate Students included in enrollment as First Year, Second Year, Third Year, and Fourth Year.

\*\*Status changed for one woman.

Summer figures include Law Students only who, at that time, were classified as Juniors, Seniors, Graduates, Specials, and Transients. Beginning with Autumn Quarter, classification for Law, Medicine, and Dentistry Colleges was changed to the year in the professional school.

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## REQUIRED MILITARY SCIENCE

1. Beginning with Summer Quarter 1948, all male students entering as freshmen directly from high school will be held for the Military Science requirement of six quarters.

2. Beginning with Summer Quarter 1949 all male underclass transfers will be held for the Military Science requirement. It is understood, however, that underclassmen entering with advanced standing will be held for only as many quarters of Military Science as they have quarters to complete from the time of entrance to become juniors in credits (90 quarter (academic) credits).

3. No student in residence attendance at the University of Washington prior to Summer Quarter 1948 shall be held for any part of the Military Science requirement.

Subject to the foregoing limitations, two years of Military Science are required of all male undergraduate students except the following:

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

4. 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.

5. The Military Science requirement shall normally be satisfied in the first six quarters of residence.

6. 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.

*If student is exempted from 6 quarters of Mil. Sc. he must make up 12 cr. in other subjects. He may use P.E. activity credits in excess of the six quarters of required P.E. activity as part of the 12 cr. A student having an excess of 6 qtrs would need*

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The only students completely exempt from Mil. Service would be those excused by the Health Service on the basis of physical condition. An exemption for physical reasons comes to us as a diff. blank form that used for exemption based on petition to the dean + granted with the understanding that academic credits be taken in the same amount as the total exemption.

with a minimum of 19 2 academics, etc.