


1969

## Courses of Instruction at the Portland Campus, University of Maine 1969-1970

University of Maine, Portland

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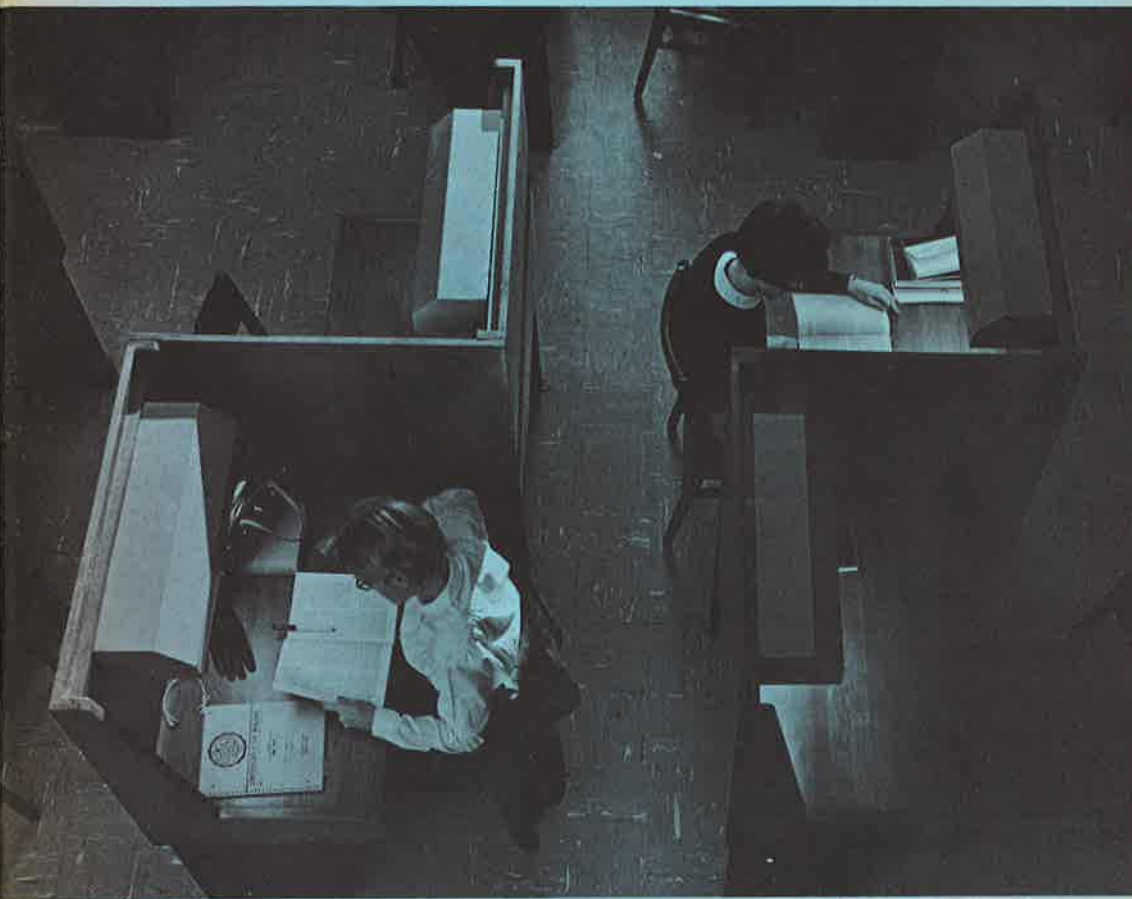
Courses  
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Instruction  
at  
the  
Portland  
Campus

UNIVERSITY OF MAINE  
1969 — 1970

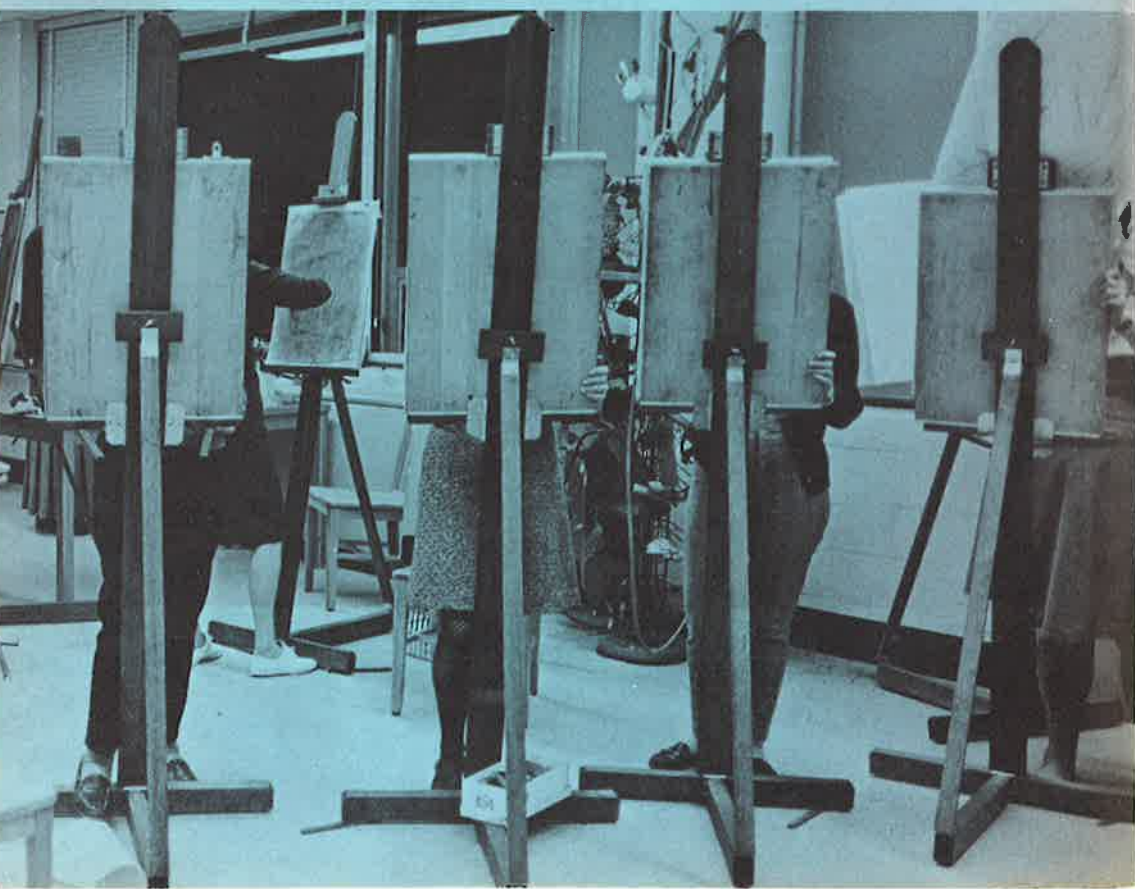


UNIVERSITY OF MAINE,  
PORTLAND

*DAVID R. FINK, PROVOST*

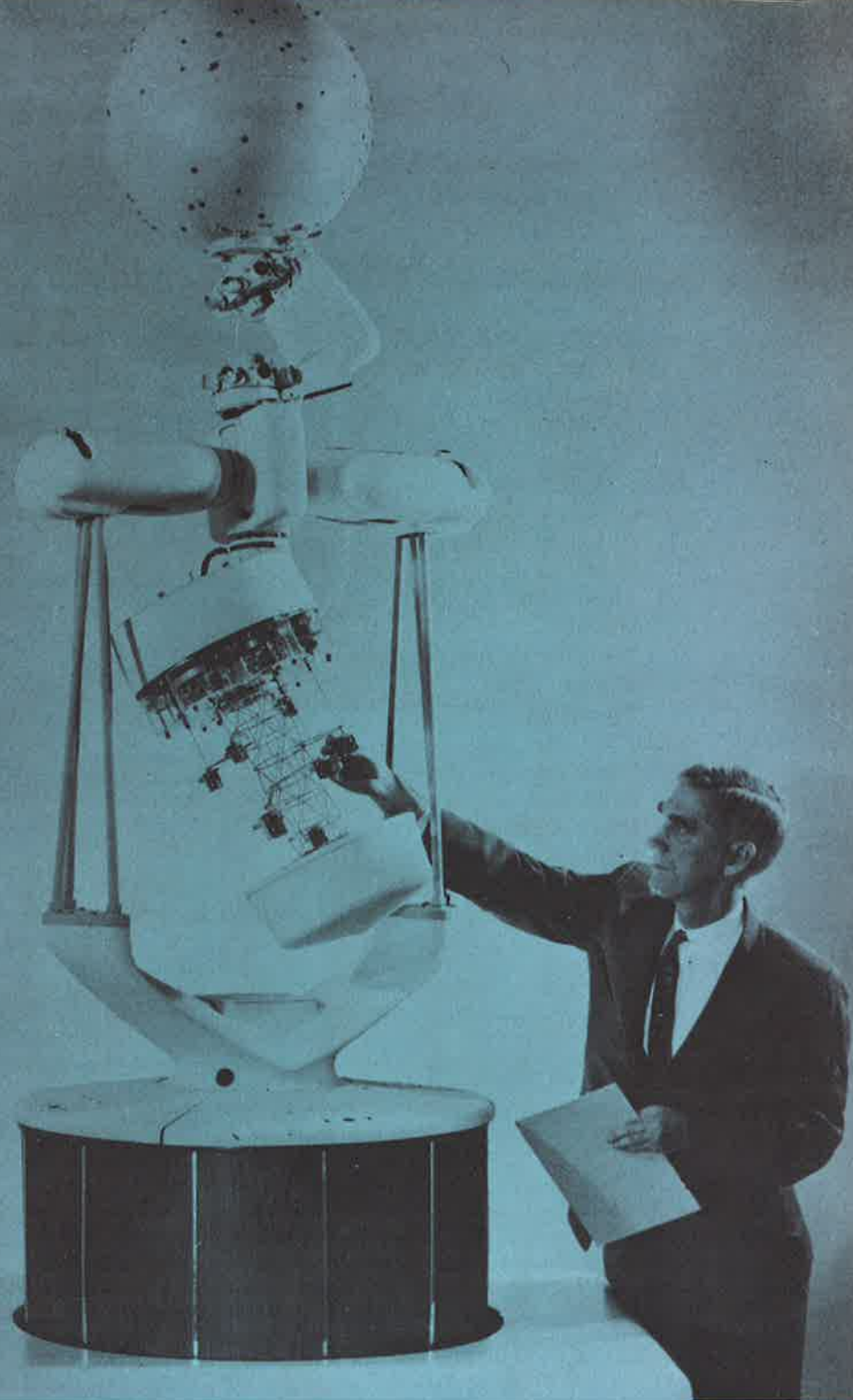






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## General Information

The University of Maine, Portland, is a commuter campus which offers complete four-year programs leading to the degree of bachelor of arts for students majoring in biology, English, French, history, political science, mathematics, psychology, or sociology.

A four-year program that combines liberal arts and professional nursing education is offered by the School of Nursing. This program leads to the degree of bachelor of science. The first two years of the program consist largely of the general education courses that provide a foundation for the clinical courses of the junior and senior years.

Four-year programs leading to the degree of bachelor of science in business administration allow students to major in accounting, marketing, finance, or management.

There is also a two-year business program leading to the degree of associate in business administration.

In the engineering degree program, the first year is now available and a second year is being developed.

For prospective secondary teachers, the Portland campus offers complete four-year programs leading to the degree of bachelor of science in education and preparing graduates to teach high school courses in English, French, mathematics, or social studies.

## UNIVERSITY OF MAINE

For graduate students there are programs leading to the degrees of master of business administration, master of education, master of engineering, and master of library service. Credit in other graduate programs may also be pursued on the Portland campus.

The Continuing Education Division offers a wide variety of undergraduate and graduate courses on weekday evenings and Saturdays. Approximately 3,000 persons are registered for such courses on the Portland campus, with many more at centers in southwestern Maine under the direction of the Portland campus office.

C.E.D. also offers a number of non-credit courses, conferences, and specialized programs of professional and general educational interest.

Summer Sessions provide further opportunities for students who wish to continue their studies during the summer months. In addition to C.E.D. courses in the evening, many three-week and six-week courses at both undergraduate and graduate levels are offered during the daytime throughout the summer.

Offices of the Cumberland County Extension staff and certain other specialists of the Cooperative Extension Service are located on the campus. In addition to regular Extension programs, the Cooperative Extension Service sponsors a number of non-credit short courses and seminars.

The faculty at the Portland campus is divided into five divisions:

*Business and Economics:* accounting, economics, finance, management, marketing, and subjects carried in the two-year business program.

*Humanities:* art, classics, modern languages, music, philosophy, and speech.

*School of Nursing*

*Science and Mathematics:* astronomy, the biological sciences, the earth sciences, the engineering sciences, chemistry, mathematics, physics, and psychology.

*Social Sciences:* education, history, political science, sociology, and social welfare.

This administrative innovation enables the student to recognize more fully the interrelationship of the various courses he studies. It also helps his instructors to keep in closer touch with the total learning experience of the individual student.

Applications for admission and all inquiries concerning admission to the University of Maine, Portland, should be addressed to the Director of Admissions, 96 Falmouth Street, Portland, Maine 04103. Application blanks should be filled out and returned promptly, together with the application fee of \$10, which cannot be refunded, to the Director of Admissions. Information for veterans is available on the Portland campus from the office of the Registrar, Payson Smith Hall, 96 Falmouth Street, Portland, Maine 04103.

The same requirements for admission prevail at both the Orono and Portland campuses of the University.

Additional information concerning campus policy and activities is available through the Office of Student Affairs, 96 Falmouth Street, Portland, Maine 04103.

*When a dash is used between the two numbers (e.g., 1-2), both semesters must be taken to obtain credit; when a slant is used (e.g., 1/2), the first semester may be taken by itself, but the second cannot be taken unless the first is taken previously; when a period is used (e.g., 1.2), either semester may be taken for credit.*

*The following abbreviations are used: Fresh—freshmen; Soph—sophomores; Jrs—juniors; Srs—seniors; per—permission; Cr.—credit. Courses listed in brackets ([ ]) will not be offered in 1969-70.*



## BUSINESS AND ECONOMICS

JOHN W. BAY, Chairman

PROFESSORS SIEDLIK, WATERS; ASSOCIATE PROFESSORS BAY, DURGIN, FINDLAY,  
FITZPATRICK, HALL (ASSOCIATE DEGREE REPRESENTATIVE); ASSISTANT  
PROFESSORS ANDREWS, JAGOLINZER, McKEIL, McMAHON; INSTRUCTORS  
ANNETT, EMANUELSON, IMLAY, TAYLOR, VAN AMBURG;  
LECTURER PLOWMAN

### Undergraduate Programs in Business and Economics

The primary objective of the undergraduate program in Business Administration is to develop the student's abilities to assume the responsibilities of business management. The program is aimed at providing the broad training necessary for successful business management in a rapidly changing economy. No attempt is made to provide detailed specialized training in particular business tasks. The program aims, rather, at developing skills and attitudes of mind that will enable the student to cope successfully with the change problems of business management in the years ahead. The program is implemented in three general phases: First, the student acquires broad training in the liberal arts and sciences for the necessary foundation upon which his future education will build. Second, the student pursues a program of study designed to provide him with an understanding of the major functional areas common to most business operations and with a knowledge of certain fields which are particularly relevant to the study of business management. This is referred to as the "core" program and includes basic courses in accounting, business data processing, economics, finance, the legal environment of business, marketing, and general management. Third, the student undertakes to acquire a deeper knowledge of the major field he has selected. This is accomplished by taking 15 credit hours beyond the introductory course in the chosen field.

The undergraduate program in economics is designed to prepare students broadly for careers in the civil service, law, management, public affairs, labor relations, and citizenship. Economics is a social science and as such must be studied in the perspective of a broad training in the liberal arts and sciences. Many students who plan to attend graduate and professional schools will find the undergraduate economics program to be valuable training for advanced academic work. Within the economics program, courses are available in such fields as: micro economic analysis, money and banking, macro economic analysis, history of economic thought, comparative economic systems, public finance, and the social control of business.

### I. General Graduation Requirements

All students are required to complete 120 hours, exclusive of credit for basic military training.

In addition, each student must accumulate a total of "grade points" equal to 1.8 times the number of credit hours in which he receives grades. This grade point average is computed by multiplying each credit hour by a letter grade factor in the following manner: A hours by 4, B hours by 3, C hours by 2, D hours by 1, and E hours by 0.

## UNIVERSITY OF MAINE

All course work taken in Business (Ba) and Economics (Ec) must be completed with at least a 2.0 (C) average for a student to be eligible for a degree.

### II. Requirements for a Bachelor of Science in Business Administration

#### A. GENERAL FOUNDATION SUBJECTS (51 CREDITS)

##### 1. Humanities and Fine Arts (21 credits)

Eh 1/2 Freshman Composition

Eh 19 Expository Writing

Sh 1 Fundamentals of Public Speaking

The remaining required courses may be selected in such fields as art, the classics, English composition, foreign languages, literature, music, philosophy, speech, and the theatre.

##### 2. Social Sciences (15 credits)

This requirement may be fulfilled by course work in such fields as anthropology, government, history, modern society, psychology and sociology. No course work in economics may be used to fulfill any part of this requirement.

##### 3. Mathematics and Science (15 credits)

Ms 13 Elementary Analysis

Ms 14 Probability

Ms 15 Analysis and Statistics

Ms 16 Linear Systems

And a science elective

#### B. CORE REQUIREMENTS IN BUSINESS AND ECONOMICS (33 CREDITS)

Ec 1.2 Principles of Economics

Ec 168 Social Control of Business

Ba 9 Principles of Accounting I

Ba 10 Principles of Accounting II

Ba 23 Elements of Industrial Management

Ba 63 Marketing

Ba 130 The Legal Environment of Business

Ba 147 Business Data Processing\*

Ba 149 Business Economics

Ba 151 Business Finance

\* Ms 169 or another course may be substituted for Ba 147. In that event, the student must complete three additional hours in a Ba elective.

#### C. MAJOR FIELD (15 CREDITS)

##### 1. Accounting Major

Ba 41/42 Intermediate Accounting

Ba 143 Advanced Accounting

Ba 145 Cost Accounting

Ba 148 Auditing



2. Business Administration Major

- Ba 156 Investment Management
- Ba 159 Business Management and Policy
- Ba 170 Managerial Marketing
- 6 hours Business or Economics Electives

D. ELECTIVES (21 hours)

III. Requirements for a Bachelor of Science in Economics

A. GENERAL FOUNDATION SUBJECTS

1. Humanities and Fine Arts (15 credits)

- Eh 1/2 Freshman Composition
- Sh 1 Fundamentals of Public Speaking

A minimum of six additional credit hours must be taken in such fields as art, the classics, English composition, journalism, literature, music, philosophy, speech, and the theatre.

2. Social Sciences (12 credits)

Students must select at least 12 credit hours, including one full-year course, from the following list:

- Ay 1/2 Introduction to Anthropology
- Hy 3.4 United States History\*
- Hy 5.6 History of Western Europe\*
- My 1/2 Modern Society
- Pol 1/2 Introduction to Government
- Py 1/2 General Psychology
- Sy 3/4 Introduction to Sociology

\* Students may not select more than six hours of history to fulfill the 12-hour minimal requirement.

3. Mathematics and Science (15 credits)

- Ms 13 Elementary Analysis
- Ms 14 Probability
- Ms 15 Analysis and Statistics
- Ms 16 Linear Systems
- And a science elective

B. COURSE REQUIREMENTS IN ECONOMICS AND BUSINESS (33 CREDITS)

1. Core Requirements:

- Ec 1.2 Principles of Economics
- Ec 132 Macro Economic Analysis
- Ec 173 Micro Economic Analysis
- Ba 9 Principles of Accounting I

2. Completion of at least 18 additional hours in economics (Ec) courses. However, no student will be granted degree credit for course work in business and economics in excess of 48 hours.



## UNIVERSITY OF MAINE

### C. Electives (45 CREDITS)

#### IV. Requirements for a Bachelor of Arts in Economics

##### A. ENGLISH AND SPEECH

Eh 1/2 Freshman Composition

Sh 1 Fundamentals of Public Speaking

##### B. FOREIGN LANGUAGE

The student must complete Intermediate French, German, Russian, Spanish, Greek, or Latin, or pass a qualifying exam in one of these languages.

##### C. SOCIAL SCIENCE

A minimum of two year-courses in social science is required of all students. Students who have not completed a basic one-year high school course in American History are required to take United States History (Hy 3.4). During the first two years, students who have completed such a course in high school should select two of the following year-courses:

Hy 3.4 United States History

Hy 5.6 History of Western Europe

My 1/2 Modern Society

Pol 1/2 Introduction to Government

Ay 1/2 Introduction to Anthropology

Sy 3/4 Introduction to Sociology

Py 1/2 General Psychology

Hy 3.4 and Hy 5.6 may not be used in combination to satisfy this requirement, and also Ay 1/2 and Sy 3/4 may not be used in combination to satisfy this requirement.

##### D. MATHEMATICS AND SCIENCE

Ms 13 Elementary Analysis

Ms 14 Probability

Ms 15 Analysis and Statistics

Ms 16 Linear Systems

And a science elective

##### E. HUMANITIES

A year-course from the following is required:

Hy 1.2 Classical and Medieval Civilization

Pl 1.2 Philosophy and Modern Life

Eh 15.16 Masterpieces of English and American Literature

Cl 1.2 Greek and Latin Literature in English Translation

Hr 47.48 Honors Group Tutorial for those students registered in the Honors Program

##### F. PHYSICAL EDUCATION

All students, except veterans, are required to take and pass one year of physical education.

## PORTLAND

### G. COURSE REQUIREMENTS IN ECONOMICS AND BUSINESS

#### 1. Core Requirements:

- Ec 12 Principles of Economics
- Ec 132 Macro Economic Analysis
- Ec 173 Micro Economic Analysis
- Ba 9 Principles of Accounting I

#### 2. Completion of at least 18 additional hours in economics (Ec) courses. However, no student will be granted degree credit for course work in business and economics in excess of 48 hours.

### GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

A graduate program leading to the degree of master of business administration is available during the evenings at the Portland campus.

All applicants for the M.B.A. program must submit scores obtained on the Admission Test for Graduate Study in Business which is administered by the Educational Testing Service, Princeton, New Jersey.

Candidates for the M.B.A. degree must complete a required core of 21 hours which consists of:

- 310. Management Policy
- 311. Managerial Economics
- 312. Managerial Accounting
- 313. Business Cycles and Forecasting
- 314. Financial Management
- 315. Marketing Management
- 316. Industrial Relations and Personnel Management

Nine hours of electives are required and must be selected from the following courses:

- 320. Market Research and Analysis
- 321. Human Relations in Industry
- 322. Operations Research
- 323. Production Management
- 324. Investment Management
- 325. Collective Bargaining
- 326. Organizational Behavior in Business
- 327. Business Logistics

Students who have had little or no undergraduate work in business and related subjects are required to supplement their formal degree program with additional background course work. Such students must earn or have earned the undergraduate credits, or their equivalents, stipulated: 9 semester hours in economics (at least one course beyond a full year in basic economics); 6 semester hours in accounting (at least one full year). The following credits may be either semester hours or quarter hours: 3 credits in management; 3 credits in finance; 3 credits in marketing; 3 credits in business law; and 3 credits in statistics.

For specific information concerning courses available in this program during any given semester, contact the Continuing Education Division, 100 Payson Smith Hall, 96 Falmouth Street, Portland.



## UNIVERSITY OF MAINE

### TWO-YEAR ASSOCIATE IN BUSINESS ADMINISTRATION PROGRAM

The University of Maine, Portland, offers a two-year curriculum providing technical academic work in the field of business administration.

This is a semi-professional terminal program designed primarily for students who wish to complete their education in two years. It is designed to give the student a working knowledge of business functions and methods.

While the program emphasizes business, it contains some courses in liberal studies such as English composition, report writing, and human relations. Many electives in the business areas are available for selection by the student according to his interests and desires.

Students admitted to the associate degree program at the University of Maine, Portland pursue the following curriculum during their two years:

#### First Year

FALL SEMESTER		SPRING SEMESTER	
Subject	Hours	Subject	Hours
3 Ba Business and Society	3	4 Ba Business and Society	3
9 Ba Principles of Accounting	3	10 Ba Principles of Accounting	3
1 Ec Principles of Economics	3	2 Ec Principles of Economics	3
1 Eh Freshman Composition	3	2 Eh Freshman Composition	3
Pe 1 Physical Education	0	Pe 2 Physical Education	0
Elect one of the following:		Elect one of the following:	
1 Ba Business Mathematics	3	2 Ba Business Mathematics	3
Ms 13 Elementary Analysis	3	Ms 14 Probability	3
<hr/> 15		<hr/> 15	

#### Second Year

FALL SEMESTER		SPRING SEMESTER	
Subject	Hours	Subject	Hours
23 Ba Elements of Industrial Management	3	47 Ba Business Data Processing	3
30 Ba Legal Environment of Business	3	90 Ba Problems of Small Business	3
63 Ba Marketing	3	19 Eh Expository Writing	3
91 Ba Human Relations in Business	3	Elect one of the following:	
Elect one of the following:		66 Ba Retailing	3
41 Ba Intermediate Accounting	3	67 Ba Sales Management	3
51 Ba Business Finance	3	Elect one of the following:	
		42 Ba Intermediate Accounting	3
		52 Ba Business Finance	3
		56 Ba Investment Strategy	3
<hr/> 15		<hr/> 15	

Upon completion of the 60-hour program with an accumulative grade point average of 1.8, a student will be awarded the degree of associate in business administration.

Graduates are equipped for employment at the junior management level in many fields of business. Some fields of business that graduates have entered are sales, retailing, banking, finance, and accounting. Students who qualify with high academic averages may, if they desire, continue their education by transferring

into the four-year program in Business Administration here or at other institutions.

Any high school graduate may apply for admission to the two-year program. A college preparatory course is not required. Applicants should complete the regular University of Maine application form and specify the Associate in Business Administration program. Candidates must also complete the College Entrance Examination Board's general Scholastic Aptitude Test and the Strong Vocational Interest Test.

### ASSOCIATE DEGREE PROGRAM

**1/2 Ba. Business Mathematics**—The first semester introduces the student to the basic elements of algebra and geometry. The concepts of linear equations and systems are then developed which lead to the solution of business problems through the techniques of linear programming. Elements of the calculus and basic probability are then introduced as tools for business decision-making. *Cr 3.* (Students with sufficient secondary school background in mathematics may substitute Ms 13/14 Elements of College Mathematics for this course.) VAN AMBURG

**3/4 Ba. Business and Society**—An examination of the significant relationships between business and the social, political, and economic environment of our society for the purpose of evaluating goals, values, ethics, and practices in the business world. *Cr 3.* TAYLOR

**9 Ba. Principles of Accounting I**—An introduction to accounting principles and concepts. Emphasis on the preparation and interpretation of reports for financial and management uses and the accounting for assets, liabilities, revenues and expenses. *Cr 3.* McKEIL

**10 Ba. Principles of Accounting II**—An introduction to the accounting for partnership, corporations and manufacturers. Emphasis on analysis and interpretation of accounting data and its use in management planning and control. Prerequisite: 9 Ba. *Cr 3.* McKEIL

**23 Ba. Elements of Industrial Management**—A comprehensive survey of all phases of the management of industrial and business enterprises. The influence of industrial relations is interspersed with the treatment of management's technical problems. Prerequisite: Ec 1/2. *Cr 3.* ANNETT

**30 Ba. The Legal Environment of Business**—Examination of fundamental legal concepts and their application to the business community. Topics include the evolution of law, its underlying conceptual framework from which legal rules and principles of business develop. Selected legal cases will be critically analyzed and discussed. *Cr 3.* EMANUELSON

**41/42 Ba. Intermediate Accounting**—An intensive study of accounting theory, including asset valuation, depreciation theory, liability recognition, corporation equity measurement, determination of periodic income and revenue recognition. Prerequisite: 9, 10 Ba. *Cr 3.* HALL

**47 Ba. Business Data Processing**—The application of electronic data processing equipment to accounting systems. Basic principles of operation and programming. Selected case problems. Prerequisite: 9, 10 Ba. *Cr 3.* SIEDLIK

**51/52 Ba. Business Finance**—The first semester deals with the promotion, organization, and financing of the single proprietorship, partnership, and corporation. Students who elect to continue with the second semester will utilize advanced cases and problems related to the theory and principles developed in the first semester. The first semester may also be used as a prerequisite for 56 Ba Investment Strategy. Prerequisite: 1/2 Ec 9, 10 Ba. *Cr 3.* ANDREWS



## UNIVERSITY OF MAINE

**56 Ba. Investment Management**—Provides the planning and management of investment programs for all types of investors. Evaluates the various medias of investments in terms of their risks and profits. The functions of the stock market and its behavior is examined. Prerequisite: 1/2 Ec, 9, 10 Ba. Cr 3. ANDREWS

**63 Ba. Marketing**—Problems of distribution for representative industrial and consumer goods, including merchandising policies, selection of distribution channels, price policies, and advertising and sales promotion methods. Prerequisite: 1/2 Ec, 9 Ba. ANDREWS

**66 Ba. Retailing**—Study of the retail distribution structure and of the problems involved in successful store operation under current conditions. Prerequisite: 63 Ba. Cr 3.

**67 Ba. Sales Management**—Analysis of the problems facing marketing management in formulating sales policy and in managing the sales organization. Prerequisite: 63 Ba. Cr 3. TAYLOR

**90 Ba. Problems of Small Business**—Aspects of management that are uniquely important to small firms, in the interest of developing an understanding of the economic and social environment in which the small concern functions. Practice in decision-making on the same types of problems that small businessmen face. Problems relevant to small business operations in Maine will be stressed. Prerequisite: 9 Ba. Cr 3. ANNETT

**91 Ba. Human Relations in Business**—Introduction to the behavioral sciences, emphasizing typical behavioral problems faced in business by employees and management. The laboratory method of teaching, involving the student in role playing and analyzing collected data, is supplemented with lectures, case analysis, and outside reading. Cr 3. ANNETT

**1/2 Ec. Principles of Economics**—Analysis of the fundamental characteristics and institutions of modern economic society, including business and labor organization, national and international policies. Cr 3. McKEIL

## BUSINESS ADMINISTRATION

**Ba 9. Principles of Accounting I**—An introduction to accounting principles and concepts. Emphasis is placed on the preparation and interpretation of reports for financial and management uses and the accounting for assets, liabilities, revenues and expenses. Cr 3.

**Ba 10. Principles of Accounting II**—An introduction to the accounting for partnership, corporations and manufacturers. Emphasis is placed on analysis and interpretation of accounting data and its use in management planning and control. Prerequisite Ba 9. Cr 3.

**Ba 23. Elements of Industrial Management**—A comprehensive survey of all phases of the management of industrial and business enterprises. The influence of industrial relations is interspersed with the treatment of management's technical problems. Prerequisite: Ec 1.2 Cr 3. TAYLOR

**Ba 41/42. Intermediate Accounting**—An intensive study of accounting theory including asset valuation, depreciation theory, liability recognition, corporation equity measurement, determination of periodic income and revenue recognition. Prerequisite: Ba 9, 10. Cr 3. FINDLAY

**Ba 63. Marketing**—Problems of distribution for representative industrial and consumer goods, including merchandising policies, selection of distribution

channels, price policies, and advertising and sales promotion methods. Prerequisite: Ec 1.2 Cr 3. WATERS

**Ba 76. Federal Tax Reporting**—Federal tax laws as they affect individuals, partnerships, corporations, and estates. An opportunity is given the student to become familiar with tax forms. Prerequisite: Ba 9, 10. Cr 3.

**Ba 130. The Legal Environment of Business**—An examination of fundamental legal concepts and their application to the business community. Among the topics discussed are the evolution of law and its underlying conceptual framework from which legal rules and principles of business develop. Selected legal cases will be critically analyzed and discussed. (Juniors and seniors only.) Cr 3. JAGOLINZER

**Ba 143. 144. Advanced Accounting**—A study of accounting principles and theory related to: sources and application of funds; partnerships; consignment and installment sales; receiverships, estates, and trusts; governmental and institutional accounting; home office and branch accounting; consolidations, mergers, and parent and subsidiary accounting. Prerequisite: Ba 41/42. Cr 3. HALL

**Ba 145/146. Cost Accounting**—The principles and methods of job order costing and process costing, including analysis and allocation of factory overhead. A study of joint and by-product costs. Methods and management use of standard costs. Management decision making through cost-volume-profit analysis. Direct costing. Second semester devoted primarily to a detailed study of management uses of cost data. In addition budgets, forecasting and capital budgeting are discussed. Prerequisite: Ba 9, 10. Cr 3. JAGOLINZER

**Ba 147. Business Data Processing**—The application of electronic data processing equipment to accounting systems. Basic principles of operation and programming. Selected case problems. Prerequisite: Ba 9. Cr 3. SIEDLIK

**Ba 148. Auditing**—A study of auditing philosophy and theory relative to the examination of financial and other data. Internal control; auditing standards and procedures; and the legal and ethical responsibilities of the independent auditor. Prerequisite: Ba 41/42. Cr 3. FINDLAY

**Ba 149. Business Economics**—Application of economic analysis to concrete business situations. Emphasis on developing the student's ability to apply economic analysis to the solution of problems faced by business management. Prerequisite: Ba 151. Cr 3. DURGIN

**Ba 151. Business Finance**—This course deals with the promotion, organization, and financing of the single proprietorship, partnership, and corporation. It also utilizes advanced cases and problems related to the above topics. Prerequisite: Ec 1.2 and Ba 9/10. Cr 3. FITZPATRICK

**Ba 156. Investment Management**—Provides the planning and management of investment programs for all types of investors. Evaluates the various medias of investments in terms of their risks and profits. The functions of the stock market and its behavior is examined. Prerequisite: Ba 151. Cr 3. FITZPATRICK

[**Ba 157. Forward Planning and Capital Decisions**]—Basic financial forecasting and risk evaluation are combined with profit-volume-cost analysis as essentials in fully evaluating capital expenditure proposals. Cost of capital and other tools are developed for use in the decision-making process. Prerequisite: Ba 151. Cr 3. FITZPATRICK

**Ba 159. Business Management and Policy**—Administrative practice at the higher levels of business management through case analysis and discussion.



## UNIVERSITY OF MAINE

The course attempts to coordinate the background of business majors in the formulation and administration of sound business policy. Prerequisite: Ba 9/10, 23, 63. Cr 3.

**Ba 161. Personnel Management**—The selection, training, and management of personnel in private and public business. Designed for the student interested in administration, office management, or personnel work in education, business engineering, public service, and other fields. Prerequisite: Ec 1.2. Cr 3.

**Ba 162. Industrial Relations**—A study of industrial relations patterns in the U.S. Major focus is on the relationship between management and organized labor, and the bargaining, administration and interpretation of contracts. The problem of disputes settlement and a comparison of methods used in the U.S. and abroad. Attention is also given to industrial relations in unorganized firms and in the civil service. Prerequisite: Ec 133. Cr 3.

**Ba 164. Dynamics of Organization and Behavior**—An analysis of business organization and the problems of administrators in an interpersonal setting. Primary emphasis is on the findings of behavioral sciences which are particularly relevant to the management of economic enterprises. Also an examination of interdisciplinary approaches to human relations and adjustment problems in modern organizations. Motivation, leadership, and organization theory as related to work and productivity, and associated topics are also covered. Prerequisite: Ba 23. Cr 3.

**Ba 165. Advertising**—The place of advertising in the marketing program. Business cases are analyzed to determine those situations in which advertising may be profitably employed to stimulate primary and selective demand for industrial and consumer goods and services. Prerequisite: Ba 63. Cr 3.

**Ba 167. Sales Management**—An analysis of the problems facing marketing management in formulating sales policy and in managing the sales organization. Prerequisite: Ba 63. Cr 3.

**Ba 169. Marketing Research**—A consideration of marketing research as a tool in the solution of problems in production and distribution. Emphasis on problem formulation, exploratory research, research design, basic observational and sampling requirements, data analysis, interpretation, and sampling. Prerequisite: Ba 63 and Ms 19. Cr 3.

**Ba 170. Managerial Marketing**—A managerial approach emphasizing the integration of marketing, as an organic activity, with other activities of the business firm. Study is directed toward recognition and appreciation of the problems encountered by top marketing executives in modern business, with a consideration of the policies and procedures that may be followed in their solution. By case analysis and consideration of current marketing literature, students are provided opportunities for development of abilities in solving marketing management problems. Prerequisite: Ba 63 and Ms 19. Cr 3. WATERS

**Ba 195. Financial Research Seminar**—Techniques of research and analysis are introduced and applied to topical areas in finance, such as money, credit, banking and debt instruments. Prerequisites: Ba 151, Ec 153, Ms 19, and permission. Cr 3. FITZPATRICK

**Ba 310. Management Policy**—Administrative practice at the higher levels of business management. Coordinates the analysis of all pertinent business functions in specific case studies for the purpose of developing administrative competence in the formulation of business policy at the decision-making level. Prerequisite: 6 hours in business subjects and permission. Cr 3.



**Ba 311. Managerial Economics**—Application of economic analysis to the management of business enterprises. Designed to develop the student's ability to understand and use some of the important economic concepts, tools, and methods, relevant to operations and decisions within a business firm. Particular attention is given to the analysis of market demands, price policy, cost structures and production functions, capital budgeting, planning, and financing. Prerequisite: 9 semester hours in economics or permission. Cr 3. DURGIN

**Ba 312. Managerial Accounting**—Development, analysis, and interpretation of accounting data and financial statements for managerial control, coordination, and decision-making; emphasis upon accounting as a tool of management. Topics are developed by utilization of case studies, problems, and reference material. Prerequisite: 6 semester hours in accounting. Cr 3. FINDLAY

**Ba 313. Business Cycles and Forecasting**—An examination of cyclical movements in the level of economic activity and appropriate methods for their measurement. Includes an analysis of the principal theories of the forces that shape these fluctuations. Relates the statistical methods of forecasting activity in the major economic sectors to the planning function of management. Prerequisite: 6 semester hours in economics. Cr 3. BAY

**Ba 314. Financial Management**—A consideration of management decisions in the administration of corporate funds. Specific areas covered include capital budgeting, inventory control, working capital management, and the cost of capital. The side effects of taxation, depreciation methods, and earnings retention policies are noted. Current capital structure patterns are analyzed and evaluated. Prerequisite: One course in finance and permission. Cr 3. FITZPATRICK

**Ba 315. Marketing Management**—This course is concerned with developing an ability to analyze marketing problems while acquiring a positive attitude as to the role that marketing plays in overall business strategy. Emphasis given to the building of integrated marketing programs designed to implement the long-term objectives of a business organization. In general, the viewpoint emphasized will be that of the high level marketing executive. Prerequisite: One course in marketing and permission. Cr 3. WATERS

**Ba 316. Industrial Relations and Personnel Management**—A comprehensive investigation of the changing pattern of industrial relations in the United States. Major emphasis is on the human, social, and economic aspects of employer-employee relationships in both union and non-union settings. Provides an understanding of and appreciation for the crucial importance of the development of sound and flexible personnel policies by top management. Among the areas considered are: the changing nature of the labor force; wages, salaries and fringe benefits; hours of work; and the impact of technological change on the work force. Prerequisite: One course in management or industrial relations and permission. Cr 3.

**Ba 320. Market Research and Analysis**—A study of the procedure and applications of market research. Such areas as the organization and operation of a research department, survey methods, experimentation, measurement of potential demand and the analysis of distribution costs are considered. Emphasis on developing the student's ability to apply these and other techniques toward the solution of marketing problems. Prerequisite: Ba 315 and one course in statistics. Cr 3. WATERS

[**Ba 321. Human Relations in Industry**—This course is designed to ac-



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quaint the student with the complex system of interdependent human, social, technical, and organizational forces which underlie the feelings, actions, and relationships of people in organizations. Such subjects as leadership theory, organizational theory, individual and group behavior, and communication theory are presented. Prerequisite: 6 hours in business subjects and permission. *Cr 3.*

**Ba 322. Operations Research**—This course deals with the formulation and solution of optimization models for business decision making and economic resource allocation. Major emphasis on mathematical programming models, including linear programming fundamentals, simplex method, duality theory, sensitivity analysis and parametric programming in post-optimality analysis, goal programming, linear programming under uncertainty, dynamic programming, allocation problems (assignment, transportation models, transportation simplex methods), network flows, integer programming, nonlinear programming, polygonal approximations, and gradient methods. Emphasis also on applications in accounting, finance, economics marketing, and production management. Prerequisite: One course in statistics and permission. *Cr 3.* SIEDLIK

**[Ba 323. Production Management]**—Decision models will be introduced with emphasis on statistical inference and decision theory, queueing theory, inventory theory, simulation, game theory, and Markovian decision models. Application areas include Product R & D investment models, capacity investment decision models, facility design models, line-balancing models, system maintenance models, and production system operating models. Prerequisite: Ba 322 or permission of instructor. *Cr 3.*

**Ba 324. Investment Management**—Emphasizes analysis and valuation procedures required to determine the investment quality of specific securities. Sets forth criteria for the formulation of a sound investment policy and the selection of investment media to implement it. Develops the techniques of continuing portfolio management and the task of periodic reappraisal. Prerequisite: One course in finance and permission. *Cr 3.* FITZPATRICK

**Ba 325. Collective Bargaining**—Discusses the major issues and problems in the collective bargaining process. Provides the business manager with the knowledge of sound collective bargaining attitudes and techniques necessary to achieve a responsible and mature attitude in his relationship with employee representatives. To this end, major focus is on the development of the union movement in this country, the changing nature of public policy toward collective bargaining and the public responsibility of both unions and management. In addition, attention is given to the specific tools of collective bargaining, including strikes, lockouts, grievance procedures, arbitration, mediation, and bargaining strategies and techniques. Prerequisite: Ba 316. *Cr 3.*

**Ba 326. Organizational Behavior in Business**—Emphasis on the importance of the influence process, motivational settings, and the structural backgrounds of organizational status and social relations. Analysis through case discussion and readings will develop a conceptual framework for improving individual decision-making ability with respect to individual, group, and intergroup problems. Prerequisite: One course in management and permission. *Cr 3.*

**Ba 327. Business Logistics**—Explores in depth the need for and means of centralization of decision-making to accomplish effective senior executive control of the chain of logistics activities from point of completion of manufacturing or other form utility creating process to delivery at the point of use or consumption. Inter-



discipline relationships with cybernetics, econometrics, operations research, computer-facilitated information analysis, purchasing (materials management) and the customer relations aspect of marketing (physical distribution) reviewed in their roles as logistics sub-systems or building blocks. Prerequisite: Ba 322 Operations Research or consent of the instructor. *Cr 3.* PLOWMAN

## ECONOMICS

***Ec 1. 2. Principles of Economics***—Analysis of the fundamental characteristics and institutions of modern economic society, including business and labor organization, national and international policies. *Cr 3.*

***Ec 37. Comparative Economic Systems***—The structures and operating principles of the major contemporary economic systems are examined and compared. Prerequisite: *Ec 1.2. Cr 3.* DURGIN

***Ec 38. The Economic System of the Soviet Union***—A study of the development, institution, and structure of the Soviet economy. Emphasis on current theories and problems of central planning. Prerequisite: *Ec 1.2. Cr 3.* DURGIN

***Ec 132. Macro Economic Analysis***—An analysis of the basic forces that cause inflation, growth, and fluctuations in economic activity. The effects on employment, investment, and other factors are thoroughly treated. Stabilization policies are examined and evaluated. Prerequisite: *Ec 1.2. Cr 3.* BAY

***[Ec 133. Labor Economics]***—A discussion of labor in an industrial society serves as background for an examination of the origins and structure of the labor movement, the theories of the labor movement, the theories of wages and labor's income, the process of collective bargaining in industrial relations, and the development of labor legislation and social security laws. Prerequisite: *Ec 1.2. Cr 3.*

***Ec 135. History of Economic Thought***—A survey of the development of basic economic principles and theories from pre-industrial times to the present. Major emphasis is on the Classical School (Smith, Ricardo, and Malthus) and its critics, the development of the Austrian School, the synthesis of Neo-Classicism, and the emergence of Macro-economics. Prerequisite: *Ec 1.2. Cr 3.* DURGIN

***Ec 138. Economic Development***—The theories and practices of interregional and international economic development. Special attention is given to development problems of emerging nations. Prerequisite: *Ec 1.2. Cr 3.*

***Ec 153. Money and Banking***—An extensive examination of the operation and performance of the American banking and financial system. Includes a study of monetary theory and policy. Debt management and present international monetary problems are discussed briefly. Prerequisite: *Ec 1.2. Cr 3.* BAY

***Ec 168. Social Control of Business***—Public policy toward business; government powers and private rights; government aids; regulation of competition and monopoly; public enterprise. Prerequisite: *Ec 1.2. Cr 3.* DURGIN

***Ec 171. Public Finance and Fiscal Policy***—Public expenditure theory; principles of taxation; the federal budget and alternative budget policies; federal tax policy; fiscal policy for stabilization; federal debt. Prerequisite: *Ec 1.2. Cr 3.* McMAHON

***Ec 172. State and Local Government Finance***—Development of the federal system; fiscal performance; intergovernmental fiscal relations; state and local revenue systems; budgetary practices; state and local debt. Prerequisite: *Ec 1.2. Cr 3.* McMAHON

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**Ec 173. Micro Economic Analysis**—Price, income, and employment theory as tools in the study of economics. Prerequisite: Ec 1.2. *Cr 3.*

**Ec 175. Industrial Organization**—Emphasis on determining the relationship between market structure, conduct and performance. Also, the development of a general analytical framework to permit an assessment of performance in existing markets. Finally, current public policy in this area is evaluated in the framework of the above analysis. Prerequisite: Ec 173. *Cr 3.*

## HUMANITIES

WILLIAM J. MACLEOD, CHAIRMAN

### ART

ASSISTANT PROFESSOR BEARCE (DISCIPLINE REPRESENTATIVE);  
INSTRUCTORS RAKOVAN, REID

Art is becoming more and more important as a significant resource for leisure time in a changing and mechanized world. The program is divided into studio work (basic and advanced in object, cast, and life drawing and painting) as well as a more academic study of history of architecture, painting and sculpture. The discipline also conducts a guided tour to the Boston Museum of Fine Arts twice a year.

Practical courses are held in modern well-equipped and lighted studios. In good weather the classes sometimes make excursions to Portland's waterfront, docks, fishing fleet and historic urban areas.

**At 1. Basic Drawing**—An introduction to academic drawing increasing the student's awareness of the elements of art—line, form, texture composition—with the use of charcoal, pencil, graphite, chalk, ink, wash and later watercolor. Work in the studio as well as outdoors. *Cr 2.*

**At 2. Basic Drawing**—A continuation of At 1 with the development of each student's individual facility and skill. Painting excursions to Portland's waterfront, docks, fishing fleet and nearby islands. Ink, watercolor, pastel. Prerequisite: At 1. *Cr 2.*

**At 3. 4. Principles of Art**—The basic principles of art—its substance, nature, and classifications. An analysis of architectural, sculptural and pictorial forms. Not a historic study of art, although masterpieces are studied. *Rec 2, Cr 2.*

**At 5.6. Art Appreciation and History**—Techniques and trends in architecture, sculpture, and painting as related to the history of art from the earliest times to the present day. Lectures, text, slides, and prints. *Rec 3, Cr 3.* REID

**At 7. Design**—Fundamentals of design through visual arts. Blockprinting, silk screening, posters. Two-dimensional design problems. *Cr 2.* RAKOVAN

**At 8. Design**—Fundamentals of design through the visual arts. Clay modeling, plaster casting, papier mache, wire sculpture. Three-dimensional design problems. *Cr 2.* RAKOVAN

**At 9/10. Advanced Design**—Advanced work in design problems, using design experiences introduced in basic course. Two- and three-dimensional problems applied to graphics, fabrics, sculpture, construction, etc. Prerequisite: At 1/2 or 7 and 8. *Lab 4, Cr 2.* BEARCE



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**At 11/12. Advanced Drawing**—Advanced studies in form, space, composition, and cast drawing. Field trips for outdoor sketching and painting. Development from charcoal to watercolor painting. Prerequisite: At 1/2. *Lab 4, Cr 2.*

BEARCE

**At 13. 14. Fundamentals of Painting**—Basic introduction to painting using various media. The study of color and composition in both studio and outdoor subjects. Prerequisite: At 1/2 or permission (not open to art majors). *Lab 4, Cr 2.*

RAKOVAN

**At 15/16. Painting** (for art majors)—Studio and outdoor study of composition, color, etc. Use of various media including pastel, ink, watercolor, gouache, oil and acrylic. Prerequisite: At 11/12. *Lab 4, Cr 2.*

RAKOVAN

**At 23. History of Modern Art**—A study of the modern movements in Western art starting with the mid-nineteenth century to the present. Growth and development of the modern "isms". *Rec 3, Cr 3.*

RAKOVAN

**At 31. History and Appreciation of the Graphic Arts**—An explanation of the graphic techniques; woodcut, engraving, etching, aquatint, lithograph, etc. A study of the graphic arts as they have evolved throughout the history of art with emphasis upon the important graphic artists of Europe, America, and the Orient. Exercise in the appreciation and understanding of the products of the graphic artist. *Rec 3, Cr 3.*

**At 35. Printmaking-Intaglio**—Introduction to intaglio printmaking using etching, engraving, aquatint, messotint, and drypoint. Prerequisite: At 1/2 or permission. *Lab 4, Cr 3.*

BEARCE

**At 69. The Teaching of Art**—Current methods and materials for the teaching of art in the elementary grades. Theory and actual experience with various two- and three-dimensional art projects. *Cr 3.*

**At 71. History of Architecture and the Urban Environment**—A study of the European-American tradition of architectural design with emphasis upon the basic styles which influence American architecture and their utilization in urban America. Consideration of aesthetic and social interplay of architectural design throughout history, especially as it is manifest in urban design. *Rec 3, Cr 3.*

**At 97. 98. Problems in Art**—Advanced projects for student research and presentation. Undergraduate thesis or exhibition. *Cr Ar.* Permission of staff.

## ENGLISH

PROFESSORS BERNARD, JACKSON; ASSOCIATE PROFESSORS COFFIN, JACQUES;

ASSISTANT PROFESSORS BAIER, BURKE (DISCIPLINE REPRESENTATIVE),

DUCLOS, LEWISOHN; INSTRUCTORS DALVET, MCKIBBEN,

MILLIKEN, ROERDEN, WILSON, WOLF

English includes everything involved in the use of words from the simplest rote learning to attempts to sharpen awareness of both concrete experience and abstract meaning, all aiming at enhanced power and grace in the realms of taste and judgment. More specifically, English seeks to nourish the abilities to see and report accurately, to face and organize what is complex, and to make serious and humane decisions.

The requirements for the English major are these: Eh 3.4, 7 or 8, 43, and enough other English courses to total at least 36, but no more than 48, semester

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hours. At least 9 hours must be selected from the following: Eh 57, 58, 153, 159, 160, 161, 164, 284.

**Eh 1. 2. Freshman Composition**—Intensive practice in expository writing, with reading of illustrative material. Required normally of freshmen. *Cr 3.*

**Eh 3. 4. English Literature**—Readings in the chief English authors in chronological order, with class discussion. First semester, from the beginnings to 1700; second semester, from 1700 to about 1918. *Cr 3.* JACKSON

**Eh 6. Introduction to Literary Forms and Terms**—Reading and discussion of literary types. A course intended primarily for prospective majors in English. Open to freshmen. *Cr 3.* LEWISOHN

**Eh 7. 8. Advanced Composition**—A course for those who wish to develop greater skill in writing, either for their own pleasure or for professional use. *Not* a remedial course. Prerequisite: Eh 1.2 (or equivalent of Eh 2); or, permission of instructor. *Cr 3.* BERNARD

**Eh 9. 10. Modern Literature**—Readings in significant literature of the last half-century. Primarily for freshmen. Others by permission only. *Cr 3.* BURKE

**Eh 15. 16. Masterpieces of English and American Literature**—An introduction to literary appreciation through the study of selected masterpieces. Recommended for non-majors who have not previously taken advanced courses in literature. *Cr 3.*

**Eh 19. Expository Writing**—Primarily for juniors and senior majors in Business Administration. Training in clear expository writing of formal reports, business communications, and related materials. *Cr 2.* JAKUES

**Eh 41. Elementary Linguistics**—The study of the structure of languages and the application of ideas of structure to the interpretation of literature. Recommended for English and language majors interested in teaching. *Cr 3.* COFFIN

**Eh 43. American Literature**—American literature through the 18th and 19th centuries, with emphasis on the principal writers. *Cr 3.* JAKUES

**Eh 55. Poetry of the Romantic Movement**—Wordsworth, Coleridge, Scott, Byron, Shelley, Keats and their contemporaries, against the background of their time. *Cr 3.* JACKSON

**Eh 56. Victorian Poetry**—Browning, Tennyson, Arnold, the Pre-Raphaelites and their contemporaries. *Cr 3.* WILSON

**Eh 57. 58. Shakespeare**—A survey of the comedies, history plays and tragedies. Attention is focused on the comedies and histories in the first semester, on the tragedies in the second semester. *Cr 3.* JACKSON

**[Eh 121. Modern Grammar]**—This course is particularly for prospective English teachers. It introduces traditional and modern grammars. *Cr 3.* COFFIN

**Eh 145. Semantics**—Interpretation of literature by means of analysis of the language used. Recommended for prospective teachers of literature and English. *Cr 3.* COFFIN

**[Eh 149. Introductory Linguistics]**—The student is introduced to the study of languages by means of the methods used for understanding the structure and meaning of language. *Cr 3.* COFFIN

**Eh 153. Chaucer**—Selections from the major poetry, with attention to the literary and historical background. *Cr 3.* BURKE, COFFIN

**Eh 159. Elizabethan Prose and Verse**—Major and representative non-dramatic writers, exclusive of Milton, in relation to their cultural background, 1557-1660. Prerequisite: Eh 3.4; or, permission of instructor. *Cr 3.* BERNARD



## PORTLAND

**Eh 160. *Seventeenth Century English Prose and Verse***—Major and representative non-dramatic writers (exclusive of Milton) in relation to their cultural background, 1600-1660. *Cr 3.* BAIER

**Eh 161. *British Drama***—Shakespeare's predecessors, contemporaries, and followers to 1642. Prerequisite: Eh 3.4; or, permission of instructor. *Cr 3.* BERNARD

**Eh 164. *Milton***—The poetry and prose, with attention to the literary and historical background. *Cr 3.* BURKE

**[Eh 165. *The Age of Dryden and Pope*]**—Restoration literature (1660-1700) and the evolution of neo-classicism in the early 18th century. *Cr 3.*

**[Eh 166. *The Age of Johnson*]**—The later 18th century, especially Dr. Johnson and his circle, and the beginnings of Romanticism. *Cr 3.*

**Eh 172. *The New England Renaissance***—The great writers of the United States in the mid-19th century, their works, personalities and social background. *Cr 3.* JAQUES

**[Eh 181. 182. *The English Novel*]**—The principal novelists from the beginning to Sir Walter Scott in the first semester. In the second semester, novelists from Jane Austen to Thomas Hardy. Prerequisite: Eh 3.4; or, permission of instructor. *Cr 3.* BERNARD

**Eh 194. *British Fiction***—The best British fiction since 1900 with emphasis on contemporary writing. *Cr 3.* COFFIN

**Eh 195. *Twentieth Century British Poetry***—The major poets of Great Britain and Ireland from 1900 to the present. Not open to those who have had Eh 45. Offered in Continuing Education programs only. *Cr 3.* LEWISOHN

**Eh 196. *Twentieth Century American Poetry***—The major poets of the United States from 1900 to the present. Not open to those who have had Eh 46. Offered in Continuing Education program only. *Cr 3.* LEWISOHN

**Eh 241. 242. *Linguistics***—Analysis of various language principles to provide an understanding of grammar and language arts. Recommended for English and language teachers or prospective teachers. Eh 242 will *not* be offered 1969-70. *Cr 3.* COFFIN

**Eh 391. *Sixteenth-Century Topics***—*Cr 3.* BERNARD

**[Eh 396. *Seminar in Linguistics and Semantics*]**—*Cr 3.*

BERNARD, COFFIN

**[Eh 399. *Graduate Thesis*]**—*Cr Ar.* STAFF

## COMPARATIVE LITERATURE

**Cp 91. *Early 20th Century Drama of the Western World***—A study of such major dramatists as Ibsen, Strindberg, Chekhov, Pirandello, Shaw and O'Casey. *Cr 3.* DUCLOS

**Cp 92. *20th Century Drama of the Western World***—A study of such major dramatists as Brecht, Anouilh, Giraudoux, Williams, Miller, and Albee, and the Theatre of the Absurd, with Beckett, Ionesco, Genet, Pinter, etc. *Cr 3.* DUCLOS

**Cp 140. *The English Bible***—The English Bible studied as one of the masterpieces of English literature. Prerequisite: Eh 3.4 or 15.16; or, permission of instructor. *Cr 3.* BERNARD

**[Cp 151. *Epic Masterpieces of the Middle Ages*]**—The *Nibelungenlied*, *Beowulf*, *Chanson de Roland*, and the *Cid* will be studied, with attention also paid to legendary material of Celtic origin. Prerequisite: Eh 3.4 or 15.16; or, Fr 5/6

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or 57.58; or, Sp 3/4 or 57.58; or, Gm 3/4 or 57.58; or Ru 3.4; or, permission of instructor. Cr 3.

BERNARD

**Cp 175. 176. European Literature**—Continental Western European literature in translation. From Homer to Dante in the first semester, continuing to the present in the second semester. Recommended for majors in history or a foreign language, and for students preparing for library work. Prerequisite: Eh 3.4 or 15.16; or Fr 5/6 or 57.58; or Sp 3/4 or 57.58; or Gm 3/4 or 57.58; or, permission of instructor. Cr 3.

BERNARD

**Cp 187. Oriental and Primitive Masterpieces**—The course starts with primitive literature of Black Africa and the American Indian and continues to early epic and other literature of Egypt, Babylonia, and Israel. Cr 3.

COFFIN

**Cp 188. Oriental and Oceanic Masterpieces**—The course introduces the best of Chinese lyrical poetry and the spiritual epics of India. Related material of interest will be used from Tibet and Oceania. Cr 3.

COFFIN

**Cp 390. Renaissance Topics**—Cr 3.

BERNARD

**Cp 391. Topics of Romanticism**—Cr 3.

BERNARD

**Cp 392. Special Studies**—Cr 3.

BERNARD

## FOREIGN LANGUAGE AND CLASSICS

ASSOCIATE PROFESSORS CLARK, F. SCHWANAUER; ASSISTANT PROFESSORS CASSOL, DALVET (DISCIPLINE REPRESENTATIVE), G. DUCLOS, HALPERIN (ON LEAVE), LEPELLEY; INSTRUCTORS HEMOND, ROLFE, J. SCHWANAUER

The curriculum is designed to develop skill in reading, writing, speaking and listening comprehension in the foreign languages and to offer an initiation to the corresponding cultures and literatures. The language laboratory is an important adjunct to the study of the modern languages.

At the present time the discipline offers a major only in French. The student must take a minimum of 24 hours above the level of French 3/4, of which at least 18 hours must be in literature courses on the 100 level. European History (Hy 5.6) is required of all French majors, Fl 166 of those who plan to teach; Fr 157/158 is strongly recommended for all. Students should also choose elective courses in the liberal arts and in history. They are encouraged to study a second language, modern or classical, and to plan a trip to a French-speaking country either as a junior year abroad or after graduation.

**Cl 1. 2. Greek and Latin Literature in English Translation**—In the first semester, epic and lyric poetry; in the second semester, drama and history. No knowledge of Greek or Latin is necessary. Cr 3.

DUCLOS

**Fr 1-2. Elementary French**—Beginner's course in French. Initiation in the four skills of language learning: listening comprehension, speaking, reading and writing. Four weekly hours of classwork and one of laboratory practice. Cr 4.

CASSOL

**Fr 3/4. Intermediate French**—For students who have completed Fr 1-2 or have reached equivalent proficiency in the language. Review of grammar. Classroom and laboratory practice aiming at fluency in speaking and reading. Three weekly hours of class and one of laboratory work. Cr 3.

**Fr 7/8. Practical French**—Systematic training in correct pronunciation and usage, and in vocabulary building, with written and oral practice, phonetics and work in the laboratory. Prerequisite: Fr 4, Fr 6, or the equivalent. Well-



qualified students who have not taken Fr 7 may with permission elect Fr 8. Cr 3.

LEPELLEY

**Fr 3a. 4a. Supplementary Oral French**—For students needing oral practice. This course which meets only once a week may be taken in conjunction with Fr 3/4. Cr 1.

CASSOL

**Fr 109. 110. Introduction to French Literature**—Reading and discussion of representative works of major periods in French literature from the Middle Ages to the present, and of the major genres (novel, drama, poetry). Techniques of close reading and *explication de texte* will be studied. Designed to give a general background for the major as well as provide a representative sampling for a non-major. Cr 3.

DALVET

**Fr 153. The French Novel from the First World War to the Present**—Readings from Proust, Malraux, Camus, Robbe-Grillet and others. Cr 3.

HALPERIN

**Fr 154. French Theatre in the Twentieth Century**—Readings from Giraudoux, Anouilh, Sartre, Camus, Ionesco and others. Cr 3.

HALPERIN

**Fr 157/158. French Civilization**—A survey of the major periods of French civilization. The political and economic events are considered as well as the movements of philosophy, literature, music, and the visual arts. Open to students who have completed Fr 4 or the equivalent. Given in French. Cr 3.

CASSOL

**Fr 167. 168. Advanced Grammar and Stylistics**—Designed to provide an adequate foundation in French grammar and syntax for prospective teachers. Cr 3.

CLARK

**Fr 171. 172. The Classical Age**—Corneille, Racine, Molière, Pascal, La Fontaine and other representative authors. Prerequisite: Fr 109, 110 or the equivalent. Cr 3.

LEPELLEY

**Fr 173/174. XVIIIth Century: The Enlightenment in French Literature**—Works of Montesquieu, Voltaire, Diderot, Rousseau are studied for the originality of their ideas and forms. Prerequisite: Fr 109, 110 or the equivalent. Cr 3.

CASSOL

**Gm 1-2. Elementary German**—Emphasis on development of listening comprehension, speaking, reading, and writing skills. Laboratory practice. For students who have had no German or less than two years of high school German. Cr 4.

**Gm 3/4. Intermediate German**—Continuation of 1-2. Laboratory practice. For students who have completed German 1-2 or have completed two or three years of high school German. Completion of this course fulfills the language generalization requirement. Cr 3.

**Gm 7/8. Practical German**—Systematic training in correct pronunciation and usage, and in vocabulary building, with written and oral practice, and work in the laboratory. Prerequisite: Gm 4, or the equivalent. Well-qualified students who have not taken Gm 7 may with permission elect Gm 8. Cr 3.

**Gm 109. 110. Readings in German Literature**—A survey of the important periods in German literature with readings of representative works. Prerequisite: Gm 4 or the equivalent. This course, which is required of students majoring in German, should be taken in the junior year or earlier if possible. Cr 3.

**[Lt 3/4. Intermediate Latin]**—Selected reading in prose and poetry. For students who have had at least two years of high school Latin. Cr 3.

DUCLOS

**Lt 9. 10. Readings in Latin Literature**—Reading in the prose and poetry of the Late Republic and Early Empire, with emphasis upon literary value. Cr 3.

DUCLOS



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**Sp 1-2. Elementary Spanish**—Emphasis on development of listening comprehension, speaking, reading, and writing skills. Laboratory practice. For students who have had no Spanish or less than two years of high school Spanish. *Cr 4.* CLARK

**Sp 3/4. Intermediate Spanish**—Continuation of 1-2. Laboratory practice. For students who have completed Spanish 1-2 or who have completed two or three years of high school Spanish. Completion of this course fulfills the language generalization requirement. *Cr 3.* HERNANDEZ

**Sp 7/8. Practical Spanish**—Systematic training in correct pronunciation and usage, and in vocabulary building, with written and oral practice, phonetics and work in the laboratory. Prerequisite: Sp 4, or the equivalent. Well-qualified students who have not taken Sp 7 may with permission elect Sp 8. *Cr 3.*

**Sp 109. 110. Readings in Spanish Literature**—A survey of the important periods and trends in Spanish literature with readings of representative works. For students who wish further practice in reading before beginning more advanced literature courses. *Cr 3.* HERNANDEZ

## MUSIC

ASSOCIATE PROFESSOR NEWMAN (DISCIPLINE REPRESENTATIVE)

INSTRUCTORS BRYANT, GRANT, PERAZZI

At present basic music appreciation courses are offered in music. In addition, a student may participate in the chorus which meets once a week for two hours. This course may be taken for an hour credit each semester. There is no limit to the number of semesters the student may receive credit.

Plans are being formed to expand the music offerings further as rapidly as feasible.

**Mc 01. 02. University Singers**—Rehearsal and performance of choral concert repertoire. Membership through audition requires sight reading ability. Before requesting an audition the student should take the Music Fundamentals Test (See Secretary of the Department of Music). Four hours of rehearsal a week. Attendance at all rehearsals and public performances required. May be repeated for credit. *Lab 4, Cr 1.* BRYANT

**Mc E 1. Music Methods for the Elementary Teacher**—A functional course covering the methods, content, and materials of the elementary music program. Prerequisite: Mc L 1, and Mc T 1 or equivalent. *Cr 3.* GRANT

**Mc H 1/2. History of Music**—The history of music from antiquity to the present day with a technical study of the significant musical trends. Prerequisite: For the major, Mc L 22, or sophomore standing. For the general student, permission of the instructor. *Cr 3.* GRANT

**Mc L 1. Understanding Music**—A study of the basic elements of music necessary for intelligent listening. Emphasis on the various historical movements, together with a study of the great composers and their contrasting styles as exemplified by their most important compositions. For the general student. *Cr 3.* GRANT

**Mc T 1. Fundamentals of Music**—Notation and terminology, scales and intervals, chords, ear training, elementary rhythmic and melodic dictation, sight-singing. Open to all students. Required of music majors at no credit for those failing to pass the Music Fundamentals Test. *Cr 3.* PERAZZI

## PHILOSOPHY

PROFESSORS MACLEOD, SWEIGART; INSTRUCTORS GAVIN (DISCIPLINE REPRESENTATIVE), MACKENSEN

The Greeks called philosophy the love of wisdom. Traditionally its subject matter has consisted of five general areas: logic—the techniques for sound reasoning, both deductive and inductive; epistemology—the different kinds of knowledge, truth and justification; ethics—comparative analysis of various moral concepts and viewpoints; aesthetics—the nature of art and artistic experiences; and metaphysics—the study of what constitutes reality and the nature of existence.

Philosophy develops methods of critical inquiry through the student's rigorously considering and discussing such questions as:

- (1) What are the principles that distinguish valid from invalid reasoning?
- (2) How does man know and how far can knowledge extend?
- (3) What do we mean by a just act or a good life?
- (4) What is art—is beauty only in the eye of the beholder?
- (5) What is the difference between appearance and reality?
- (6) Does God really exist?

There is not yet a major program in philosophy here, though practically all of the courses toward a major are now available, some through alternative year offerings. The introductory courses, which can be taken independently of each other, consist of Philosophy and Modern Life, Introductory Logic, Ethics, and Ancient Philosophy. However, it is preferable for students to start with the first-mentioned one.

**PI 1/2. *Philosophy and Modern Life***—An introduction to man's philosophical dimension, this two-semester course points out the importance of the questions a man asks, rather than the particular answers he gives to them. In the first semester, the problems of knowledge and reality are investigated, in an attempt to come to grips with the question: "How do I know that I know anything for sure?" In the second semester, the questions of morality and religion are taken up in detail, and an attempt is made to relate these to the problem of "knowing anything for sure." Primarily for freshmen and sophomores. *Cr 3*.

**PI 15. *Our Religious Heritage***—A descriptive study of the historical and contemporary expressions of the Hebrew-Christian tradition. *Cr 2*. RABBI SKY

**PI 17. *Religions of the East***—Hinduism, Buddhism, Confucianism, Taoism, Shinto, and Islam—their founders, scriptures, modes of worship, and ethics. *Cr 2*. RABBI SKY

**PI 116. *Philosophy of Religion***—Analysis of the nature of religious experience, knowledge, and language. Special attention given to fundamental problems, classical and contemporary, exhibited in religious experience and pertaining to areas of common concern in the sciences, the humanities, and philosophy. Sophomore standing or consent of instructor. *Cr 3*. MACLEOD

**PI 133. *Aesthetics***—An extended inquiry into the question of whether the aesthetic experience is intelligible or emotional, or both. Various theories and interpretations, classic and contemporary, of the nature of beauty, feeling, and the arts are studied. Prerequisite: PI 1/2 or consent of instructor. *Cr 3*. GAVIN

**PI 135. *Ethics***—An introductory inquiry into problems of the good life and of right and wrong action. Classical moral theories are examined and discussed in the light of contemporary ethical issues. Sophomore standing or consent of instructor. *Cr 3*. MACLEOD



## UNIVERSITY OF MAINE

**Pl 136. *Introductory Logic***—The relations of logic and language, of symbols and meanings. The principles and techniques of deductive and inductive reasoning. Prerequisite for Pl 136: sophomore standing or consent of instructor. *Cr 3.*

SWEIGART

**[Pl 137. *Symbolic Logic*]**—Study of techniques of modern deductive logic, the properties of formal systems, and the logical implications and paradoxes of language. Prerequisite: Pl 136 or consent of instructor. *Cr 3.*

SWEIGART

**[Pl 140. *American Thought*]**—A brief examination of colonial and early 19th century American contributions to the development of present-day philosophy. Particular emphasis will be given to the philosophical views of Emerson, Royce, Peirce, James, and Dewey. Prerequisite: sophomore standing. *Cr 3.*

GAVIN

**[Pl 150. *Philosophy of History*]**—A critical examination of the problem of historical knowledge, and of major speculative contributions to the interpretation of history. Readings include Hegel, Marx, Spengler, and Toynbee. Prerequisite: sophomore standing. *Cr 3.*

**[Pl 151. *History and Philosophy of Science*]**—A critical examination of the conceptual and experimental procedures scientists employ in formulating and evaluating their theories. In the first part of the semester, an historical analysis of key scientific procedures from the Pre-Socratics to Einstein is undertaken. The latter part of the semester concentrates on the relationship between facts, laws, and theories in contemporary scientific paradigms. Prerequisite: Pl 1/2 or consent of instructor. *Cr 3.*

GAVIN

**[Pl 155. *Ancient Philosophy*]**—From the earliest Greeks through the Romans, with central emphasis on Plato and Aristotle, and including the Epicureans and Stoics. *Cr 3.*

**[Pl 156. *Mediaeval Philosophy*]**—The development of thought from the confluence of Greco-Roman philosophy with the Judaic, Christian, and Islamic traditions to the philosophies of the High Middle Ages. *Cr 3.*

**[Pl 157. *Early Modern Philosophy*]**—The emergence of rationalism and empiricism on the continent and in the British Isles. A study of representative chief thinkers from Descartes and Bacon to Hume. *Cr 3.*

**[Pl 158. *Late Modern Philosophy*]**—The philosophy of Kant and later idealism and other representative philosophers such as Comte, Mill, and Spencer in the 19th century. *Cr 3.*

STAFF

**Pl 165a. *Topics in Philosophy***—A seminar study of current theories and conflicts in the areas of values and ethics. For spring semester of 1969-1970. Prerequisite: Pl 2 or Pl 135 or consent of instructor. *Cr 3.*

SWEIGART

**Pl 165/166. *Topics in Philosophy***—Stressing individual and small group study of problems or systems of philosophical concern, this course is conducted in seminar style. The topic for the fall semester (1969-1970) is: William James—Psychology and Philosophy, and will consist of an intensive examination of James' theory of creative preception, as found in the Principles of Psychology. The topic for the second semester is: James' Aesthetics, Epistemology, and Metaphysics, which will attempt to show that the aesthetic notion of man as a sculptor (*homo faber*) permeates the entire Jamesian corpus. Pl 1/2 or consent of instructor. *Cr 3.*

GAVIN

**Pl 175/176. *Philosophical Classics***—An intensive study of the works of a major philosopher or school, conducted in seminar style. The subject for the fall semester (1969-1970) is: Nineteenth Century Philosophy. Specifically, the

epistemological influence of Kant on Schopenhauer, Hegel, and Nietzsche will be traced. The second semester's subject is: Nietzsche, and will treat in detail the metaphysics, aesthetics, and ethics of this philosopher. Pl 1/2 or consent of instructor. Cr 3. F. SCHWANAUER

## SPEECH

ASSOCIATE PROFESSORS HANSEN (DISCIPLINE REPRESENTATIVE), WHITING; ASSISTANT PROFESSOR STEELE; INSTRUCTOR POWER

Speech is not presently a major, but basic courses in the areas of Public Speaking, Interpretation and Theatre are currently offered.

The aims of the curriculum are: to improve individual speech habits, leading to general improvement in oral communication; to train teachers of speech or those who are responsible for the direction of speech activities; to train people for certain professions (such as theatre and broadcasting) depending on the use of the voice; usually last to be considered is the part played by speech in a broad liberal education. Within the speech field the more theoretical aspects of the curriculum (such as theory and history of the theatre, and history and theory of public address), provide the liberal aspects of education in terms of speech areas, and lend themselves most easily to integration with other areas.

**Sh 1. Fundamentals of Public Speaking**—An analysis of the problems of the beginning speaker, with emphasis on the selection and arrangement of material, audience analysis, and delivery. Classroom experience in the preparation and delivery of short speeches. Cr 3.

**Sh 11. The Contemporary Theatre**—A critical examination of the state of the modern theatre, with emphasis on aesthetics. Includes correlation with the other arts. Cr 3.

**Sh 16. Play Production**—An introduction to the responsibilities of the director and to the basic principles of stage directing, including choosing and analyzing plays, scheduling rehearsals, blocking action, and determining stage business. Backstage work on major and laboratory theatre productions will be required. Cr 3. POWER

**Sh 17. Fundamentals of Acting**—The basic skills of acting, including the actor's internal preparation for playing a role and the development of his external techniques for projecting the role to his audience. Lec 2, Lab 2, Cr 3.

**Sh 41. Fundamentals of Interpretation**—An introduction to the art of interpretation to stimulate an understanding and responsiveness to literature and to develop the ability to convey to others, through oral reading, and appreciation of that literature. Cr 3.

**Sh 166. Stage Directing**—Theory and practice in the staging of plays. Cr 3.

**Sh 169. Theatre Laboratory**—Advanced laboratory work in the divisions of designing, lighting, or directing. The student may register, in different semesters, for credit in each of the divisions. Prerequisite: in designing, Sh 163 and permission; in lighting, Sh 164 and permission; and in directing, Sh 166 and permission. Cr 2.



## UNIVERSITY OF MAINE

### SCHOOL OF NURSING

MARY ANN EELLS, DIRECTOR; PROFESSOR MACLEAN; ASSOCIATE PROFESSOR IVANISIN; ASSISTANT PROFESSORS CAMPBELL, COTTON, HAMILTON, JENSEN, ROSCOE, TRYON; INSTRUCTORS DUBOWICK, EDWARDS, ELLIS, FISH, HAMMOND, MADDOX, STONE AND TALBOT

The School of Nursing, established in 1958, offers a four-year program that combines liberal arts and professional nursing education.

The philosophy of the School of Nursing encompasses and extends the philosophy of the University of Maine, of which it is a part. The curriculum is based on the philosophy that professional nursing education should prepare an individual who will make a positive contribution to the welfare of the community through the effective practice of nursing in a changing world and who will achieve both personal and professional satisfaction.

The professional education is built on the knowledge, discipline and cultural understanding acquired through study of the arts and sciences. The curriculum provides an opportunity for the student to develop ability in critical thinking and communications, an understanding of human needs, a knowledge of the characteristics of health and its deviations, and the skill necessary to use all of these in the nursing care of people of all ages.

The total program is planned to prepare the graduate who will:

1. Accept as a responsibility of nursing the promotion of physical and mental health and the prevention of illness as well as the care and rehabilitation of the sick.
2. Use knowledge of the characteristics of health and its deviations and an understanding of human needs to make critical judgments in assessing, planning, directing, implementing and evaluating the nursing care of people of all ages.
3. Practice professional nursing in a beginning position in the home, hospital, or other community agencies working with individuals, families and other groups.
4. Recognize the impact of social change and use the knowledge, discipline and cultural understanding acquired from the study of the arts, the general sciences and nursing to adapt personally and modify professional nursing practice.
5. Be able to communicate effectively through the various media.
6. Assume the responsibility for continued personal and professional growth.
7. Be a responsible member of the community.

The first two years of the program are offered on both Orono and Portland campuses, and consist largely of the general education courses which provides a foundation for the clinical courses of the junior and senior years. These are taught in Portland and other clinical areas.

The course requires eight full semesters, plus a summer session between the sophomore and junior years. Upon satisfactory completion of the course, students receive the bachelor of science degree and are eligible to take State Board Examinations for licensure as registered nurses.

## PORTLAND

The student in the School of Nursing, as a regularly enrolled undergraduate in the University, is entitled to use all facilities of the University for study, scholarship aid, and extracurricular activities.

The clinical experience for the major portion of the nursing courses is available at the Maine Medical Center in Portland, Children's Psychiatric Hospital at the Pineland State Hospital and Training Center, Pownal, The Division of Public Health Nursing of the State of Maine, Department of Health and Welfare, and the Portland City Health Department.

Fees and expenses will be essentially the same as those of other students for all four years, with the addition of the summer session, and nursing uniforms (approximately \$90) which are purchased during the spring of the sophomore year.

Dormitory facilities are provided by the University on the Orono campus and for the last two years in Portland. Special living arrangements are made during the course in community health nursing if the assignment requires it.

A student must provide herself with a car for psychiatric and community health nursing experiences and must pay the cost of this. She must have a driver's license current in some state in order to register for the senior year.

In order to enter the junior year of the program the student must have a minimum accumulative average of 1.8. A minimum grade of "C" must be achieved in theory and practice in all clinical nursing courses.

The School of Nursing reserves the right to request the withdrawal of any student who fails to make satisfactory adjustment to the field of nursing.

**Nu 1. Introduction to Nursing**—A survey of the expanding responsibilities and functions of the professional nurse in contributing to the health of the individual, the family, and the community, with emphasis on the changing health problems. Cr 2. HAMILTON

**Nu 2. Introduction to Nursing**—The historical interrelationship of social, cultural, and health factors of civilization with the development of nursing and education. Cr 2. HAMILTON

**Nu 3. Fundamentals of Nursing**—An introduction to the nursing care of patients. Guided learning in selected nursing activities through lectures, seminars, audio-visual aids, laboratory and clinical experience. Cr 3. STONE AND STAFF

**Nu 4. Community Health**—The health and welfare needs of individuals and families and community attempts to meet them. Includes some of the essentials of promoting health and preventing disease and stresses the role of the health worker in community health organization. Field trips to local agencies. Cr 3. CAMPBELL

**Nu 5. Nursing of Adults**—Concerned with the major health problems of adults and the nursing functions needed to meet these. Guided clinical experiences. Cr 12. TALBOT AND STAFF

**Nu 6. Nursing of Mothers and Children**—A total family centered approach to nursing needs of mothers and children. Guided experiences in the field of maternal and infant care and care of the child. Study emphasizes the normal mother and infant and the effect of the ill child on the family. Community resources needed to meet the needs of families during the child rearing and child bearing periods are explored. Cr 12. TRYON AND STAFF

**Nu 9. Community Health Nursing**—Concepts and selected experiences



## UNIVERSITY OF MAINE

essential to the understanding of the principles, scope, trend, organization and administration of nursing in community health agencies. *Cr 6.* ROSCOE, FISH

**Nu 10. Psychiatric Nursing**—Symptomatology and treatment of mental illness. Principles of dynamic psychiatry. Guided experience in the nursing care of selected patients. Community aspects are included. *Cr 6.*

COTTON, MADDOX

**Nu 13. Comprehensive Nursing**—Provides opportunities for integrating knowledge and skills in ministering to individual patients with complex health problems and in assuming the responsibility for the nursing care of a group of patients. Provides also for the greater development of skills in organization and management of nursing care and in teaching. *Cr 12.*

STONE, ELLIS

FRESHMAN YEAR				SOPHOMORE YEAR			
			Hours				Hours
Ch	11/12	General Chemistry	8	By	127	General Bacteriology	
Eh	1	Freshman Composition	3		128	and Laboratory	4
Eh	9 or			Fn	152	Human Nutrition	3
	10	Modern Literature	3	Nu	4	Community Health	3
Nu	1.2	Intro. to Nursing	4	Nu	15	Intro. to Pharmacology	1
Pe	1.2	Physical Education	0	*Py	1/2	General Psychology	
*Py	1/2	General Psychology				or	
		or		*Sy	3/4	Intro. to Sociology	6
*Sy	3/4	Intro. to Sociology		Sh	1	Public Speaking	3
		or				**Electives	12
		**Elective	6				
Zo	3	Animal Biology	4				
Zo	8	Anatomy and Physiology	5				
			33				32

### SUMMER SESSION

Nu 3 Fundamentals of Nursing 3

### JUNIOR YEAR

Nu 5 Nursing of Adults 12  
 Nu 6 Nursing of Mothers & Children 12  
 Py 123 Psychology of Childhood 3  
 Elective 3

30

### SENIOR YEAR

Nu 9 Community Health Nursing 6  
 Nu 10 Psychiatric Nursing 6  
 Nu 13 Comprehensive Nursing 12  
 Nu 18 Seminar in Nursing 2  
 Elective 3

29

\* Py 1/2 and Sy 3/4 are required and must be taken either freshman or sophomore year.

\*\* Chosen from the humanities and social sciences. Humanities requirement must be met.

## SCIENCE AND MATHEMATICS

HAIG H. NAJARIAN, Chairman

## BIOLOGICAL SCIENCES

PROFESSOR NAJARIAN (DISCIPLINE REPRESENTATIVE); ASSOCIATE PROFESSOR KERN;  
ASSISTANT PROFESSORS GREENWOOD, HOLMES, MAZER, MAZURKIEWICZ

A four-year program is offered in biological sciences, and although the major is designed for students desiring graduate work in biology, or students interested in going into medicine, dentistry or veterinary science, the program can be modified to satisfy requirements in other aspects of life science and para-medical fields.

The program includes 30 hours in biological sciences, among which the following are requirements:

**Zo 3** *Animal Biology*

**Bt 1** *General Botany*

**Zo 136** *Development Biology*

**Zo 162** *Principles of Genetics*

**Zo 177** *Animal Physiology*

In addition to the general non-science requirements of the College of Arts and Sciences (Orono), the following courses are also required for a bachelor's degree at biological science at Portland:

**Ms 12** *Analytic Geometry and Calculus*

**Ch 1/2** *General Chemistry*

**Ch 151/152-161/162**, *Organic Chemistry (with lab)*

or

**Bc 1** *Organic Chemistry* and **Bc 2**, *Biochemistry*

**Ps 1/2** or **Ps 1a/2a**, *General Physics*

**By 127. General Bacteriology**—A study of microorganisms with emphasis on their phylogenetic relationships to other forms of life. The physiological reactions associated with the metabolic activities of the single cells are discussed. Certain beneficial and harmful activities of microorganisms and how they affect man are presented. Prerequisite: Ch 2. *Rec 2, Cr 3.* HOLMES

**By 128. Laboratory for General Bacteriology**—A laboratory study of microorganisms to teach the basic procedures for staining, isolation and study of microscopic forms. Specific experiments presented pertaining to the ability of microorganisms to grow in various substrates. The end-products of metabolism. The applied phases of water, food, milk and sewage microbiology. Prerequisite: By 127. *Lab 4, Cr 2.* HOLMES

**Bt 1. General Botany**—An introduction to the structure, function, and reproduction of seed plants. Open to students of all colleges. *Rec 3, Lab 2, Cr 4.* KERN



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**En 26. Introductory Entomology**—Fundamental principles of insect life and the relations of insects to plants, animals, and man. A study of structure, metamorphosis, ecology, and classification. Prerequisite: Bt 1 or Zo 3. *Rec 2, Lab 4, Cr 4.* MAZURKIEWICZ

**Zo 3. Animal Biology**—The principles of animal life, including properties of cells, heredity, ecology, evolution and a review of major phylum types. *Lec 2, Lab 4, Cr 4.* KERN AND STAFF

**Zo 8. Anatomy and Physiology**—The general principles of animal life, with emphasis on the structure and functions of the human body. Prerequisite: Zo 3. *Lec 2, Rec 1, Lab 2, Cr 4.* KERN

**Zo 10. Anatomy and Physiology**—Similar to Zo 8, with additional time for laboratory. For students in the School of Nursing. Prerequisite: Zo 3. *Lec 2, Rec 1, Lab 4, Cr 5.* KERN

**Zo 12. Organic Evolution**—The biological development of higher forms of life from the simpler. The evidence which support this fact and the processes which bring it about. Open to all non-majors above freshman standing. *Lec 2, Cr 2.* GREENWOOD

**Zo 136. Developmental Biology**—The transformation of the fertilized egg into a new adult individual: the concepts of growth and development of organisms. Prerequisite: Zo 3. *Lec 2, Lab 4, Cr 4.* GREENWOOD

**Zo 151. Histology**—Microscopic anatomy of animal tissues and methods of preparing microscopic slides. Prerequisite: Zo 3. *Lec 2, Lab 4, Cr 4.* HOLMES

**Zo 153. Invertebrate Zoology**—The morphology, physiology, life histories, phylogenetic relationship, and economic importance of invertebrates. Prerequisite: Zo 3. *Lec 2, Lab 4, Cr 4.* NAJARIAN

**Zo 156. Animal Ecology**—The interrelationships between animals and their physical and biotic environment. Topics include essentials of existence, ecosystem concepts, energy relationships, populations, communities, distribution, adaptations and applications. Prerequisite: Zo 3. *Lec 2, Lab 4, Cr 4.* MAZURKIEWICZ

**Zo 158. Animal Parasitology**—The life histories, economic importance, methods of control, host necropsy and the preparation of parasites. Prerequisite: Zo 3. *Lec 2, Lab 4, Cr 4.* NAJARIAN

**Zo 162. Principles of Genetics**—The nature of hereditary factors and the mechanisms by which they are transmitted and expressed. Prerequisite: Zo 3 and junior standing. *Lec 3, Cr 3.* GREENWOOD

**Zo 164. Genetics Laboratory**—Practical experience in the rearing of some genetically important laboratory species, and analysis of the resulting data. Prerequisite: Zo 162 or concurrently. *Lab 4, Cr 2.* GREENWOOD

**Zo 177. Animal Physiology**—Physiological processes in vertebrates with emphasis on the integration of organ systems. Prerequisite: Zo 3 and at least one year of chemistry. *Lec 2, Lab 4, Cr 4.* MAZER

**Zo 178. General Physiology**—The vital phenomena common to all organisms. Membrane properties are treated at length. Prerequisite: Zo 177, Organic Chemistry and one year of physics. *Lec 2, Lab 4, Cr 4.* MAZER

**Zo 179. Experimental Endocrinology**—A comprehensive survey of the vertebrate endocrine glands and their functional relationships. The experimental and comparative approach is emphasized. Prerequisite: Zo 3, Zo 177, and Organic Chemistry. *Lec 2, Lab 4, Cr 4.* MAZER

## PORTLAND

**Zo 180. Cell Mechanisms**—A physio-chemical analysis of cell metabolism. Emphasis on mechanisms controlling growth and division. Prerequisite: Zo 3, Organic Chemistry or Biochemistry. *Lec 2, Cr 2.* HOLMES

**Zo 187. 188. Problems in Zoology**—Open to juniors and seniors who have special interest and qualifications in some branch of zoology. Admission by permission of staff. *Cr Ar.*

**Zo 195. 196. Zoology Seminar**—Oral reports and discussion by class members, covering biological topics of current interest. *Rec 2, Cr 1.*

## CHEMISTRY

ASSOCIATE PROFESSORS SMITH (DISCIPLINE REPRESENTATIVE), SOTTERY

Except for Ch 140 (Quantitative Analysis), students may complete the first two years of a chemistry major at the Portland campus. The freshman year offerings are identical to the common curriculum of technology students at Orono. The sophomore year curriculum appears in Orono section of the catalog under Chemistry Curriculum. A reading knowledge of German is required and may be met by examination.

**Bc 1. Organic Chemistry**—A brief survey of those functional groups of organic compounds which are of interest for substances found in living systems. Minimal development of modern theories and an elemental introduction to applications of chemical spectroscopy. Laboratory work includes training in qualitative organic chemistry, chromatographic methods (gas-liquid, thin-layer, and column), simple kinetics studies of chemical reactions, and use of spectroscopic methods. Recommended only as a prerequisite for Bc 2. Prerequisite: Ch 14. *Rec 3, Lab 2, Cr 4.* SMITH

**Bc 2. Biochemistry**—An elemental and brief survey of the chemistry and biochemistry of carbohydrates, lipids, proteins, nucleic acids, and accessory compounds of metabolism. Some of the major metabolic pathways considered in a summarized manner, including glycolysis, and Krebs Cycle, urea cycle, fatty acid metabolisms, and protein synthesis. The application of the concepts of pH and buffers is studied. Laboratory work comprises qualitative and quantitative experiments on the various types of biochemical compounds, and elementary kinetic studies of enzyme action. Not recommended for those intending further studies in biochemistry. Prerequisite: Bc 1 or Ch 152. *Rec 3, Lab 2, Cr 4.* SMITH

**Ch 11/12. General Chemistry**—Selected topics in chemistry. Present concepts explored in terms of historical development and philosophical significance. Qualitative understanding is stressed rather than quantitative application. Recommended for students who wish to enhance their understanding and appreciation of the role of physical science in the modern world. (Previous study of chemistry is not assumed.) *Rec 3, Lab 3, Cr 4.* SOTTERY

**Ch 13/14. Chemical Principles**—An intensive examination of modern chemistry, comprising structural theory (atomic and molecular levels), stoichiometry, kinetics and equilibrium, colligative properties, elementary thermodynamics, ionic equilibria, and electrochemistry. A strong mathematical background is essential for mastery of this course. Laboratory work includes qualitative and quantitative experiments intended to illustrate lecture presentation. Recommended for students who plan further study in science or engineering. *Rec 3, Lab 3, Cr 4.* SMITH



## UNIVERSITY OF MAINE

**Ch 151/152. Organic Chemistry Lecture**—An introduction to the chemistry of carbon compounds. Modern theories of reaction mechanisms are stressed. Recommended for majors in chemistry, and biological sciences. Prerequisite: Ch 14. Rec 3, Cr 3. SOTTERY

**Ch 161/162. Organic Chemistry Laboratory**—An introduction to laboratory techniques used for the synthesis and study of organic compounds. Prerequisite: Credit or concurrent registration in Ch 151/152. Lab 4, Cr 2. SOTTERY

## ENGINEERING

ASSOCIATE PROFESSORS HOPKINSON, KIRWIN (DISCIPLINE REPRESENTATIVE)  
ASSISTANT PROFESSOR UN

The Portland campus offers the first common year of engineering (the curriculum being identical to that of a prospective chemistry major or technology student), and the second year for electrical engineering students, as well as a master's degree in engineering (administered through the C.E.D. Division).

**Ge 1/2. Introduction to Engineering Design**—Creative exercises in multi-view drawing using freehand and instrumental techniques. Course 2 introduces pictorial drawing, descriptive geometry, and concludes with the preparation of working drawings for an elementary design problem requiring creative thinking. Rec and Lab 4, Cr 2. HOPKINSON

**Ge 5/6. Technology Orientation**—A series of meetings involving lectures and discussions, with frequent use of audio-visual material to acquaint engineering freshmen with the nature of engineering and science. Rec 1, Cr 0. HOPKINSON

**Ge 7. Computer Programming for Engineers**—Digital programming using Fortran IV language and appropriate numerical methods for the solution of applied problems involving roots of equations, numerical integration, and matrix algebra. Last five weeks of the semester devoted to analog computer exercises, including time and magnitude scaling. Prerequisite: Ms 28 (may be taken concurrently). Rec 1, Lab 2, Cr 2. KIRWIN

**Me 52. Applied Mechanics, Dynamics**—A study of motion of particles and rigid bodies; force, mass and acceleration; work and energy and simple harmonic motion. Prerequisite: Me 50, Ms 28. Rec 3, Cr 3. HOPKINSON

**Me 55. Statics and Strength of Materials**—The basic principles of statics and their applications in strength of materials. Equilibrium of various systems. Stresses and deformations of axially loaded members, connections, circular shafts, beams and columns. Prerequisite: Ms 28. Rec 3, Cr 3. HOPKINSON

**Ee 1. Circuit Analysis I**—Basic laws and theorems of electric circuits; solution of circuits represented by first and second order differential equations. Prerequisite: Ps 2 and Ms 27. Rec 4, Compt. or Lab 3, Cr 5. KIRWIN

**Ee 2. Circuit Analysis II**—Phasor solution of a-c circuits coupled circuits; balanced three-phase systems; introduction to complex frequency. Prerequisite: Ee 1. Rec 3, Cr 3. KIRWIN

**Ee 12. Basic Electrical Laboratory**—Use of techniques developed in Ee 1, 2 for the analysis of circuits containing linear, nonlinear, passive and active elements; includes analysis of simple electronic circuits and the use of the oscilloscope. Prerequisite: Ee 2 required concurrently. Rec 1, Lab 3, Cr 2. KIRWIN

## GEOLOGY

PROFESSOR TREFETHEN (DISCIPLINE REPRESENTATIVE)

Only two courses are offered, both open to all students and without prerequisite.

**Gy 1a. Physical Geology** (Descriptive)—A study of earth materials and processes, volcanism, mountain-building, the work of seas, streams, ice and winds. Two afternoon field trips. *Lec 3, Cr 3.* TREFETHEN

**Gy 2a. Historical Geology**—The geologic history of the earth and the development of life upon it. One one-day field trip. *Lec 3, Field trip, Cr 3.* TREFETHEN

## MATHEMATICS AND ASTRONOMY

ASSOCIATE PROFESSORS CANTY, GUAY, ROGERS (DISCIPLINE REPRESENTATIVE); ASSISTANT PROFESSORS BROWN, MAINVILLE; INSTRUCTORS CHABOT, FOSTER.

A four-year program leading to the B.S. degree in mathematics is offered, as well as offerings to meet the needs of several types of undergraduate and graduate students.

There is no major program in astronomy, the only offering being As 9, Descriptive Astronomy, given in C.E.D., *Credit 3.*

During the first two years a mathematics major takes the following courses: Ms 12, 21, 22, 27, 28, 29. During the third and fourth years a mathematics major will:

1. Successfully complete three courses from the following four areas: Ms 130, Ms 171, Ms 173, Ms 175 or Ms 176. Only one of Ms 175, Ms 176 (not both) will satisfy this requirement.
2. Successfully complete other approved courses to accumulate a minimum four-year total of 39 credit hours in mathematics.

Mathematics courses Ms 1, Ms 2, Ms 3, Ms 5, Ms 6, Ms 7, Ms 8, Ms 9, Ms 10, Ms 13, Ms 14, Ms 15, Ms 16, Ms 17, and Ms 19 are not creditable toward the 39 credit hour minimum.

Students intending to pursue graduate work in mathematics are strongly urged to take Advanced Calculus and Abstract Algebra and to satisfy their language requirement by taking French, German or Russian.

**Ms 2. Elementary Functions and Analytic Geometry**—A study of the polynomial, logarithmic, exponential and trigonometric functions; equations, inequalities, cartesian and polar coordinate systems and the related analytic geometry. The unifying role of the function concept and the interplay of algebra and geometry is emphasized. Prerequisite: two years of high school algebra. *Cr 3.*

**Ms 5/6. Elements of College Mathematics**—Modern viewpoints on certain basic mathematical material. Intended primarily for non-mathematics majors. *Cr 3.*

**Ms 12. Analytic Geometry and Calculus**—Equations and graphs, differentiation and integration of polynomials, applications. Prerequisite: Trigonometry and the equivalent of Ms 3. *Cr 4.*

**Ms 13. Elementary Analysis**—A unified treatment of the elementary functions of analysis; their analytical properties including derivatives, integrals and series. Prerequisite: Three years high school college prep math. *Cr 3.*

**Ms 14. Elementary Probability**—Elements of probability using discrete



## UNIVERSITY OF MAINE

and continuous sample spaces. Common probability laws; expected values; introduction to estimation and hypothesis testing. Prerequisite: Ms 12 or 13. Cr 3.

**Ms 15. Analysis and Statistics**—Some calculus of functions of more than one variable, partial differentiation; optimization; multiple integration; sampling distributions; estimation; hypothesis testing; introduction to regression analysis and analysis of variance. Prerequisite: Ms 14. Cr 3.

**Ms 16. Linear Systems**—An introduction to vectors, matrices, linear systems of algebraic and differential equations; interpolation procedures and difference equations; linear programming, and Markov processes. Prerequisite: Ms 15. Cr 3.

**Ms 19. Principles of Statistical Inference**—An introductory course including such topics as distributions sampling variability, estimation, hypothesis testing and regression. Cr 3.

**Ms 21. Elements of Set Theory**—An introduction to general set theory. Cr 2.

**Ms 22. Elements of Real Number Theory**—The real number system developed from a foundation in intuitive set theory. Cr 2.

**Ms 27. Analytic Geometry and Calculus**—Conic sections; differentiation and integration of algebraic, trigonometric, logarithmic and exponential functions; applications. Prerequisite: Ms 12 or consent of the department. Cr 4.

**Ms 28. Analytic Geometry and Calculus**—Polar coordinates, geometry of three dimensions, infinite series, partial derivatives; multiple integrals; applications. Prerequisite: Ms 27. Cr 4.

**Ms 29. Differential Equations**—An introduction to ordinary differential equations; application. Prerequisite: Ms 28. Cr 4.

**[Ms 103. Linear Programming I]**—Formulation of the general linear programming problem, homogeneous and non-homogeneous linear equalities, and simplex method for non-degenerate cases, simplex computational procedure and check concluding slack, surplus and artificial variables, revised simplex procedures, degeneracy and cycling. Prerequisites: Ms 124, Ms 172, or permission. Cr 3.

**Ms 124. Matrix Theory**—An introduction to the elementary properties and applications of matrices. Prerequisite: Ms 28 or permission. Cr 3.

**Ms 130. Mathematical Statistics I**—Probability and principles of inference. Particular emphasis given to the normal distribution and related sampling distributions. Prerequisite: Ms 28. Cr 3.

**Ms 131. Mathematical Statistics II**—A continuation of Ms 130 including topics such as decision functions, non-parametric methods and an introduction to analysis of variance. Prerequisite: Ms 130 or permission. Cr 3.

**Ms 149. Mathematics for Teachers**—A modern approach to selected topics in mathematics with methods of presentation to secondary school students. Prerequisite: Ms 28 or consent of the department. (Evenings only) Cr 3.

**[Ms 152. Introduction to Complex Variables]**—Analytic functions, integration, series, and mapping. Prerequisite: Ms 28. Cr 3.

**Ms 161. History of Mathematics**—The development of elementary mathematics from ancient to modern times. Prerequisite: Ms 12. Cr 3.

**Ms 165. Theory of Numbers**—Elementary properties of the integers. Prerequisite: Ms 28. Cr 3.

**[Ms 171. Introduction to Abstract Algebra]**—Algebraic structures such as groups, rings, integral domains, and fields. Prerequisites: Ms 21 and Ms 22. Cr 3. (Evenings only)

[**Ms 172. Linear Algebra**—An introduction to the theory of vector spaces and linear transformations. Prerequisite: Ms 171. (Offered in C.E.D. only) Cr 3.

[**Ms 173/174. Advanced Calculus**—Functions of real variables, limits, infinite series, partial differentiation, and other topics. Prerequisite: Ms 28. Cr 3. (Evenings only)

[**Ms 175/176. Higher Geometry**—An introduction to various geometries, such as projective and non-Euclidean. Prerequisite: Ms 28. Cr 3.

**Ms 187. Numerical Analysis**—Computational methods for electronic computers with exercises on the IBM 360 for interpolation, simultaneous linear algebraic equations, non-linear and polynomial equation, numerical integration, and ordinary and partial differential equations. Prerequisite: Ms 28 and Ms 169. Cr 3. (Evenings only)

**Ms 197/198. Foundations of Mathematics**—Fundamental concepts and methods of mathematics; viewpoints on the foundation of mathematics. Cr 3.

## PHYSICS

ASSISTANT PROFESSOR ARMENTROUT (on leave 1969-'70)

ASSOCIATE PROFESSOR WALKLING (DISCIPLINE REPRESENTATIVE)

A physics major is not offered at the Portland campus. A student beginning Ps 1/2 in the fall semester of 1969 may expect to complete the first two years of a physics major, after which he must transfer to the Orono campus to complete his program.

Students intending to major in physics should normally register to take Ps 1/2, Ms 12 and Ms 27 as freshmen. Since the degree program is currently completed in Orono, the degree requirements outlined in the Orono section of the catalog will apply to all physics majors.

**Ps 1/2. General Physics**—The fundamentals of mechanics, matter, sound, heat, electricity, magnetism, light, and modern physics. The course meets the needs of engineering and science students. Calculus will be used. *Lec with Dem 2, Rec 1, Lab 3, Cr 4.*

**Ps 1a/2a. General Physics**—The fundamentals of mechanics, sound, heat, electricity, magnetism, light, and modern physics. Similar to Ps 1/2 but modified laboratory program with less emphasis on computations and more emphasis on discussion and graphical methods. Calculus is not used. Meets the needs of premedical and premedical students. *Lec with Dem 2, Rec 2, Lab 2, Cr 4.*

**Ps 3. Descriptive Physics**—For the non-science student. A treatment in non-mathematical language of the more important topics in physics. Designed to develop an appreciation for the concepts, vocabulary, and methods of the science rather than a false sense of mastery. *Lec with Dem 3, Cr 3.*

[**Ps 17/18. Intermediate Physics**—A more mathematical treatment with the calculus of many of the topics in courses Ps 1/2 or Ps 1a/2a, either of which is a prerequisite: (With special permission, students may register for this course under the number Ps 17a.18a without laboratory for three credit hours.) *Lec 2, Comp 2, Lab 2, Cr 4.*

**Ps 36. Introductory Modern Physics for Engineers**—Selected topics in molecular, atomic, electronic, and nuclear physics, intended to meet the needs of the present-day engineering student. College physics, calculus, and some chemistry are prerequisite. *Lec 2, Rec 1, Cr 3.*



## UNIVERSITY OF MAINE

### PSYCHOLOGY

PROFESSOR SALDANA (DISCIPLINE REPRESENTATIVE); ASSOCIATE  
PROFESSORS BISHOP, SANBORN

The discipline of psychology offers a four-year program for students majoring in psychology. It also includes courses for students majoring in allied fields as well as for students wishing an orientation to the field of psychology as part of their general education. Courses are designed to create an awareness of the fundamental principles of psychology, its research finds, and the means by which psychological knowledge is acquired. The emphasis is upon the scientific inquiry into basic phenomena and principles of behavior, not upon the development of professional skills.

The minimum requirement for a major in the discipline is 36 hours, which must include the following:

- Py 1/2        General Psychology
- Py 74        Seminar in Issues in Contemporary Psychology
- Py 141       Statistics in Psychology
- Py 147/148   Experimental Psychology
- Py 171       History and Systems of Psychology

In addition to each major is required to take at least one course from each of the following groups:

- Group 1:** Py 151 Psychology of Motivation  
          Py 155 Psychology of Learning  
          Py 156 Theories of Learning  
          Py 161 Sensation and Perception
- Group 2:** Py 130 Social Psychology  
          Py 132 Mental Hygiene  
          Py 133 Abnormal Psychology  
          Py 138 Theories of Personality
- Group 3:** Py 123 Psychology of Childhood  
          Py 124 Psychology of Adolescence  
          Py 126 Psychology of the Retarded Child  
          Py 127 Psychology of the Superior Child  
          Py 128 Psychology of the Exceptional Child
- Group 4:** Py 111 Business and Industrial Psychology  
          Py 114 Aptitude Testing  
          Py 117 Educational Psychology  
          Py 143 Psychological Test Theory and Individual Differences

In addition to the general requirements above, Ms 19, Principles of Statistical Inference, is also required for the degree in psychology.

**Py 1/2. General Psychology**—A general introduction to the science of behavior. Topics discussed include physiological bases of behavior, sensation and perception, motivation, learning, thinking, intelligence, personality, social behavior and behavior disorders. *Cr 3.* SALDANHA

**Py 45. Principles of Experimental Psychology**—General principles, methods and techniques of experimental psychology. Applications of general methodology and specific techniques to major problem areas in behavioral research. Laboratory exercises provide experience in collecting and reporting data. Prerequisite or to be taken concurrently: Py 141. *Rec 2, Lab 2, Cr 3.*

**Py 74. Seminar in Issues in Contemporary Psychology**—A review of some of the current theoretical issues and research findings in the general areas of psychology. Seniors only. *Cr 3.*

**Py 111. Industrial Psychology**—Applications of psychological principles, facts and research methods to problems of selection, placement, efficiency, equipment design, training, motivation and morale in industry. *Cr 3.* SALDANHA

**Py 123. Psychology of Childhood**—A systematic study of the child's behavior and psychological development. Emphasis upon principles underlying development, methods of child study, and practical implications. *Cr 3.*

**Py 124. Psychology of Adolescence**—A systematic study of the behavioral and psychological development of the adolescent. The adolescent personality and problems of adjustment in relation to the family, the school and the community. *Cr 3.*

**Py 128. Psychology of the Exceptional Child**—A consideration of the development and behavior of the exceptional child. Special emphasis on the practical problems related to the management of children with intellectual, emotional, orthopedic, sensory, and academic handicaps. Prerequisite: *Py 123. Cr 3.* BISHOP

**Py 130. Social Psychology**—A study of social factors in psychology and psychological factors in society with particular reference to the psychology of social attitudes, prejudice, propaganda, group dynamics, and selected social problems. *Cr 3.*

**Py 133. Abnormal Psychology**—The origin, development, and manifestations of the psychoneuroses and major psychoses with a view to better understanding of adjustment. Emphasis on the biological, social and psychological determinants of maladjusted behavior. Prerequisite: *Py 1/2 with grade of C or better. Cr 3.*

**Py 138. Theories of Personality**—A survey of the chief contemporary approaches to the study of personality. Critical issues in personality. Consideration of assessment techniques and research methods. Prerequisite: *Py 1/2 with grade of C or better. Cr 3.* BISHOP

**Py 141. Statistics in Psychology**—A general introduction to the techniques of descriptive and sampling statistics. Emphasis will be placed on measures of central tendency, variability, correlation, hypothesis testing, tests of significance, and simple analysis of variance. Prerequisite: *Ms 19. Cr 3.*

**Py 143. Psychological Testing**—The psychological testing of intelligence, aptitudes, interests and personality. Principles of test construction and administration, the theory of test scores, and the practical utilization of test data will be considered. Prerequisite: *Py 141 or equivalent. Cr 3.* BISHOP

**Py 147. 148. Experimental Psychology**—*First semester:* Techniques and objective approach to the study of human perception, learning, psychophysics, etc. Training in writing psychological research reports. *Second semester:* Basic principles in programming and use of operant conditioning procedures with animal subjects. Planning and conducting an original investigation by the student. *Rec 2, Lab 4, Cr 4.* Prerequisite or concurrently: *Py 141.*

**Py 151. Psychology of Motivation**—A survey of theory, research methodology and experimentally obtained facts related to the activation and direction of behavior. Laboratory exercises provide experience in collecting and reporting data. The course requires planning and conducting an original investigation by the student. Prerequisite: *Py 155. Rec 2, Lab 2, Cr 3.*



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**Py 155. Psychology of Learning**—A survey of the basic principles that underlie the acquisition and retention of new behavior. Emphasis in laboratory work is on the execution and analysis of experiments on animal and human learning. Prerequisite: Py 45. Rec 2, Lab 2, Cr 3.

**Py 156. Theories of Learning**—An examination of the most important current psychological theories concerning the nature of the learning process, including the behavioristic (Guthrie, Skinner, Hull, and Estes) and the Gestalt (Lewin and Tolman) position. An evaluation of the theories will be made. Prerequisite: Py 155. Cr 3.

**Py 161. Sensation and Perception**—Laboratory studies of selected sensory and perceptual processes. Emphasis on experimental methods, including information processing approaches, research findings and theoretical interpretations. Prerequisite: Py 45. Cr 3.

**Py 165. Physiological Psychology**—Neuroanatomy, neurophysiology, and endocrinology considered in their relation to various behavioral processes. Special emphasis on examination of recent research studies. Prerequisite: Zo 3/4, Py 45. Rec 2, Lab 2, Cr 3.

**Py 171. History and Systems of Psychology**—An historical account of the development of psychology: the development of psychological concepts and points of view prior to Wundt; a consideration of the major modern systems and schools of psychology. Cr 3.

SALDANHA

## SOCIAL SCIENCES

PHILLIP A. COLE, CHAIRMAN

### EDUCATION

ASSOCIATE PROFESSORS RHOADES (DISCIPLINE REPRESENTATIVE), SOULE; ASSISTANT PROFESSORS CHRONISTER, COLUCCI; INSTRUCTORS MOORE, SMITH

Education, a discipline within the Social Science Division, concerns itself with direct preparation of school teachers and with providing professional courses for students in any college of the University who wish to meet teacher certification requirements. The program includes 50 hours or more of general education (preferably completed by the end of the sophomore year), an academic area of concentration, and professional courses appropriate to the level. This reflects the goal of producing teachers with a rather broad background, knowledge in some depth of a limited area, and techniques or skills to put this material across to the pupil or student.

At present, UMP offers a teacher-training program that is approved for secondary level only. Many have been able to meet requirements for elementary level, but methods courses unique to elementary preparation are offered only through the Continuing Education Division (late afternoon, evenings, and Saturdays) with no guarantee that required courses will be provided to meet a particular student's need at a given time.

Areas of academic concentration (for secondary teachers) that can be completed at UMP include English, social studies, mathematics, French, and the general science teacher program.

Each student, whether enrolled in the College of Education or in another college of the University, who plans a teaching career must be formally accepted into the Teacher Education Program and needs to complete an activity referred to as the Exploratory Field Experience. This program requires that all students, prior to the completion of their sophomore year, spend no less than one week of observation in a public school classroom. This requirement may be met at any time the University is not in session, but when the public school is in session. The student will serve as an assistant staff member (teacher aid) in addition to observing in the classroom. He will be under the jurisdiction of the school, like any regular staff member, although no compensation is given. This is not a student teaching experience but one which serves to familiarize the student with some of the responsibilities of a full-fledged teacher.

The culminating phase of teacher preparation is student teaching, which involves full-time classroom work in a public school over an eight-week period, during which the student is supervised by the regular classroom teacher and by a supervisor from the College of Education.

Students in education must obtain a 2.0 (C) average or better in the academic concentration area, a 2.0 average or better in the professional courses, and a 2.0 average or better in overall grade point average before the degree will be awarded.

Master of Education: In the fall of 1967, UMP initiated a limited M.Ed. Program, with academic areas of concentration in English, history, and mathematics. Courses have been arranged so that all requirements may be met on the Portland campus. These graduate programs are intended to expand the preparation of the teacher. For those who wish to prepare themselves for such specialized areas of school service as administration, supervision or guidance, several appropriate courses are available at Portland, but such programs must be completed at the Orono campus. Eligibility for admission to programs leading to the master of education degree is based upon the completion of an approved teacher education program appropriate to the graduate program requested.

Specific information regarding aspects of the education program may be obtained from the Education Secretary (204 Payson Smith) or from any member of the education faculty.

**Ed B 2. *The American School***—Examines the nature, role, purposes, and curriculum of elementary and secondary schools, with special attention to the place and function of the teacher within this social institution. This is one of the courses prerequisite to student teaching in all regular undergraduate programs. Not open to freshmen. Cr 3.

**Ed B 3. *Growth-Learning Process***—The pupil and his learning processes, including learning theories, pupil growth patterns, and selected techniques for the study of pupil development. This is one of the courses prerequisite to student teaching in all regular undergraduate programs. Not open to freshmen or sophomores. Cr 3.

**Ed B 4. *The Teaching Process***—The procedures of instructional planning, including such items as improved use of small groups, classroom space, and appropriate teaching materials; measurements, evaluation, and reporting of pupil learning. This is one of the courses prerequisite to student teaching in all regular undergraduate programs. Not open to freshmen or sophomores. Cr 3.



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**Ed M 190. Full-Day Student Teaching (Elementary)**—A full-day, off-campus internship program in a selected school for one half of the semester; a full-day, on-campus program of college courses is provided for the other half of the semester. Special conferences and group discussions as required. Prerequisites: Ed B 2, Ed B 3, Ed B 4 or their equivalents, two methods courses, one of which shall be in reading (preferably Ed M 18), and senior standing. *Cr* 8.

**Ed M 191. Full-Day Student Teaching (Secondary)**—A full-day, off-campus internship program in a selected school for one half of the semester; a full-day, on-campus program of college courses is provided for the other half of the semester. Special conferences and group discussions as required. Prerequisites: Ed B 2, Ed B 3, Ed B 4, or their equivalents, methods course, and senior standing. *Cr* 6.

## HISTORY

ASSOCIATE PROFESSORS COLE (DISCIPLINE REPRESENTATIVE), HUNT; ASSISTANT PROFESSORS ALBEE, CANNON, CONNICK, WITMORE; INSTRUCTOR DIETRICH

The courses offered by the history discipline are intended to provide a broad acquaintance with the past experience of human society. The history curriculum offers the student an opportunity to participate in and investigate the procedures and methods of historical study through lectures, discussion, research, and the writing of history; or, combined with the necessary academic credits in education, the program will provide certification for teaching at the secondary level.

History majors find employment in all fields, including business. Specialization in history is especially valuable as pre-professional training for law, government, diplomacy, theology, journalism, and for library, archival, and museum administration. The history major must complete: (1) either Hy 3.4 or Hy 3a/4a; (2) Hy 5.6; (3) either Hy 115.116 or Hy 147.148; (4) Hy 190 (preferably in the sophomore or junior year), and at least 18 hours of advanced history courses approved by his adviser.

It is recommended that students balance their course selections among categories A, B, and C.

## CATEGORIES

A	B	C
United States	Europe	Asia and Latin America
3.4	1.2	115.116
3a/4a	5.6	135.136
10	101.102	137
159.160	103.104	138
161	107	139.140
162	108	147.148
165	109	149
166	110	150
167	111.112	151
168	121.122	152

169	123.124
170	129.130
171.172	131.132
173.174	133.134
175.176	141.142
178	155.156
182	230
183	
186	
188	
189	
270	

[**Hy 1. 2. Classical and Medieval Civilization**].—The social and cultural development of the ancient Greeks and Romans is treated in first semester. The second semester deals with the social and cultural development of Western Europe in the Middle Ages. Particular attention is given to the great achievements in literature, philosophy, religion, and art. This course satisfies the humanities requirement of the College of Arts and Sciences. *Cr 3.*

**Hy 3. 4. United States History**—From 1789 to recent years. The development of democracy, growth of the West, slavery and sectionalism, the Civil War, Reconstruction, the making of modern America, industrialization, imperialism, and other topics. *Cr 3.*

**Hy 3a/4a. United States History**—The origin and development of American institutions from colonization to the present. Institutional models (e.g.—the family, business, education, etc.) will be presented and their development traced to 1900 in the first semester and to the present in the second semester. *Cr 3.*

**Hy 5. 6. History of Western Europe**—Europe and its civilization from the decline of the Roman Empire to the present. Emphasis on the development of those political, economic, and social institutions that help to explain our present-day civilization. *Cr 3.*

COLE

**Hy 10. History of Maine**—A survey of Maine's social, economic, and political life from primitive times to the present. After a brief study of Indian life preceding white settlement, the periods of colonial, provincial, and state history are covered. *Cr 3.*

JORDAN

**Hy 101. 102. Ancient History**—The political, social, and economic history of the civilizations of the ancient Mediterranean world. Egypt, the Near East, and Greece will be studied in the first semester; Rome will be covered in the second semester. *Cr 3.*

DUCLOS, GOODELL

[**Hy 103. 104. The Middle Ages**].—Europe from late antiquity through the Renaissance. Special emphasis on the Carolingian Empire, the origin, development and structure of feudalism, the medieval church and state, medieval theology and philosophy, and the coming of the Renaissance. Prerequisite: Hy 5 or permission. *Cr 3.*

[**Hy 107. The Renaissance and Reformation**].—The political, social, economic and cultural achievements of Europe in the period 1300-1650. The Protestant revolt, the Catholic reform, and the wars of religion will be evaluated. Prerequisite: Hy 5.6 or permission. *Cr 3.*

[**Hy 108. Europe in the 17th Century**].—The major political and intellectual developments of the period will be emphasized. The special histories



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of each European state will be subordinated to the general problems of state-building, the growth of capitalism and political absolutism, and the diplomacy and wars of Europe as a whole. Prerequisite: Hy 5.6 or permission. Cr 3.

[**Hy 109. *Europe in the 18th Century***—The history of the Continent from 1715 through the Congress of Vienna. Emphasis on the Enlightenment, the Enlightened Despots and the origins of the French Revolution. The impact and spread of French revolutionary thought throughout Europe, and the influence of the personality and military campaigns of Napoleon on the Continent. Prerequisite: Hy 5.6 or permission. Cr 3.

[**Hy 110. *Europe in the 19th Century***—The history of the Continent from 1815 through the Franco-Prussian war. Liberalism and nationalism, reaction and revolution, socialism and imperialism. The impact of the unification of Germany and Italy on the politics and diplomacy of the Continent. Prerequisite: Hy 5.6 or permission. Cr 3.

[**Hy 111. 112. *Europe Since 1870***—The effect of industrialization, the emergence of the masses, the rise and fall of colonial empire and the impact of two world wars. Irrationalist philosophies on the creation of fascism and communism, the recasting of democracy, the development of the European state system and the economic integration of the continent. Prerequisite: Hy 5.6 or permission. Cr 3.

ALBEE

[**Hy 115. 116. *East Asian Civilizations***—Selected topics in the development of Chinese, Korean, and Japanese societies from earliest times to today. Cr 3.

DIETRICH

[**Hy 121. 122. *History of France***—A survey of French history treating the political, social, economic, and cultural development of the nation. The first semester will span the period from the formation of the French monarchy through the French Revolution and Napoleon. The second semester will cover the period 1815 to the present. Prerequisite: Hy 5.6 or permission. Cr 3.

[**Hy 123. 124. *History of Russia***—Russian history from the earliest times to the present. The first semester will treat the political, social, economic, and intellectual development of Tsarist Russia to the end of the Napoleonic Wars. Second semester, 19th century Russia, the decay of the Tsardom, the Bolshevik Revolution, and the subsequent internal development and expansion of the Soviet Union. Prerequisite: Hy 5.6 or permission. Cr 3.

ALBEE

[**Hy 129. 130. *Economic History of Europe***—The economic history of Western Europe in the medieval and modern periods. Agriculture, feudalism, towns and guilds, mercantilism, capitalism, and industrialism. Prerequisite: Hy 5.6 or permission. Cr 3.

[**Hy 131. 132. *Germany Since 1648***—The rise of Prussia, the unification of Germany, the Weimar era, the National Socialist period, and the Bonn Republic. Stress is given to political, economic, and intellectual developments. Prerequisite: Hy 6 or permission. Cr 3.

[**Hy 133. 134. *European Diplomatic History***—A survey of the diplomatic history of modern Europe emphasizing the national foreign policies of the major European powers and changing concepts of international relations. Prerequisite: Hy 6 or permission. Cr 3.

[**Hy 135. 136. *History of China***—First semester: the development of Chinese ideas, institutions, and technology from neolithic times until the eve of

Western expansion into Asia. Second semester: aspects of China's adjustment to the modern world up to the mid-1960's. Prerequisite: Hy 115.116 or permission. Cr 3.

[Hy 137. *History of Modern Japan*—The history of Japan during the past century, with major focus on the Western penetration, the influence of Western ideas on traditional Japanese culture, the emergence of the modern Japanese industrial state, and the rise and defeat of the Japanese empire. Prerequisite: Hy 115.116 or six hours of history, or permission. Cr 3.

[Hy 138. *Problems of Southeast Asia*—An analysis of European imperialist rivalries in the area together with a consideration of the special problems of the new nations recently emerged from colonialism. The background of the French and the American presence in Vietnam will also be treated. Prerequisite: Hy 115.116 or six hours of history, or permission. Cr 3.

[Hy 139. 140. *The Middle East*—The Middle East in modern times, with special emphasis on the impact of the West in terms of political, economic, and cultural change. Prerequisite: six hours of history. Cr 2.

[Hy 141. 142. *The British Commonwealth*—A survey of the modern British Commonwealth. First semester: the history, contemporary position, and problems of Canada, the West Indies and British Africa. Second semester: the Commonwealth countries in Asia and the Pacific. Prerequisite: Hy 5.6 or Hy. 155. 156. Cr 3.

[Hy 147. 148. *Hispanic America*—The Spanish and Portuguese colonial empires in America from their establishment to their achievement of independence in the early 19th century. Second semester: the national period of Hispanic America and an analysis of the contemporary problems and tensions of the area. Prerequisite: No freshmen. Cr 3.

CONNICK

[Hy 149. *Argentina, Brazil, and Chile*—A history of the major countries of South America from their independence in 1823 to the present. Primary emphasis on their social structures, political developments, and international relations. Prerequisite: Hy 148 or permission. Cr 3.

[Hy 150. *Mexico*—A history of Mexico from early times to the present. Emphasis on the social and political structure of Mexico, the Mexican wars of independence, and the revolutionary movements of the 20th century. Prerequisite: Hy 148 or permission. Cr 3.

[Hy 151. *Latin America and the United States*—A survey of United States participation in Latin American affairs from the recognition of independence and the enunciation of the Monroe Doctrine to the Good Neighbor policy and the present day. Prerequisite: six hours of history. Cr 3.

[Hy 152. *Problems of Latin America*—An analysis and evaluation of contemporary Latin American problems. The internal tensions and international relations of the several countries. The rise, spread and development of Castroism in the area. Prerequisite: six hours of history or permission. Cr 3.

[Hy 155. 156. *History of England*—A general survey of the political, social, economic, and constitutional aspects of English history. Special attention to trial by jury, the evolution of Parliament, the Protestant revolt, the commercial and industrial revolutions, and the growth of political and economic democracy. Prerequisite: Hy 5.6 or six hours of history. Cr 3.

ALBION

[Hy 159. 160. *History of Canada*—Canada's history from the earliest settlements in New France to the present. Emphasis on the evolution of Canada



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within the British Empire-Commonwealth, relations with the United States, and on the background of contemporary constitutional, economic and cultural problems. Prerequisite: Hy 3.4, 3a/4a or Hy 5.6, or sophomore standing, or permission. Cr 3.

**Hy 161. *American Colonial History***—Half the semester is devoted to discovery, exploration and colonization. New Spain, New France, New Netherland and New Sweden are compared with the English settlements (13 colonies), each of which is considered in detail. Second half semester emphasizes social and intellectual topics (e.g.—religion, law, medicine, painting, literature, and music). Prerequisite: Hy 3.4 or 3a/4a or permission. Cr 3. CANNON

**Hy 162. *The American Revolution***—The Anglo-French conflict, the series of inter-colonial wars, and the "Old Imperial System" are considered as background to the American Revolution. Subsequently, the period 1763-1789 is treated in detail, including leading personalities, military campaigns, social aspects of the war, and the Constitution (origins, constitutional convention and ratification). Historiography of the period is emphasized. Prerequisite: Hy 3.4 or 3a/4a or permission. Cr 3. CANNON

**[Hy 165. *Hamilton and Jefferson*]**—Special emphasis on Hamilton and Jefferson to include: biographical information, the Jefferson-Hamilton political dichotomy, and its subsequent influence. Following this, a general analysis of social, intellectual, political, economic and diplomatic problems facing the "New Nation" between 1789-1815 is presented. Prerequisite: Hy 3.4 or 3a/4a or permission. Cr 3.

**[Hy 166. *The Age of Jackson, 1815-1850*]**—A consideration of American political, cultural, social and economic development in the first half of the 19th century. Specific topics will include the controversies surrounding Jacksonian democracy, the Bank of the United States, internal improvements, the tariff, "Manifest Destiny," and the sectional-slavery issue. Prerequisite: Hy 3 or 3a or permission. Cr 3.

**Hy 167. *Civil War and Reconstruction, 1850-1877***—The crucial decade of the 1850's, emphasizing the role of the slavery issue in creating sectional anxieties and hostilities and undermining the American political system; secession and the coming of war; the military, political, diplomatic and economic aspects of the Civil War and the challenges and ultimate failure of reconstruction in the post-bellum period. The role played by Abraham Lincoln in the Civil War era will receive particular attention. Prerequisite: Hy 3, 3a or permission. Cr 3. HUNT

**[Hy 168. *The Gilded Age in America, 1877-1914*]**—The United States in the age of enterprise with emphasis on the development of political and economic radicalism, the commercialization of agriculture, the rise of the American city, new directions in social thought, concentration of industrial wealth and financial power, and American foreign policy. Prerequisite: Hy 4, 4a or permission. Cr 3.

**Hy 169. *Early 20th Century America, 1900-1938***—The Spanish-American War and the new imperialism, the progressive movement and the Wilsonian reforms, and America's entry into World War I will be treated. So too will be the return to isolationism, the "Roaring Twenties," the origin and dilemmas of the Great Depression, and the coming of the New Deal. Prerequisite: Hy 4, 4a or permission. Cr 3. CONNICK

**Hy 170. *America Since 1938***—An analysis of FDR and the New Deal, together with a consideration of America's road to Pearl Harbor, World War II, the Cold War, the Fair Deal, the New Frontier, and the Great Society. Special attention will also be paid to the problems of an affluent society and to the civil rights movement of the 1960's. Prerequisite: Hy 4, 4a or permission. Cr 3.

CONNICK

**[Hy 171. 172. *Economic History of the United States*]**—From the colonial period to the present with special attention to the problems raised by the economic evolution of the nation. Prerequisite: Hy 3.4 or 3a/4a or permission. Cr 3.

**Hy 173. 174. *American Diplomatic History***—American diplomatic history from the revolution to the present with emphasis on the formation and application of America's major foreign policies. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

PEIRCE

**Hy 175. 176. *American Social and Intellectual History***—Social and cultural developments as reflected in philosophy, literature, religion, science, politics, and economics. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

**[Hy 178. *History of the American Frontier*]**—The frontier is approached conceptually through a detailed study of the Turner thesis, the historiographical controversy, the study of historical geography, and the frontier as symbol and myth. Two "case histories" are presented as in-depth examples of the frontier experience: first, the Northern Colonial Frontier, and second, the Far Western Frontier. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

**[Hy 182. *Naval History*]**—The influence of sea power on history with major emphasis on the Anglo-American naval tradition since 1750. Naval strategy, tactics, operations and administration will be evaluated during the period of naval growth (1775-1900) and in the subsequent era of the battleship and the fast carrier attack force. Anglo-American naval operations in World War I, World War II, Korea and Vietnam will be specially considered. Prerequisite: Hy 3.4, 3a/4a, or permission. Cr 3.

**[Hy 183. *Maritime History*]**—Ships and trade from colonial days to the present. Emphasis on famous ships and ship builders, the evolution of ships from sail and wood to steam and steel, the effect of the Civil War and two world wars on the American merchant marine, and the relationship between the United States Navy and the merchant service. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

**Hy 186. *Urban History of the United States***—An evaluation of special topics in the rise of the city in America and the development of urban patterns of life. Attention will focus on such subjects as the population shift to the cities, the development of slums and ghettos, the growth of municipal institutions and services, and the relationship of government with city dwellers. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

WHITMORE

**[Hy 188. *History of the South*]**—Studies in selected aspects of the economic, political, and cultural life of the region. Emphasis given to the problems of slavery and race, economic development and stagnation, the relationship of sectional politics to national politics, and the myth and reality of Southern culture and literature. Prerequisite: Hy 3.4, 3a/4a or permission. Cr 3.

**Hy 189. *The Negro in American History***—The experience of black people within American society from the colonial era to the present will be treated through their interaction with the nation's social, political, cultural, and economic institutions. Major topics will include the African heritage, components of slavery,



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abolitionism, segregation, programs of race advancement, and the modern search for identity. Cr 3.

WHITMORE

**Hy 190. Seminar in Methodology in Selected Areas of the Social Sciences**—A one-semester course to introduce students to the library and community resources available to, and used by, social scientists. Course will emphasize student research and writing. Prerequisite: six hours of history. Cr 3.

CONNICK

**Hy 198. Selected Topics in History**—An analysis in depth of a selected controversial historical problem. The topic to be studied and the method of approaching it will be chosen jointly by interested students and the staff. Prerequisite: permission. Cr 3.

**[Hy 199. Problems in Contemporary History]**—An analysis in depth of a selected controversial and contemporary historical problem. The topic to be studied and the method of approaching it will be chosen jointly by interested students and the staff. Prerequisite: permission. Cr 3.

**[Hy 240. Recent Literature in European History]**—A survey of the most important recent literature in the field of European history. Designed to inform the public school teacher and advanced undergraduate of the newest publications and historical controversies. Annotated bibliographies will be prepared. Emphasis on reading and discussing books and articles with applicability to secondary education programs. Prerequisite: Hy 5.6 and six hours of European history or permission. Cr 3.

**[Hy 280. Recent Literature in United States History]**—A survey of the most important recent literature in the field of U.S. history. Designed to inform the public school teacher and advanced undergraduate of the newest publications and historical controversies. Annotated bibliographies will be prepared. Emphasis on reading and discussing books and articles with applicability to secondary education programs. Prerequisite: Hy 3.4, 3a/4a and six hours of U.S. history or permission. Cr 3.

## PHYSICAL EDUCATION

ASSOCIATE PROFESSOR SULLIVAN (DISCIPLINE REPRESENTATIVE); ASSISTANT PROFESSORS STURGEON, FOLSOM, WILLARD; INSTRUCTORS CHAREST, MARTIN.

### Physical Education for Women (Required Program)

The required program is concerned with encouraging the pursuit of exercise as a pleasurable and healthy habit and instilling appreciation, respect, and love for participation in activity.

To fulfill the physical education requirement, students may elect two of three areas. The areas are designated as: 1) Individual and dual or team sports; 2) Dance; 3) Fitness or gymnastics. When the area requirements are satisfied, the student is free to select any activity with the stipulation that it not be a repeat activity. Within each area there is a variety of different activities for which the student may register. This allows the student to choose the activities in which she has an interest and would enjoy.

### Physical Education for Men (Required Program)

The required physical education program for freshman men is designed to establish regular habits of physical activity, to teach basic motor skills, and provide

an exposure to a variety of recreational activities that may be enjoyed in later life. The program takes into consideration the needs of each individual and allows a choice of physical activity to satisfy such needs and the capabilities of each student.

**Pe 1. Foundations of Physical Education** (Men and women)—The “know why” of exercise, along with basic physical conditioning and activity skills. Enables the student to demonstrate to himself, through participating in a battery of tests, the improved physical status he may expect from a vigorous training program. Also incorporates such related health knowledge as pertains to weight control, relaxation, body mechanics, total fitness and the dangers of sedentary living. Two hours a week. No credit.

**Pe 2. Physical Education Activities** (Men and women)—Basic instruction in several carryover sports and activities. Based on the student's individual needs and interests, activities may be selected from the following: circuit training, beginning swimming, volleyball, badminton, handball, squash, bowling, golf, archery, skiing, sailing, softball and tennis. Two hours a week. No credit.

### Professional Courses For Men

The professional courses in physical education are designed for students who have a desire to qualify as physical educators, coach athletic teams, and direct recreational programs. Sound health, outstanding character, proficiency in motor skills, and an alert mind are requirements for admission.

All professional physical education courses offered at the Portland campus of the University of Maine may be transferred for credit to the Orono campus and applied toward a major in physical education. The Portland campus does not offer a major in physical education at present; however, students completing the program of courses listed will be adequately prepared to enter the coaching field upon graduation.

**Pe 9m. Team Sports Skills**—To develop skills, techniques, and understandings for competency in basketball, football, and volleyball. *Cr 1.*

**Pe 10m. Sport Skills**—To develop skills, techniques, and understandings for competency in baseball, track, and tennis. *Cr 1.*

**Pe 11m. Fundamental Physical Education Skills**—To develop skills, techniques, and understandings for competency in soccer and wrestling. *Cr 1.*

**Pe 12m. Fundamental Physical Education Skills**—To develop skills, techniques, and understandings for competency in golf, archery, badminton, fencing, handball, squash, and tennis. *Cr 1.*

**Pe 13m. Physical Conditioning**—To develop skills, techniques, and understanding for competency in mass exercise, floor work, and body development.

**Pe 63m. Coaching Techniques**—Practical instruction in football and basketball for men preparing to enter the coaching profession. *Cr 2.*

**Pe 64m. Coaching Techniques**—Devoted to a study of the mechanics of running, jumping, and weight throwing, with discussions of different styles involved in track and field activities; also a study of approved methods in coaching baseball in all of its phases. *Cr 2.*

**Pe 65m. Coaching Techniques**—Practical instruction in wrestling and soccer for men preparing to enter the coaching profession. *Cr 2.*

**Pe 73. Athletic Training**—Prevention and care of injuries in athletic activities; the use of proper personal and field equipment, support methods, conditioning exercises, the medical examination, and therapeutic aids. *Cr 2.*



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**Pe 1W, 2W. Physical Education**—Activities are chosen from two of the following areas: 1) Team sports (basketball, field hockey, volley ball) and/or individual sports (archery, badminton, golf, skiing, tennis); 2) Fundamentals of gymnastics or fitness; 3) Dance (modern or folk). Two hours a week.

\* Additional courses in the Physical Education professional program will be offered periodically.

### POLITICAL SCIENCE

ASSOCIATE PROFESSOR PEASE (LEAVE OF ABSENCE); ASSISTANT PROFESSORS FISHER, HINMAN, PEIRCE (DISCIPLINE REPRESENTATIVE), ROBERTS.

Courses in political science provide students with a knowledge of the theory, function, and problems of government and politics at local, state, and national levels. Students may compete for a Congressional Internship Program in Washington, D.C., and a State Government Internship for Maine. Students should consult with their advisers for further information concerning these programs. The political science discipline, in cooperation with the Continuing Education Division, is developing a program leading to the master's degree in public administration.

Students majoring in political science must complete a minimum of 36 hours in the discipline, including:

- a) Pol 1/2 Introduction to Government
- b) Pol 183/184 Constitutional Law *or*  
Pol 189.190 Political and Social Thought
- c) Pol 197 Scope of Political Science (senior year)

Note: Pol 21.22, Current World Problems, may not be counted towards major requirements.

In addition, political science majors must complete 18 hours in related areas, choosing one of the following options:

- a) General: any three of the following full-year courses:  
Ay 1/2, Ec 1/2, Hy 3.4, Hy 5.6, Pl 1.2, Sy 3/4.
- b) Specific: 18 hours, including a six-hour foundation course in one of the following fields: Economics, history, psychology, or sociology and anthropology.

#### Course Offerings in Political Science:

**Pol 1/2. Introduction to Government**—An introduction to the discipline of political science, with emphasis on U.S. government and politics. Political systems, cultures, and ideologies. Political institutions, processes and problems in the U.S. Cr 3.

**Pol 21.22. Current World Problems**—Contemporary domestic and international affairs, with special emphasis on events in the Communist world and the under-developed areas. Cr 2.

ROBERTS

**Pol 133. *The American City***—The process of government in urban America including concepts of local self-government, forms and procedures in urban governing, and developments in intergovernmental relations and metropolitan areas. Prerequisite: Pol 1/2. Cr 3. FISHER

**Pol 135. *Democratic Governments of Europe***—An introduction to the parliamentary system, through a study of the governmental operations and politics of Britain, France, and the Federal Republic of Germany. Other topics covered: the Common Market and prospects for European integration; relationship of democratic Europe with Communist Europe. Cr. 3. ROBERTS

**Pol 136. *The Soviet Union***—An introduction to the USSR. Russian and Soviet political history; Marxism-Leninism; the party and state structures; the socialist economy; impact of the regime on the individual Soviet citizen; cultural life. Cr 3. ROBERTS

**Pol 139. *Soviet Foreign Policy***—A survey of Soviet foreign policy as a continuation of Tsarist policies; as a world movement; the Comintern and the Popular Front. Impact of World War II: the emergence of the USSR as a superpower. Post-Stalin modifications. Case studies in contemporary foreign problems, including relations within the Communist world. Cr 3. ROBERTS

**[Pol 156. *Political Parties*]**—Development and present organization and operation of the American party system. Nature and function of major and minor parties, sectionalism, nominating systems, presidential and congressional elections, the electorate, finance, interest groups. Prerequisite: Pol 1/2. Cr 3. HINMAN

**[Pol 157. *The President and Congress*]**—A detailed analysis of the executive and the legislature, their processes, roles, behavior, and leaders; contemporary legislative-executive relationship. Cr 3. HINMAN

**Pol 173. 174. *International Relations***—First semester: the nation-state system, techniques of states in expanding their influence, and restraints imposed on their freedom of action. Second semester: a comparative analysis of the actions of major governments of the world through the study of the implementation of policy in specific areas. Cr 3. PEIRCE

**Pol 183/184. *American Constitutional Law***—The development and interpretation of the American Constitution through Supreme Court decisions. First semester: the nature of the federal judicial process, interstate commerce, taxation, war powers, federal-state relations. Second semester: the Supreme Court and civil rights. Prerequisite: Pol 1/2 or permission. Cr 3. HINMAN

**[Pol 187. *International Law*]**—An analysis from the political perspective of the sources, limitations and institutions of international law in the search for effective legal standards to achieve world order. Alternate years beginning 1970-71. Cr 3. PEIRCE

**[Pol 188. *International Organization*]**—An analysis of the approaches to the problems of peace, economic and social justice at the international level. Emphasis on the United Nations system and its specialized agencies. Spring semesters alternate years beginning 1970-71. Cr 3. PEIRCE

**[Pol 189. 190. *Political and Social Thought*]**—A survey of political theories from ancient Greece to recent times. The basic approach is historical, and seeks to relate theories of politics to the environments in which they developed. Prerequisite: junior or senior standing. Cr 3. FISHER

**Pol 193. *Special Topics in Political Science***—A concentrated program of readings on a particular subject of the student's selection. The readings will be



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chosen with the advice and under the direction of a faculty member. Admission by permission of the political science faculty. *Cr 3.*

**Pol 197. Scope of Political Science**—The scope and nature of the study of politics: power and society; basic descriptive political theory and the role of political institutions. Prerequisite: Pol 1/2. Open to senior political science majors or with permission. *Cr 3.* FISHER

**Sem 5. The Supreme Court and Public Education**—Contemporary educational topics such as integration, religion in the schools, federal aid to education, student unrest, student and teacher rights as seen through court decisions and other readings. *Cr 3.* HINMAN

## SOCIOLOGY AND SOCIAL WELFARE

PROFESSOR ROMANYSHYN; ASSOCIATE PROFESSORS PAULHE, MONSEN; ASSISTANT PROFESSORS GIGUERE, STEINMAN; INSTRUCTOR WATERHOUSE

The world, unlike University disciplines, is not neatly divided into discrete categories. The sociology program informs itself from this idea. The discipline conceptualizes the world of men as a totality of interdependent elements dynamically operating. Contemporary social problems—which is our major concern—will be examined in this light.

These problems, despite their complexity, will be viewed as explicable and capable of resolution when they are approached from a creatively-imaginative sociological perspective. Wars, revolutions, and assassinations do not “just happen”: one can analyze social events and detect connected causative threads. The student of sociology, no matter what his career objective, will be encouraged to thrust himself into the apparent chaos of the social flux and attempt to find these “threads.” Hopefully, he will, in the process, become a truly educated man capable of functioning on high level within the apparent ambiguities of society.

There is a major program here in sociology and students majoring in it who intend a career in this field will be given ample exposure to the “tools of the trade” which will prepare them for graduate school. The sociology major is required to take Ay 1/2, Introduction to Anthropology; Sy 119, Statistical Methods for Sociological Research; Sy 120, Methods of Social Research; and Sy 160, Sociological Theory; as well as Sy 3/4, Introduction to Sociology. The latter course is a prerequisite for all upper division courses.

Students completing a major in sociology will have many interesting occupational choices open to them after graduate school. Graduate work will be necessary, of course, to obtain the more attractive jobs available to sociology majors. College teaching and social research jobs in industry and government abound for those who go on to complete the Ph.D. in sociology; however, the achievement of a master's degree can qualify the student for many interesting, socially useful and financially rewarding jobs.

Students have the option of concentrating in a social welfare sequence within the sociology major. Social welfare is an interdisciplinary area of study. Although it draws heavily from sociology, it derives its knowledge also from history, economics, political science, psychology, and philosophy. The goal is to enable students to understand and critically evaluate the effort of society to deal with its social problems and to improve the quality of life. Socially recognized needs, formal organizations (social agencies), human service professions, and the de-

velopment of social policy within the context of democratic values and changing social order represent key concepts. Study of social welfare is both liberal and pre-professional education. Courses are intended for the general student and for those who wish to prepare for a career in one of the human services.

Also within the discipline is anthropology. The current offering in Ay 1/2, Introductory Anthropology, explores some of the major areas and theories in this field. Although similar to sociology in the common concern with culture, one chief difference is in the attention paid to those biological features which enable man to create a distinctively human world. In addition to such ethnographical matters as custom and social organization, consideration is given to human paleontology and racial formations. Consequently, students specializing in related areas of social sciences will find this study quite valuable. It is expected that in the near future more courses in anthropology will be offered.

### Sociology

**Sy 3/4. Introduction to Sociology**—The fundamental concepts, principles, and methods of sociology; analyzes the influence of social and cultural factors upon human behavior; evaluates effect of group processes, social classes, stratification, and basic institutions on contemporary society. The first semester (Sy 3) concentrates on concepts and principles; the second semester (Sy 4) on application of these to various social problem areas. Cr 3.

**Sy 110. Social Organization**—An examination of selected institutions in modern society, analysis of social roles, processes and structures within typical organized groups, such as industrial, military, religious and fraternal organizations; discussion of bureaucracy, decision making, social conflict; the implication of cultural and technological change. Prerequisite: Sy 3 or permission of instructor. Cr 3.

**Sy 113. Social Disorganization**—The origins and causes of socially disapproved behavior. Ways in which society interprets and copes with the deviant. Study of the major forms of social disorganization; specific social problems are considered, such as suicide, crime, drug addiction, alcoholism, prostitution, mental illness, divorce, group conflict. Prerequisite: Sy 3 or permission of the instructor. Cr 3.

**Sy 114. Social Change**—Analysis of sociocultural factors related to social change and the dynamics of the change process. Sy 3 or permission of the instructor. Cr 3.

**Sy 118. Sociology of the Family**—A sociological approach to the study of the family, including the structure of social relationships, the modern American family as a social institution, the cultural background of the family, and the impact of social change. Prerequisite: Sy 3 or permission of the instructor. Cr 3.

GIGUERE

**Sy 119. Methods of Social Research**—Nature of scientific research; relationship of research to theory; design of social research; sampling, observation and measurement problems; descriptive statistical techniques; correlation. Cr 3.

PAULHE

**Sy 120. Methods of Social Research**—Research design; data collection; multivariate analysis; hypothesis testing; scaling and inference; parametric and non-parametric statistical tests. Cr 3.

PAUHLE

**[Sy 122. Criminology: The Adult Offender]**—Social and cultural factors in the causation of crime among adults; organized crime as a social phenomenon in



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American life; specific types of criminal careers; legal and judicial aspects of crime. Prerequisite: Sy 3, or permission of instructor. *Cr 3*.

**Sy 123. Social Stratification**—Systematic analysis of social differentiation and evaluation. Theories of, and research in, the structure and function of class, caste, and ethnic stratification. Prerequisite: Sy 3, or permission of instructor. *Cr 3*. FIGUERE

**[Sy 125. Industrial Sociology]**—Social factors involved in the development of industries; social consequences of technological change; social organization within industry; problems encountered within the social structure(s) of industry. Prerequisite: Sy 3, or permission of instructor. *Cr 3*.

**[Sy 126. Sociology of Urban Life]**—A descriptive and analytical approach to the study of city life. Emphasis is placed on environment, social organization, the ecological processes, population, areas, housing, and maladjustments. No freshmen. Prerequisite: Sy 3, or permission of the instructor. *Cr 3*. FIGUERE

**[Sy 134. Population]**—Theories of population. Demography; analysis of birth, death, and migration trends. Problems and policies. Prerequisite: Sy 3/4 or permission of instructor. *Cr 3*. FIGUERE

**[Sy 140. Social Control]**—Examination and comparison of major societal control mechanisms. Emphasis on various institutions of social control and their role in establishing and maintaining social order. Prerequisite: Sy 3, or permission of instructor. *Cr 3*.

**Sy 160. Sociological Theory**—A critical examination of the sociological theories of Marx, Max Weber, Durkheim, and contemporary theorists such as Parsons and Robert Merton. Study of developments in sociological theory as related to methodology, social issues, and current trends in contemporary sociology. Prerequisite: Sy 3 and two other courses in sociology, or permission of the instructor. *Cr 3*.

**[Sy 161. History of Sociology]**—Trends and leading figures in the history of sociology. Survey of current approaches and established principles in the field. Prerequisite: Sy 3 and two other courses in sociology, or permission. Seniors only. *Cr 3*.

**[Sy 169. Collective Behavior and Social Movements]**—Behavior of groupings such as mobs, crowds, and riots. Relatively unstructured mass behavior and broad society-wide movements are analyzed. Prerequisite: Sy 3, or permission of the instructor. *Cr 2*.

**[Sy 171. Sociology of Medicine]**—Attention is given to the relationship between sociocultural factors and the occurrence of disease and the social systems which are developed in the treatment and prevention thereof. Prerequisite: Sy 3/4, or permission of the instructor. *Cr 3*.

**Sy 197/198. Department Projects**—For the advanced student. Minimum of 15 hours of department courses as a prerequisite: Apply directly to discipline representative. *Cr 2 or 3*.

### Social Welfare

**Sy 150. Social Problems and Social Welfare Policy**—A critical examination of how society defines its social problems and develops strategies for dealing with them. Social welfare policy and programs are studied within a social and cultural context. Prerequisite: Sy 1/2 or Sy 3. *Cr 3*.

**Sw 152/153. Human Service Organizations and Professions** — Guides the student toward developing a rational perspective on those occupations in service to man, and the bureaucracies which deliver their services. Consideration is given to the interaction between professionals and their clients, as well as to the new emphasis upon the assumption of policy-making roles by clients. Prerequisites: Sy 3 and Sw 150 or permission of the instructor. Cr 3.

**Sw 154/155. Field Experience in Social Welfare** — Conceiving of the community as a laboratory, students engage in field experience to apply knowledge from the social and behavioral sciences in order to deepen their understanding of concepts and test their motivation and capacity for human service. Prerequisites: Sw 150, Sw 152 or permission of the instructor. Cr 3.

**Sw 154 A. Field Experience—Human Service Professions**—A field experience course designed to provide the teacher candidate with experiences which will increase his awareness and understanding of the roles of other human service professionals in community dynamics; an opportunity to use the community as an extended university laboratory for testing application of theoretical formulations drawn from specific social and behavioral studies—especially those relevant to urban or disadvantaged school children. This course requires two full days, or the equivalent, each week for eight weeks. In most cases, class seminars, class meetings in the community, and individual agency internships will be held on Mondays and Wednesdays.

## THE HONORS PROGRAM

H. DRAPER HUNT, SECRETARY

Normally, an incoming freshman will be invited to join the Honors Program on the basis of his intellectual curiosity and initiative as displayed in his high school work, as well as on the basis of his C.E.E.B. test scores. Already enrolled students who have demonstrated marked intellectual curiosity and ability and have maintained a point average of 3.0 or better will be invited to join the program as second-semester freshmen or sophomores. Some few exceptionally qualified juniors may be admitted to the program.

To be considered a member of the Honors Program, a student must successfully complete (with a grade of B or higher) a minimum of four semesters of Honors works, including both semesters of the senior year (Hr 53 and 54) and at least one semester of sophomore group tutorials (Hr 47 or 48). A student who has successfully completed the Honors Program will be awarded his degree with honors, in one of three categories: Honors, High Honors, Highest Honors, depending upon three factors: the quality of the student's senior thesis or research project; his performance on the comprehensive oral examination; and his accumulative average over seven semesters.

The promising student will find in the special independent study program, as well, flexibility and encouragement for his intellectual curiosity.

Early independent study allows a qualified freshman or sophomore to substitute projects carried out under the guidance of professors in appropriate disciplines, in the place of some general, normally required courses.



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*Freshman Year: Hr 41*—Distinguished Freshman Seminar. Discussions and demonstrations displaying the range and nature of the liberal arts and sciences. Offered in the fall semester. Limited to selected freshmen, 3 credits.  
*Hr 45*—Honors Colloquium. Readings and discussion on the basic concepts of Western civilization. Offered in the spring semester. Limited to selected freshman. Three credits.

*Sophomore Year: Hr 47 and 48*—Honors Group Tutorial. Oral and written reports under tutorial direction. The student is expected to read widely in areas outside his normal course program and particular field of interest. The books are selected from an honors reading list, and each group tutorial does substantial reading in three or four areas of thought each semester. Open to sophomores and those students admitted to the Honors Program at the beginning of the junior year. Three credits each semester.

*Junior Year: Hr 51 and 52*—Honors: Specialized Studies. Individual tutorial work in the student's major field. The student will read both in depth and breadth in his chosen area of concentration under faculty guidance, and will select an approved thesis topic by the end of the course. Open to juniors. Three credits each semester.

*Senior Year: Hr 53 and 54*—Honors Thesis. The planning and completion of an honors thesis or research topic. The student will work closely with his faculty tutor and should expect to submit his thesis by May 1. This will be followed by a comprehensive oral examination before a faculty board, in which a student demonstrates both breadth of knowledge and depth of specialization within his major field. Open to seniors. Three credits each semester.











