

1987

University of Southern Maine Undergraduate Catalog 1987-1988

University of Southern Maine

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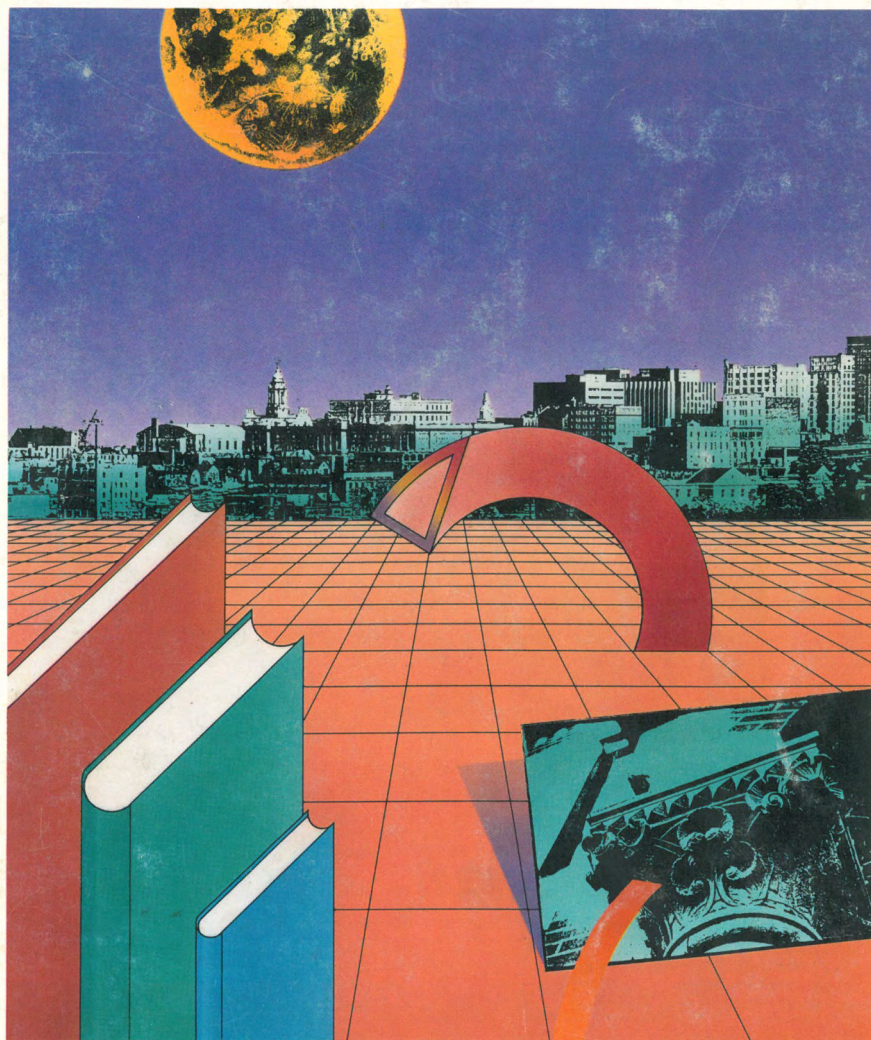
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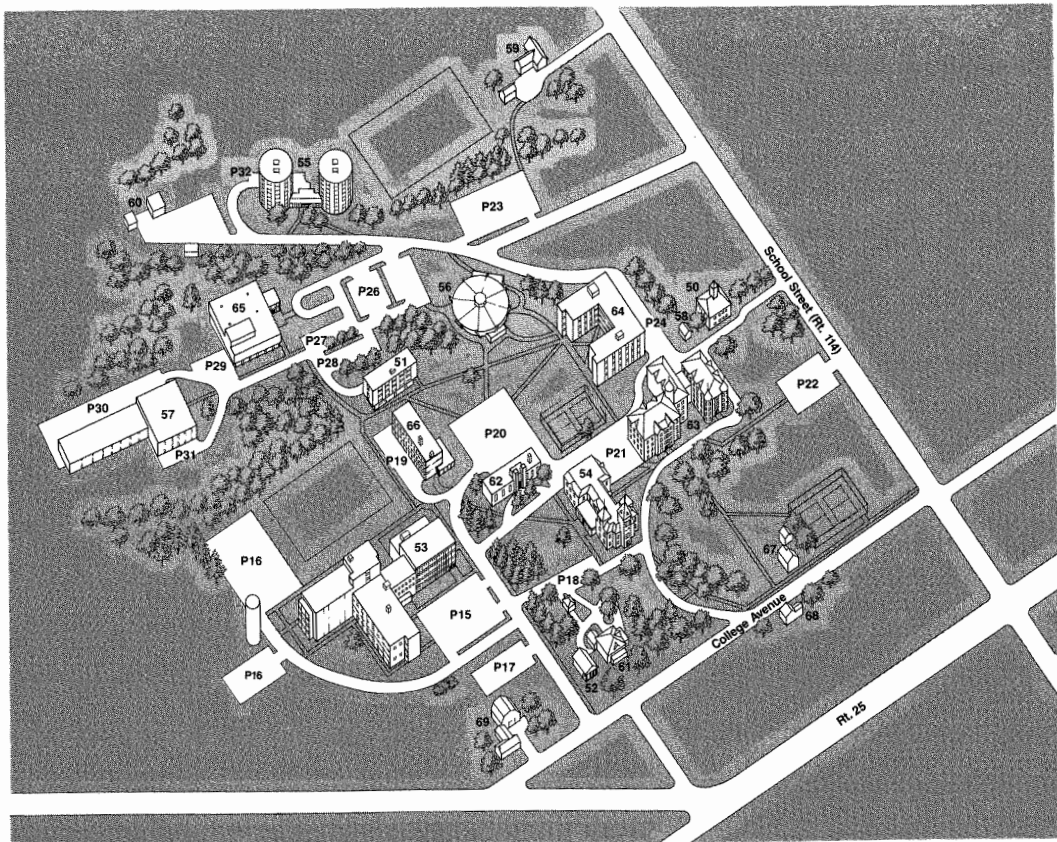
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University of Southern Maine

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Gorham Campus



Gorham Campus

- 50. Academy Building
- 51. Anderson Hall
- 52. Art Gallery
- 53. Bailey Hall (Library)
- 54. Cortell Hall
- 55. Dickey/Wood Hall
- 56. Dining Center
- 57. Industrial Education & Technology
- 58. Mechanical Maintenance Shop
- 59. McLellan House
- 60. Central Heating & Sewerage Plants
- 61. President's House
- 62. Russell Hall
- 63. Robie/Andrews Hall
- 64. Upton/Hastings Hall (Bookstore)
- 65. Warren Hill Gym
- 66. Woodward Hall
- 67. 19 College Avenue
- 68. 24 College Avenue
- 69. 51 College Avenue

Parking

- P15. Faculty/Staff
- P16. Student Commuter
- P17. Faculty/Staff
- P18. Visitor
- P19. Student Commuter
- P20. Faculty/Staff
- P21. Faculty/Staff
- P22. Student Resident
- P23. Student Resident
- P24. Student Resident
- P26. Student Resident
- P27. Faculty/Staff/Student Commuter
- P28. Student Resident
- P29. Visitor
- P30. Student Commuter
- P31. Faculty/Staff
- P32. Faculty/Staff

University of Southern Maine

Undergraduate Catalog
1987-1988

University of Southern Maine

For Gorham mailing address: University of Southern Maine, College Avenue, Gorham, Maine 04038

For Portland mailing address: University of Southern Maine, 96 Falmouth Street, Portland, Maine 04103

The University's main telephone number: (207) 780-4141

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The University of Southern Maine is accredited by the New England Association of Schools and Colleges which accredits schools and colleges in six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

The University of Southern Maine does not discriminate on the basis of race, color, religion, sex, national origin, handicap, or age in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities; and the University practices affirmative action in hiring and in all other conditions of employment for disabled and Vietnam era veterans, as specified by federal and state laws and regulations.

The University of Southern Maine reserves the right to revise, amend or change items set forth in this catalog from time to time. Accordingly, readers of this catalog should inquire as to whether any such revisions, amendments or changes have been made since the date of publication. The University reserves the right to cancel course offerings, to set minimum and maximum size of classes, to change designated instructors in courses, and to make decisions affecting the academic standing of anyone participating in a course or program offered by the University of Southern Maine.

The University of Southern Maine supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide reliable assurance of the quality of educational preparation of its applicants for admission.

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Academic Calendar 1987-1988

Fall 1987 Semester

First Day of Classes	8:00 a.m., Tuesday, September 1
Labor Day (No Classes)	Monday, September 7*
Convocation	Thursday, September 17
	No Classes until 4:00 p.m.
October Break Begins	After all classes on Thursday, October 15
Classes Resume	8:00 a.m., Monday, October 19
Thanksgiving Vacation Begins	4:00 p.m., Wednesday, November 25
Classes Resume	8:00 a.m., Monday, November 30
Last Day of Classes	Saturday, December 12
Final Exams	Monday, December 14 through Friday, December 18

Special Note: Monday 4:00 p.m. and later classes are scheduled for an extra meeting on Friday, October 30

Spring 1988 Semester

First Day of Classes	8:00 a.m., Monday, January 11
Winter Vacation Begins	After all classes on Saturday, February 13
Classes Resume	8:00 a.m., Monday, February 22
Spring Vacation Begins	After all classes on Saturday, March 26
Classes Resume	8:00 a.m., Monday, April 4
Last Day of Classes	Saturday, April 30
Final Exams	Monday, May 2 through Friday, May 6
Commencement	Saturday, May 7

The University

One aspect of the Maine spirit, as naturalist Henry Beston has described it, "... is a positive enjoyment of adventure, character, and circumstance." This same spirit has also helped guide the development of higher education in the state of Maine. For over 100 years, the predecessors of what today is known as the University of Southern Maine have shared a continuing concern to provide an education appropriate to changing circumstances and responsive to the character and sense of adventure of their students.

In 1878, the Western Maine Normal School was founded at Gorham. Its mission broadened and its student body grew, and in 1945 it became Gorham State Teachers College. Similarly, Portland Junior College, developed in 1933 to bring higher education within commuting distance of a growing population, became the University of Maine at Portland in 1957. The two institutions were joined in 1970 as the University of Maine at Portland-Gorham, and in 1978 became known as the University of Southern Maine. Looking back over the history of those schools and colleges, one can appreciate that the University today is stronger because each of its predecessors grew with the times and the students they served.

Not surprisingly, each college and university in the country likes to think of itself as unique, as offering experiences unavailable at other institutions of higher learning. To be sure, the University of Southern Maine has many characteristics typical of medium-sized, public universities elsewhere in the United States. It comprises six academic units (Arts and Sciences, Law, Education, Applied Science, Nursing, and Business); it enrolls over 9,000 students, and is the second largest of the seven campuses making up the University of Maine System; it offers three associate and thirty-eight baccalaureate degree programs, as well as graduate and professional degrees in law, nursing, business, applied immunology, computer science, education, engineering, New England studies, statistics, and public policy and management.

But the University has many unique features, too.

It is both large and small. With 1,100 students in residence on the Gorham campus, the University has the characteristics of a rural, New England college; faculty close at hand and facilities set in attractive pastoral surroundings. At the same time, located in Portland, the state's largest city and the center of financial, business, and cultural activities, the University makes available resources, opportunities, and experiences usually found only in much larger institutions. In addition to its two campuses, three off-campus learning centers serve students throughout southern Maine. All of these sites have been linked via computer and an interactive, color, instructional television system.

The student body of the University is the most diverse in the state of Maine. Over one-half are full-time students; more than 57 percent are women, and the average age of an undergraduate is 26. This diversity of age provides a lively and challenging environment for learning; a context in which scholarship and the experience gained from living complement one another.

The University is also the most cosmopolitan of Maine institutions of higher education. There is easy access to the cultural and social resources of Boston and New York, as well as those of Portland. The City of Portland and the University cooperate to provide internships for students in political science, law, sociology, nursing, and related areas. There is heavy use by the University of community resources including arts institutions, museums, television, and skilled professionals who serve as part-time faculty. The University's Center for Research and Advanced Study engages in a broad range of ventures with municipal, county, state, and federal agencies, as well as with private foundations and industry. These all serve to provide the student with formal and informal learning opportunities in the areas of the arts, humanities, politics, business, mass communication, and high technology. The University maintains a strong faculty and student exchange program with colleges and universities in Britain, Sweden, Ireland, the Netherlands and Brazil and is developing a new program with the People's Republic of China and with Japan.

Most important, however, the University is growing and developing. At a time when many colleges and universities in the country are struggling with declining enrollments, drastically curtailed resources, and a need to redefine their mission, this University, by virtue of its location, range of student body, quality of faculty, and level of support, is responding creatively to its particular circumstances and the challenges of its students. Within the past four years, a new Core curriculum has been established: a curriculum which attempts to define the types of skills and the kinds of learning experiences our graduates should have in today's world. A new University Honors Program provides an enriched undergraduate education to a selected group of students who are outstanding in their ability, curiosity, creativity, and motivation. University Convocation, first begun in 1981 and repeated yearly, seeks to address an issue of interest to the times—"The City," "The Changing Roles of Women and Men," "Peace and War in the Nuclear Age," "The Aging of America," "The Arts in Our Lives," and "The Constitution"—and to engage students, faculty, and citizens in a common discussion across academic disciplines and between the University and the community. New graduate programs in statistics, school psychology, New England studies, applied immunology, and public policy and management reflect a concern with preparing individuals for contemporary careers. The University continually attempts to strengthen its commitment to serve the needs of off-campus students, in-service teachers, and professionals on-site in business and industry. As an urban comprehensive institution, the University is thus a major educational force in the overall growth and improvement of southern Maine: an area often described as the northern part of that business, industrial, and cultural corridor stretching from Washington, D.C., through New York and Boston.

But ultimately, a university must be judged on the basis of its impact upon its students and in terms of the value it imparts to those who join its community. Students at the University of Southern Maine find themselves challenged by a talented and dedicated faculty, stimulated by a diverse and involved student body, and enriched by the type of environment that Portland, one of the country's "most livable cities," affords.

The University of Southern Maine is accredited by the New England Association of Schools and Colleges and has most recently been granted a ten-year accreditation, indicating the University meets or exceeds Association standards; the School of Nursing is accredited by the National League for Nursing; the College of Education by the National Council for Accreditation of Teacher Education; and several departments within the College of Arts and Sciences by specialized accrediting bodies. The University of Maine School of Law is approved by the American Bar Association and the Association of American Law Schools.

In short, the University's challenging academic program encourages students to seek leadership roles in our always changing society. So it was in 1878; so it remains today.

Programs of Study

The University of Southern Maine offers three associate and thirty-eight baccalaureate degree programs as well as graduate and professional degrees in law, nursing, applied immunology, business, computer science, statistics, school psychology, education, and public policy and management. For further information regarding graduate programs, please refer to the Graduate Catalog.

Baccalaureate Degree Programs

College of Arts and Sciences

Applied Chemistry (B.S. degree)	Liberal Studies*
Art (B.A. degree or B.F.A. degree)	Mathematics
Biology (including pre-med, pre-dental and pre-vet)	Music (B.A. degree or B.M. degree in Performance)
Chemistry	Philosophy
Communication	Physics
Criminology	Political Science
Economics	Psychology
English	Self-Designed Major**
French	Social Science
Geology	Social Work
Geography-Anthropology	Sociology
History	Theatre

*Liberal Studies: Declaration of the major is normally done at the end of the sophomore year with the approval of the Liberal Studies Major Board.

**Self-Designed Major: Approval of this program must be given by the Self-Designed Major Committee after students have enrolled at the University.

College of Education

The College of Education offers the following four-year programs leading to the degree of bachelor of science:

- Art Education (certification, K-12)
- Elementary Education (certification, K-8)
- Industrial Arts Education (certification, K-12)
- Music Education (certification, K-12)
- Vocational/Occupational Education (teaching program)
- Secondary Education Mathematics

School of Applied Science

- Computer Science (B.S.)
- Industrial Technology (B.S.)
- Vocational Technology (B.S.)
- Engineering This University offers the first year of the four-year program common to all engineering majors (with the exception of electrical engineering), and the first and second years in engineering physics. These offerings meet the general requirements of the corresponding programs at the University of Maine in Orono. UMO extends preferred transfer consideration to Maine residents.

School of Nursing

- Nursing (B.S.)
- Therapeutic Recreation (B.S.)

School of Business, Economics and Management

- Business Administration (B.S.)
(with majors in business administration, accounting, and economics)

Associate Degree Programs

College of Arts and Sciences

- Liberal Arts (A.A.)

School of Nursing

- Therapeutic Recreation (A.S.)

School of Business, Economics and Management

Business Administration (A.S.)

(with concentrations in accounting; business computer programming; business management; business marketing; hotel, motel, and restaurant management; and real estate)

For further information regarding baccalaureate and associate degree programs, please refer to the appropriate school or college section of this catalog.

Undergraduate Admissions

The University of Southern Maine is an academic community that welcomes applications for admission from qualified women and men regardless of race, color, creed, national origin, handicap, or age. The Admissions Office invites prospective students to visit the campus and to discuss their educational interests. The Office will provide information about academic programs, help students plan a course of study, discuss admission requirements, and arrange a tour of the campus. Prospective students are encouraged to telephone or visit the Admissions Office (207-780-5215) located in Corthell Hall on the Gorham campus.

Admissions Requirements

Although secondary school preparation may vary, the following subjects are required for regular admission to the University. In addition to these, further requirements are imposed by certain schools and colleges. (A unit is equivalent to one year of study.)

General subject requirements

English	4 units
Mathematics	3 units (Algebra I, II and Geometry)

Applicants to the College of Arts and Sciences must also have:

Science	2 units (with lab)
History/Social Science	2 units
Foreign Language	2 units (one language)

(Biology majors must have three lab units of science. Pre-nursing candidates must have biology and chemistry. Foreign language majors must have three units of a foreign language).

Applicants to the College of Education must also have:

Science	2 units (with lab)
History/Social Science	2 units

(Majors in Secondary Education Mathematics must have four units of mathematics.)

Applicants to the School of Nursing must also have:

Science	2 units (with lab)
History/Social Science	2 units

Each student must also satisfy specific academic standards in order to qualify for the clinical portion of the degree program. For further details please refer to the University of Southern Maine School of Nursing section of this catalog.

Applicants to the School of Business, Economics and Management

Admission is first to the School of Business, Economics and Management. Each student must then satisfy additional minimum standards of academic performance for admission to a major in the baccalaureate program or to a concentration in the associate degree program. For further information, please refer to the section, School of Business, Economics and Management.

For specific admissions requirements of art, music, industrial arts, industrial technology, and vocational-occupational education, please refer to the appropriate sections of the catalog.

Admissions Procedures

Admission to degree programs at the University is on a selective basis. The University admits women and men to its baccalaureate and associate degree programs whose academic credentials and life experiences indicate potential for success in higher education.

Each applicant for admission is required to submit a completed University of Maine Application Form and a nonrefundable \$15 application fee. The Application Form calls upon the applicant to detail his/her academic, personal, and recreational background. In addition, the candidate is asked to describe in narrative form his/her interest in the University and the specific degree program for which application is being made.

The University will consider applications for the fall semester at any time beginning in the September of the year prior to the fall semester in which the applicant intends to commence academic study. As some degree programs admit only a limited number of students, applicants are urged to submit their credentials at their earliest possible convenience in order to receive consideration. Applications may also be made to enter the University in the spring semester. These, too, should be submitted early so as to receive full consideration.

Offers of admission may be revoked because of unsatisfactory performance in the final semester of high school or college work.

Admissions Deadline

Since there is insufficient time to provide necessary student services, applications which remain incomplete beyond one week prior to the opening of classes cannot be approved. Applicants who are in this situation may register as Special Students and request reactivation of their application for the following semester. Special Students, however, are ineligible for University housing, financial aid and athletic competition.

Admissions Decisions

The University recognizes that its prospective students may come with differing academic backgrounds and some with a significant time having elapsed since completion of secondary school. The following categories of admission exist to accommodate such students.

Regular Admission Applicants whose academic backgrounds demonstrate the ability to pursue regular, entry-level coursework may be granted regular acceptance to the University. This admissions decision is based upon a comprehensive evaluation of the student's educational record, including standardized test scores (if required), as well as individual talents and activities.

Admission with Conditions Applicants whose academic backgrounds are deficient in some way (e.g., subjects presented, grades, standardized test scores), but who show significant promise, may be granted acceptance with conditions. Such students are fully admitted to the University, and pursue their first year of study under the direction of the Advising and Academic Information Department. Normally, students who are admitted with conditions take a reduced courseload for the first few semesters. These students should expect to take longer to complete a degree program at the University than students granted Regular Acceptance. Students admitted to associate or baccalaureate degree programs with conditions have up to five and six semesters, respectively, to remove their conditions.

To achieve the transition to regular status, the student must complete the minimum proficiency requirements of the University as well as a minimum of 15 credit hours of graded, non-remedial coursework with a grade point average placing the student in good academic standing. Transition to regular status prior to completion of 15 credit hours may be approved if the student earns an exceptional grade point average. The student's assigned academic counselor will assist in completing the transition.

Readmission Matriculated degree candidates maintain their matriculation status for ten calendar years from the first semester of attendance at the University of Southern Maine. If, for any reason other than dismissal from the University, a student does not register for any length of time during that ten-year period and then resumes registration, no readmission is required. If, however, a student wishes to resume studies as a degree candidate after the ten-year period has elapsed, an application for readmission must be filed with the Admissions Office.

Early Admission Students who have completed their junior year of high school may apply for consideration for admission as fully matriculated freshmen within the College of Arts and Sciences. The Early Admission Program seeks to accommodate those students who display both the intellectual ability and the social maturity to succeed in a university course of study.

Students who wish to receive their secondary school diploma after the completion of one year in the Early Admission Program must obtain the prior approval of their secondary school guidance director or principal. Students expecting to receive their secondary school diploma must arrange with the University Registrar to have an official transcript of grades forwarded to the secondary school at the completion of the academic year.

To be eligible for admission, the applicant should have at least a B average and/or rank in the top 20 percent of his or her secondary school class at the end of the junior year. Coursework normally expected to be completed by the end of the junior year includes: three years of English; three years of mathematics beginning at the introductory algebra level; one year of social science/history; one year of biology, chemistry, or physics; and two years of a foreign language. In addition, the applicant should register for and take the Scholastic Aptitude Test (SAT) at the earliest possible date and arrange to have the scores forwarded to the Director of Admissions at the University. The American College Test (ACT) may be submitted in lieu of the SAT for admissions purposes.

Interested applicants should confer with their secondary school guidance counselor or principal regarding eligibility to participate in the Early Admission Program. The student and the principal/counselor should complete the University application, and along with an official transcript, submit it to the Admissions Office, University of Southern Maine, Gorham, Maine 04038.

The Admissions Office in cooperation with the Dean's Office in the College of Arts and Sciences will review each Early Admission application. Students thus admitted under this program are accorded all the rights and privileges of entering freshmen. Academic advising can be arranged upon request through the College of Arts and Sciences Dean's Office prior to and during the first year of the program.

It is expected that Early Admission Program applicants will apply for the fall semester. Application forms must be submitted as early as possible. For fall semester, all Early Admission applications should be received by April 15.

Admission of International Students Due to limitations on available financial aid, applications are encouraged only from international students who are able to fund fully their educational expenses from their own resources. To certify this, a Declaration and Certification of Finances Statement must be filed as part of the application process. This form must be fully documented and notarized and should accompany the completed application. Applicants whose native language is not English are required to submit scores of the Test of English as a Foreign Language (TOEFL). In addition international students must submit test results of the Scholastic Aptitude Test (SAT). SAT scores are not required of applicants who have completed at least one year of university or college study at an English-speaking institution of higher education. For September 1988 admission, all international student admission credentials must be filed with the Admissions Office no later than April 15, 1988.

Enrollment as an Undeclared Major Student Applicants who are undecided regarding their major field of study may request admission as an "Undeclared Major." Undeclared students are assigned an academic counselor in Advising and Academic Information to assist with appropriate course selection and academic planning while selecting a major field of study. This admission option provides students with the opportunity to select their major at an appropriate time during the first 60 credit hours of coursework.

Enrollment as a Special Student The University encourages members of the local community to take advantage of its diverse course offerings. Special Students (those not enrolled in a degree program of study) may take regular credit courses for self-interest and enrichment. Special Students are enrolled each semester on a space-available basis and are not eligible for student financial aid awards, guaranteed student loans, veterans' benefits, or participation in athletics. Interested persons are invited to contact Advising and Academic Information, Payson Smith Hall, on the Portland campus or the off-campus center nearest them for further information.

Admissions Applications

Admission from Secondary School Applicants applying to the University during their senior year in secondary school, or who have been graduated for less than three years and have had no collegiate attendance, must arrange for their secondary school transcript to be sent to the Office of Admissions. Scores from the Scholastic Aptitude Test (SAT) of the College Board must also be submitted. Achievement tests of the College Board are not required. The American College Test (ACT) may be substituted for the SAT for admission purposes.

Admission of Adult Candidates Applicants who have been graduated from secondary school for more than three years must arrange for their secondary school transcript to be sent to the Office of Admissions. Although Scholastic Aptitude Test (SAT) scores are not required for admission of adult candidates, they may be submitted for placement purposes as such scores may be used to declare minimum academic proficiencies.

Admission by Transfer

From Outside the University of Maine System Applicants who have attempted 12 semester hours of credit or more beyond the secondary school level are classified as transfer students and must submit their collegiate transcripts together with secondary school and SAT records. Those transfer candidates who have earned 30 or more semester hours of collegiate credit must submit their collegiate transcripts for evaluation, but may forego submitting secondary school transcripts and SAT scores.

Students applying for transfer from regionally accredited institutions of higher education must have a grade point average which places them in good academic standing at USM. Transfer credit may be given for coursework completed at a regionally accredited institution of higher education only if a grade of C- or better has been achieved in those courses.

Students applying for transfer from non-regionally accredited institutions of higher education must have a minimum 2.75 grade point average (on a 4.0 scale) to be considered for admission. No transfer credit will be awarded for coursework completed at non-regionally accredited institutions of higher education. Students may, in individual cases, petition the dean of the appropriate school or college, for consideration of such coursework.

From Within the University of Maine System Applicants who have completed coursework at other campuses of the University of Maine System should procure an Application Form from the Admissions Office of any University of Maine campus. Students should request that their transcripts be sent to the USM Admissions Office. This will be done at no cost to the student.

Students must have a minimum grade point average which places them in good academic standing at USM to be eligible for consideration for transfer. Students from within the University of Maine System are given preference over all other transfer applicants, but are subject to the same requirements and policies described in this catalog. Coursework completed with a passing grade within the University of Maine System will be granted transfer credit in accordance with Board of Trustee policy.

Trustee policy is to provide the maximum opportunity for transfer within the system. When a student is accepted for transfer within the University of Maine System, all undergraduate degree credits obtained at any unit of the University will be transferable to any other unit but will not be automatically applied to the specific academic degree program to which the student has transferred. Each student will be expected to meet the established requirements of the academic program into which transfer is effected, and appropriate application of that credit is to be the responsibility of the particular academic unit.

Evaluation and Placement

Evaluation of Transfer Credits Undergraduate coursework completed at other institutions of higher education will be evaluated for transfer credit on the basis of the following: whether or not the previous institution was regionally accredited; grades achieved in previous coursework; comparability of courses taken with courses at the University. Credit is not transferred for courses in which the lowest passing grade was earned (exception: courses in which a grade of D was earned are transferable if earned at another campus of the University of Maine System). Courses for which credit is awarded through another institution's credit by examination policy may be granted transfer credit provided both earned credits and grades appear on the transcript and the course is applicable to the student's work at this University. The applicability of transfer credits to USM's Core curriculum and to a student's intended major field of study shall be determined by the Office of Transfer Affairs in conjunction with the appropriate academic department, school, or college.

Placement Examination Program All newly admitted students with a SAT Mathematics score below 450 or a Test of Standard Written English (TSWE) score below 43 must take the Placement Examinations. The requirement applies to (1) new baccalaureate and associate degree students; (2) transfer students with less than 30 transfer credits; and (3) readmitted students with less than 30 credits. Special students are encouraged to take the Placement Examinations and should contact their academic counselor for details. Copies of the publication, *Placement Examination Program*, are available at the Testing and Assessment Center, Portland campus, Advising and Academic Information, and all off-campus centers.

Prior Learning Evaluation

The University recognizes several procedures for the assessment of learning acquired outside a sponsored collegiate setting. This may include standardized examinations (e.g., CLEP), or credit for learning gained through paid or unpaid employment, self-directed study, or through avocational talents and skills. For further details regarding the following options, students should contact the Office for Prior Learning Assessment, 100 Payson Smith Hall, Portland campus (780-4067).

Advanced Placement The University participates in the Advanced Placement Program of the College Entrance Examination Board. Applicants interested in advanced placement with credit should make arrangements to take the Advanced Placement Tests given by the C.E.E.B. in May of each year. The tests may be taken in the junior and senior years of secondary school. Students who score a 3 or better on this test may in certain circumstances be granted credit for an introductory course in an appropriate subject area.

College Level Examination Program In certain cases, credit may be given a student who receives a satisfactory score on a CLEP examination, either the General Examinations or the Subject Examinations. These are as follows:

General Examination The University will grant credit in the following areas for a score of 500 (400 on English Composition/1986 scale) or higher on these CLEP general examinations: English (3 credits, will satisfy ENG 100C); Humanities (6 elective credits); Social Science/History (6 elective credits); Mathematics (6 credits) and Natural Science (6 elective credits).

The five general examinations are designed primarily for students with no previous credits in these areas rather than for transfer students with advanced standing credit at the introductory level.

Subject Examinations Any subject area CLEP examination which is equivalent to a USM course approved to satisfy a requirement of the Core curriculum may be applied to satisfy the Core requirement in that subject area.

The following departments, schools, and colleges have established policies relative to the acceptance of CLEP subject credit: College of

Arts and Sciences (Biological Sciences, Chemistry, History, Mathematics, Political Science, Psychology, and Sociology); School of Business, Economics and Management; and the College of Education, (Educational Psychology, and Human Growth and Development). Interested candidates should contact the Office for Prior Learning Assessment (780-4067) for further information and testing schedules.

Challenge Examinations Students in the School of Nursing's RN Studies Program may challenge selected upper-division courses.

Students may challenge courses in other schools/colleges, with some restrictions.

Portfolio Assessment The University has established a program for assessing learning based on an individual student's portfolio. This program involves a detailed and comprehensive documentation of prior learning, an interview with a faculty assessor, and specific performance or demonstration as appropriate. Details may be obtained from the Office for Prior Learning Assessment, 780-4067.

Armed Services Experience The University recognizes credit based on the American Council on Education's *Guide to the Evaluation of Educational Experiences in the Armed Services*. Interested students should provide a DD 214 form, a DD 295, and/or other appropriate credentials for evaluation.

Employer Training Programs Students who have participated in training programs and courses offered by employers may qualify for credit evaluations through the *Program on Non-Collegiate Sponsored Instruction (PONSI)*. Details may be obtained from the Office for Prior Learning Assessment.

New England Regional Program In cooperation with the New England Board of Higher Education the University offers undergraduate programs of study to qualified candidates from the New England states. Tuition rates for regional candidates approved by the Board of Trustees will be that of in-state tuition plus a surcharge of 25 percent. Because the listing of programs varies from year to year, candidates should check the most up-to-date listings. The following schedule represents the fields of study available at the University in the New England Regional Student Program for 1987-88. The 1988-89 listing will be available from the New England Board of Higher Education during the fall of 1987. Check with your guidance counselor or the Board at 45 Temple Place, Boston, Massachusetts 02111.

<i>Associate Degree Programs</i>	CT	MA	NH	RI	VT
Therapeutic Recreation	O	O	O	O	O
<i>Bachelor Degree Programs</i>					
Art Education	C	X	C	C	C
Criminal Justice/Criminology	X	X	O	X*	C
Industrial Technology	X	X	X	X	O
Therapeutic Recreation	C	O	C	O	X

X = state offers program under the RSP

C = state offers a comparable program, but not under the RSP

O = state does not offer a comparable program; open to its residents

* = pending approval

Tuition and Fees 1987-88

The financial requirements of the University, changing costs, state and legislative action, and other matters may require an adjustment of these charges and expenses. The University reserves the right to make adjustments to the estimated charges and expenses as may from time to time be necessary in the opinion of the Board of Trustees up to the date of final registration for a given academic term. The applicant acknowledges this reservation by the submission of an application for admission or by registration.

Schedule of Expenses

Application Fee An application fee of \$15.00 must accompany each application at each campus unless the student has previously matriculated at this campus.

Matriculation Fee A one-time fee of \$15.00 for each student who elects to pursue a degree program within the University of Maine System.

New Student Advising and Orientation Fee A one-time fee of \$25.00 is required of all new degree candidates.

Student Activity Fee (Compulsory) Undergraduate students taking 6 to 12 credit hours are required to pay a \$14.00 Student Activity Fee. Students taking 12 or more credit hours are required to pay \$23.00. This fee is charged each semester.

Student Recreation and Athletic Fee All students taking 6 or more credit hours are required to pay \$75.00. This fee is charged each semester.

Tuition Charges

Undergraduate Tuition

Maine Resident—\$50.30 per credit hour; no maximum

Non-Resident—\$152.00 per credit hour; no maximum

New England Program—\$62.88 per credit hour; no maximum

Graduate Tuition

Maine Resident—\$57.90 per credit hour; no maximum

Non-Resident—\$174.80 per credit hour; no maximum

Room and Board Charges

Room Charges	Semester	Year
Double Rooms	\$790.00	\$1,580.00
Single Rooms	\$940.00	\$1,880.00
<i>Board Meal Charges</i>		
10 Meal Plan	\$695.00	\$1,390.00
14 Meal Plan	\$715.00	\$1,430.00
19 Meal Plan	\$755.00	\$1,510.00
Students residing on campus <i>must</i> choose one of the meal plans.		

Other Charges

USM Health Services Fee and Insurance Package (Optional)

This optional fee is available to all students who are carrying at least three credit hours. Students may elect this fee of \$132.00 per year (includes \$42.00 USM Health Services Fee and \$90.00 Insurance Fee) with their fall semester bill.

Student Health Services Fee (Optional)

Students may elect this fee of \$42.00 per year with their fall semester bill. This service may be purchased independently of the insurance package.

Late Fee

A late fee of \$25.00 is charged to all students who fail to satisfy their financial obligations with the Business Office when due and payable. This fee will also be assessed to students whose registration checks are returned and not cleared by the specific deadline. Students will also be liable to a \$25.00 reinstatement fee if their registration is revoked for any reason.

Books and Supplies

The cost of books and supplies varies according to the course for which a student is registered. Books and supplies are not billed on the semester invoice. Payment for them must be made directly to the Bookstore at the time of purchase.

Applied Music Fees

The fees are outlined in the music section of the catalog.

Commencement Fee

A one-time fee (\$15.00) for each degree candidate, to be paid six weeks prior to Commencement.

Tuition for Other Classifications of Students

Auditing of Courses Tuition and fees are charged for audited courses at the usual hourly rate.

Adding Courses All adds must be paid for by cash or check at the time of the add, if it results in an additional charge. The \$25.00 late fee will apply if not done so. Bank cards may not be used to pay for added courses.

Tuition and Fee Grants Tuition and fee grants will be restricted to those specifically authorized by the Board of Trustees and include tuition grants for Maine residents over 65 years of age who wish to register for undergraduate courses at any campus of the University of Maine System.

Deposits

A deposit of \$25 is due when the applicant is notified of acceptance by the Director of Admissions. If a residence hall room is requested, an additional \$75 is due. These deposits will be applied toward the student's account when the student registers, and are subject to the refund policy listed below.

The deposits are forfeited if an applicant withdraws after May 1 for the fall semester or after January 1 for the spring semester. If a freshman, transfer, or readmission applicant notifies the Director of Admissions of withdrawal prior to May 1 for September enrollment or January 1 for spring semester, the deposits will be refunded. Notification must be in writing.

Students desiring to live in a residence hall must pay a room deposit of \$75.00 during the spring in order to ensure that rooms will be reserved for them in the fall. The deposit will be applied to the fall semester bill. If it is found that residence hall accommodations are not desired, the deposit will be refunded if the Office of Residence Life is notified by May 1. After May 1, the \$75.00 is nonrefundable.

Payment of Bills

Students who preregister may receive a bill through the mail. However, the University is not obligated to send out such a bill. The student is responsible for paying fees in full or completing financial agreements as noted below by the appropriate due date stated in this catalog or registration instructions. Failure to do so will result in the student being assessed the \$25.00 late fee.

All University bills, including those for room and board in University buildings, are due and payable before the first day of scheduled classes for the fall and/or spring semester. Bills may be paid at the Business Office for Student Billing on either campus by mail or in person. Checks should be made payable to University of Southern Maine.

A \$5.00 penalty is imposed on all checks from which USM cannot receive payment.

Scholarships and grants, other than University awards, which are to be used for tuition payments, should be confirmed with the Business Office for Student Billing on or before the first day of classes in order to receive proper credit against outstanding bills and to avoid a \$25 late fee.

Students not on an authorized deferred payment of fees plan and who have not paid their tuition and fees in full by the due date, may have their registration for that semester cancelled. This means specifically that a student will receive no credit for any courses taken during that semester. Students who are allowed to register in error may have their registrations cancelled. Any fees paid by that student will be refunded to the student or credited against other charges due the University by that student.

Transcripts of records and/or permission to register for succeeding semesters will be withheld from students who have not paid all bills and all loans due the University or who have not made arrangements for proper settlement. Included among these bills are damage to University property, charges or fines owed for violation of the University motor vehicle regulations, and library fines.

Hand bills will be given to students who register during an Orientation

Session. Students registering at Open Registration (two weeks prior to start of classes) must pay at that time. No bills will be mailed.

Installation Payment Service

For parents and students who find it more convenient to make monthly payments, the University of Southern Maine offers a monthly payment service administered by Academic Management Services of Pawtucket, R.I.

This service requires the student to register for and maintain a minimum of six credit hours per semester during the academic year (fall and spring semesters).

The plan enables a student or parent to budget all or part of the fall and spring charges in ten (10) equal installments. The fee for this service is \$45.00 per academic year and includes a life insurance benefit.

Refund Policy

Student charges will be refunded to students who are withdrawing from the University of Maine System in accordance with the schedules and provisions set forth below.

Tuition Refunds

For purposes of calculating tuition refunds, the attendance period begins on the opening day of scheduled campus classes, includes weekends and holidays, and ends on the date the student notifies the Registrar in writing.

Schedules

Refund Percentage

Academic Year (Fall and Spring Term)

Cancellation prior to first day of class	100%
Withdrawal prior to end of first week	100%
Withdrawal prior to end of second week	75%
Withdrawal prior to end of third week	50%
Withdrawal prior to end of fourth week	25%
Withdrawal after fourth week	0%

Sessions which are more than three weeks

Cancellation prior to first day of class	100%
Withdrawal prior to end of first week	75%
Withdrawal prior to end of second week	50%
Withdrawal prior to end of third week	25%
Withdrawal after third week	0%

Sessions which are three weeks or less

Cancellation prior to first day of class	100%
Withdrawal prior to end of week	50%
Withdrawal after first week	0%

Provisions

No part of an **advance deposit** is refundable after May 1. Although such deposits are applicable to tuition charges for students who remain enrolled, they are **forfeited by students who withdraw**.

In no case will tuition be reduced or refunded because of voluntary absence from classes.

Refunds for involuntary withdrawals, e.g., extended illness or military service, will be considered by the campus on a case-by-case basis.

University fees are not refunded, including the Student Activity Fee.

Room Refunds

For purposes of calculating room refunds the attendance period begins on the opening day of scheduled campus classes, includes weekends and holidays, and ends on the date the student provides written notification.

Schedules

Refund Percentage

Academic Year (Fall and Spring Term)

Cancellation prior to first day of class	100%
Withdrawal prior to end of first week	100%
Withdrawal prior to end of second week	75%

Withdrawal prior to end of third week	50%
Withdrawal prior to end of fourth week	25%
Withdrawal after fourth week	0%
<i>Sessions which are more than three weeks</i>	
Cancellation prior to first day of class	100%
Withdrawal prior to end of first week	75%
Withdrawal prior to end of second week	50%
Withdrawal prior to end of third week	25%
Withdrawal after third week	0%
<i>Sessions which are three weeks or less</i>	
Cancellation prior to first day of class	100%
Withdrawal prior to end of first week	50%
Withdrawal after first week	0%

Provisions

No part of an **advance deposit** is refundable after May 1. Although such deposits are applicable to room charges for students who remain in the dormitory, they are **forfeited for students who withdraw**.

This room refund policy pertains to students who are withdrawing from the University of Maine System. Refunds, if any, for students who remain enrolled but vacate a dormitory room will be governed by the terms and conditions of campus residence hall contracts. Refunds for involuntary withdrawals, e.g., extended illness or military service, will be considered by the campus on a case-by-case basis.

Board Refunds

Students who withdraw from the University will be charged for meals at the established daily rate through the date of clearance.

Add/Drop

Students may drop courses during the first two weeks of classes* without incurring any financial obligation for tuition charges. After this time, no adjustment to tuition charges for courses dropped will be made. For students who withdraw from the University, the Refund Policy is applicable.

Credit refunds due from courses dropped will be in the second disbursement of cost-of-living expenses.

All courses added must be paid for by cash or check (not a bank card) at the time of the add unless the maximum charge is applicable or the tuition charge is offset by a drop during the first two weeks of classes in order to avoid a \$25 late fee.

*For purposes of calculation of tuition refunds, the attendance period begins on the opening day of scheduled campus classes, includes weekends and holidays, and ends on the date the student notifies the Registrar in writing.

Rules Governing In-State and Out-of-State Tuition

A student is classified as eligible, or not eligible, for in-state tuition at the time of acceptance to the University. The decision, made by the campus Business Manager, or other official designated by the campus, shall be made in accordance with these rules upon information furnished by the student's application and any other relevant information. No student, having once been registered as an out-of-state student, is eligible for in-state tuition classification unless he or she has been a resident of the State of Maine for at least one year immediately prior to registration for the term for which in-state tuition eligibility is claimed, and also has become legally domiciled in Maine before such registration. If the student is enrolled for a full academic program, as defined by the University, it will be presumed that the student is in Maine for educational purposes and that the student is not in Maine to establish a domicile and the burden will be on the student to prove that he or she has established a Maine domicile by the time of such registration.

In general, members of the Armed Forces and their dependents will be granted in-state tuition rates during such periods of time as they are on active duty within the State of Maine.

The domicile of a student who is an unmarried minor follows that of the parents or legally appointed guardian of the student. In such cases, the domicile of the parent with whom the student lives or to whom custody has been granted by court order, or of the student's legally appointed guardian, shall be the domicile of the student.

If a student classified as an out-of-state marries a person who is domiciled in the State of Maine and asserts the establishment of a domicile in Maine, that student shall be presumed to be eligible for in-state tuition status at such student's next registration.

To change tuition status, the following procedures are to be followed:

A. Submit "Request for Change of Tuition Status" form to the Business Manager, or other designated official. If the Business Manager's (or such other official's) decision is considered incorrect by the student:

B. The student may appeal that decision in the following order:

1. To the Executive Director for Financial Resources or equivalent official as designated by the campus.

2. To the President of the campus.

3. To the Treasurer of the University, whose decision shall be final.

In the event that the campus Business Manager, or other designated official, possesses facts or information indicating a change of status from in-state to out-of-state, the student shall be informed in writing of the change in status and will be given an opportunity to present facts in opposition to the change. The student may appeal the decision of the Business Manager or other designated official as set forth in the preceding paragraph.

No request for change in tuition status will be considered unless filed on or before September 1 for the fall semester, or on or before January 1 for the spring semester. All applications shall be prospective.

Student Financial Aid

To acquire a higher education a student must invest a significant amount of money, as well as time and talent. For many, college costs represent the single largest and most important expenditure they will ever make. For some, these costs are a serious obstacle. The University assists students by offering various forms of financial aid. During the 1986-87 academic year, more than \$7,000,000 was available from aid programs. The average student aid award was \$2,300. In addition, the University helped 2,400 students borrow more than \$4,600,000 in low interest loans from commercial lenders. Over 250 students found jobs with the assistance of the Job Locator Program and earned more than \$800,000. Students may also choose to participate in the Reserve Officer Training (ROTC) program and receive \$100 per month during their junior and senior year.

Eligibility for Aid

Financial need exists when the student and his/her family do not have enough money to pay college costs. Since the federal government provides most of the funds the University allocates to students, need is determined in accordance with a formula approved by the U.S. Department of Education.

Aid can be granted only to U.S. citizens and certain non-citizens. Non-citizens are encouraged to contact the Student Financial Aid Office for more information.

Before receiving funds, a student must be admitted to the University and register for at least six credit hours. Student aid recipients must demonstrate satisfactory academic progress to maintain eligibility. A complete statement of this policy will be found at the end of this section.

Students receiving assistance must submit a Statement of Registration Compliance. This form certifies that the student has either registered with the Selective Service Administration (all males born after 1959 are required to register) or is exempt from registration.

It is important to remember that financial aid is intended to supplement a student's resources. A basic principle of financial aid programs is that the student and his/her family are expected to contribute, when able, from income and assets to meet college costs.

Students must also submit a statement certifying that they have never defaulted on repaying a student loan and do not owe a repayment of federal grant funds. This is provided by the Student Financial Aid Office. Students who have defaulted or owe a repayment are not eligible for assistance.

No student should fail to apply for admission because she or he cannot afford a college education. The Office of Student Financial Aid administers a strong and versatile program. When a student's financial resources are insufficient to meet educational expenses, grants, loans, or employment can usually be made available. If funds are not available from the University, the Office of Student Financial Aid helps students explore other potential sources of aid.

Application Procedures

Students are encouraged to apply as early as possible after January 1. Many find it convenient to apply at the same time a federal income tax return is completed. While no deadline exists for entering students, early application is encouraged. Continuing students should apply before April 1, 1988.

All students must complete a College Scholarship Service Financial Aid Form (FAF). The FAF is available from most high school guidance offices or the Student Financial Aid Office. The FAF includes detailed instructions for completion. If these instructions are insufficient, please contact the Student Financial Aid Office for help.

Students and the parents of dependent students are required to submit copies of tax returns and other financial records to verify information reported on the FAF.

When completing the FAF all undergraduate students, who do not have a bachelor's degree, must apply for a Pell Grant. Students may also use the FAF to apply for state scholarships.

Any student who attended any vocational school or college, other than the University of Southern Maine, must also submit a Financial Aid History (FAH) form. This form, available from the Office of Student Financial Aid, is completed by the student and sent to the school(s) previously attended. The FAH must be completed even if the student did not receive aid from other school(s) attended.

How Financial Aid is Allocated

The University begins reviewing student aid applications in early spring. Once a student is accepted by the Admissions Office, a completed FAF is received, and the University is told how much federal aid it will have for students, a notice of eligibility is sent. If a student receives outside scholarship funds, the amount of aid from the University may have to be reduced.

The amount a student receives is determined by subtracting the student's resources from a budget computed by the Office of Student Financial Aid. This budget is based on typical living and educational costs for a student in a given situation. It may be adjusted if unusual non-discretionary expenses exist.

Even after a student is allocated aid, the amount may be adjusted if the student's financial situation changes. Students and parents *must* promptly report any of the following to the Student Financial Aid Office: a change in income; a change in marital status; a change in the number of dependents; a change in residence; a change in the number of credit hours attempted; and the receipt of financial aid from sources other than the University.

Students are offered aid in a package which may consist of grant and/or loan and/or work-study. Students who have a bachelor's degree usually receive only loan and work-study funds.

Types of Aid Available

Pell Grants This is a federally funded program to help needy students. Grants vary between \$200 and \$2,300 per academic year.

Supplemental Educational Opportunity Grants This is a federally funded program to help needy students. Grants range from \$200 to \$4,000 per academic year.

University and Miscellaneous Scholarships These are funded by the University and private donors. Awards range from \$100 to \$2,000 and are given on the basis of financial need.

Work-Study Employment This is a program funded by the University and the federal government. Eligible students may earn between \$400 and \$4,000 per year. A student's financial need governs the amount that can be earned.

National Direct Student Loans Funded by the federal government, the University, and former borrowers repaying loans, this program lends money to needy students. No repayment is required until after the student ceases his/her education. Once repayment begins, the student is charged 5% simple interest on the amount borrowed. While the monthly repayment amount varies with the amount borrowed, a minimum of \$30 must be repaid each month. Loans vary between \$200 and \$2,250 annually.

Nursing Student Loans Funded by the federal government, the University, and loans repaid by former borrowers, money is lent to needy nursing students. Repayment terms are similar to those of the National Direct Student Loan.

Guaranteed Student Loans This program, sponsored by the federal and state governments, allows students to secure low-cost loans. Contact your local bank, credit union, or savings and loan institution for more information.

Guaranteed Parent Loans This program, sponsored by the federal and state governments, allows parents and some students to secure relatively low-cost loans. Contact your local bank, credit union, or savings and loan institution for more information.

Indian Scholarships/Tuition Waivers This is a program funded by the University that pays tuition, mandatory fees, and on-campus room and/or board. All one-quarter blood North American Indians who have lived in Maine for at least one year are eligible. The residency requirement may be waived for members of the Passamaquoddy, Penobscot, Malacite, or Micmac Tribes. Certification of tribal status is required.

Presidential Scholarships The Presidential Scholarship Program recognizes superior academic accomplishment by assisting in their course of study those undergraduates who demonstrate exceptional academic merit and potential. The scholarships encourage those students who contribute significantly to the life of the University through their academic excellence and intellectual activity.

The Presidential Scholarship Program is competitive. New and currently enrolled students are invited to apply or may be nominated. Candidates will be evaluated on the basis of their academic record and their scholarly promise.

Presidential Scholars will receive a yearly stipend of \$1,000, for a total of \$4,000. Scholars are required to maintain a cumulative grade point average of 3.50. Presidential Scholarships are announced at the beginning of each academic year. During the course of the year, scholars participate in special seminars with the President and visitors to the University. For more information, contact the Admissions Office.

For more information, contact the Office of Financial Aid, University of Southern Maine, Corthell Hall, College Avenue, Gorham, Maine 04038 or telephone 207-780-5250.

Offers of financial aid are conditional upon receipt of funds from all funding sources. The Office of Student Financial Aid reserves the right to revise offers of financial aid at any time during the year based on availability of funds and/or changes in regulation and/or procedures mandated by University, state, or federal authorities.

Standards of Satisfactory Academic Progress

Federal regulations require the University to define standards of academic progress for students receiving financial aid. These standards are used when determining a student's eligibility for aid and are in addition to the requirements established by the Dean or Director of an academic program.

Students are eligible to receive aid while accumulating the number of credit hours normally required for graduation from the school or college in which they are matriculated. If, when the student acquires the number of credit hours usually needed for graduation, all degree requirements have not been met, the student may submit a written request for one additional year of funding. Students are encouraged to consult the University catalog for information about specific degree requirements.

Aid recipients must complete associate degree requirements within eleven semesters. A bachelor's degree must be completed in not more than twenty-one semesters. Further, students receiving financial aid must successfully complete at least six credit hours each semester. Grades of A, B, C, D, P or Y indicate a successfully completed course. A course is not successfully completed if a grade of I, F, INC, AU, L, W or MG is assigned. Plus or minus designations do not affect this requirement.

If an aid recipient does not complete six credit hours during a semester, the student is contacted and encouraged to seek academic counseling to improve academic performance. The student is also placed in a probationary status by the Student Financial Aid Office. If a student on probationary status does not complete six credit hours during a semester, she or he loses eligibility for financial aid.

To reestablish eligibility, the student must successfully complete six credit hours. While earning the credits needed to regain eligibility, the student cannot receive financial aid. A student may either repeat courses presently attempted or register for new courses when reestablishing eligibility. When eligibility is reestablished, the student is again placed in a probationary status.

Aid recipients are expected to complete degree requirements in the shortest possible period of time. Students are expected to register for fifteen credit hours per semester whenever possible. A student is usually allowed no more than two semesters of regular funding while registered for less than twelve credit hours. Once this allowance is used, the amount of money provided for living expenses will be reduced. A student registering for between six and eight credit hours receives 50% of the usual amount; a student registering for between nine and eleven credit hours receives 75% of the usual amount. If a student does not successfully complete the courses for which she or he registers, aid may be reduced, in accordance with the

previously described formula, during subsequent semesters.

Students whose personal circumstances prevent full-time attendance or inhibit academic performance may request an exception to the policy. A written request must be submitted to the Director of Student Financial Aid. The student should explain any mitigating circumstances. Students are encouraged to provide independent verification of the situation. A student citing medical problems, for instance, should provide a letter from a medical authority explaining the condition and how it affects academic performance.

Requests for policy exceptions are reviewed by a committee consisting of the Director of Student Financial Aid and three members of the Student Financial Aid Policy Advisory Committee (two faculty and one student member). The committee will review the request in view of the student's overall academic performance, the documentation provided and the availability of funds. The committee may establish specific criteria for measuring the academic progress of students in exceptional circumstances. When such standards are developed, the student will receive written notification of the exact criteria that will be in effect.

Academic Policies

University Degree Requirements

To be eligible for a baccalaureate degree from the University, a student must meet the following:

- I. minimum proficiency requirements
- II. Core curriculum requirements
- III. school or college major requirements

The Core curriculum requirements apply to all students who entered the University in September 1982 and thereafter. (Transfer students should refer to the section, "Transfer Students and the Core Curriculum," p. 39).

Minimum Proficiency Requirements

Every baccalaureate degree student who is admitted to the University must produce evidence (no credit granted) of both a minimum writing proficiency and a minimum mathematics proficiency. All freshmen students, readmitted students, and transfer students with less than 30 credits, admitted for the 1983-84 academic year and thereafter, must complete both the Mathematics Placement Examination and the Writing Placement Examination before registering in a mathematics or English course. (Details of these examinations may be obtained from the Office of Student Testing and Assessment.) Methods of satisfying the Minimum Proficiency Requirements are summarized as follows:

- A. Evidence of Minimum Writing Proficiency **Do One**
 1. Score 43 or above on the Test of Standard Written English (TSWE)
 2. Pass the Writing Placement Examination
 3. Successfully complete ENG 009 or its equivalent (Developmental English) (no degree credit)
- B. Evidence of Minimum Mathematics Proficiency **Do One**
 1. Score 450 or above on the quantitative subtest of the Scholastic Aptitude Test (SAT)
 2. Score 500 or above on the General Mathematics Test of the College Level Examination Program (CLEP). (This will also satisfy the Core Quantitative Decision Making requirement.)
 3. Pass the Mathematics Placement Examination
 4. Successfully complete MAT 011 (Intermediate Algebra). (Credit for this course may apply only toward associate degrees.)
 5. Successfully complete a 100 level mathematics course (MAT 100-MAT 152 inclusive). Enrollment must be approved by an academic advisor or the chair of the Department of Mathematics. (A passing grade in the course will satisfy both the Mathematics Proficiency requirement and the Core curriculum Quantitative Decision Making Requirement.)

For information regarding the Core curriculum, including a list of courses approved to satisfy the Core, please refer to page 37.

Course Numbering

001-009	No Degree Credit
010-099	Associate Degree Program
100-199	Introductory Level
200-399	Intermediate Level
400-499	Senior Level, others by permission
500-599	Undergraduate and Graduate Students
600-699	Graduate and Professional Students Only

Note:

1. All courses carrying number 010-099 carry credit and quality points toward an associate degree.
2. All courses with number 100 or greater carry credit and quality points toward both associate degrees (A.A. and A.S.) and baccalaureate degrees (B.S., B.A., B.F.A. and B.M.).
3. Matriculated baccalaureate students should not register for courses with numbers less than 100 unless meeting proficiency area requirements.

- Associate degree students who wish to transfer to a baccalaureate program should see their prospective dean for a transcript evaluation and complete a Change of Major form. Some programs require a minimum grade point average (GPA) for transfer into a baccalaureate program. Generally up to 60 credits (but not quality points) of courses numbered 010-099 with grades C or better may be included towards a baccalaureate degree at the discretion of the dean.

Registration

The registration process is conducted by the Registrar, Advising and Academic Information Department, and Business Office. It includes selection of courses, completion of proper forms, and payment of University charges. Newly admitted students are notified by the Advising and Academic Information Department of their orientation, advising, and registration schedule. The Advising and Academic Information Department coordinates the new student academic advising and initiates the registration procedure by approving course schedules prior to processing by the Registrar and Business Office.

Continuing degree students may preregister in priority order, based on the number of credits earned through the previous semester. Pre-registration is conducted near the end of each semester for the following semester. Eligible students who fail to preregister must then wait until the open registration period which immediately precedes each semester. Non-degree students (special) may register only during the open registration period. Degree students must obtain advisor approval prior to registration. Non-degree students must have approval from the Advising and Academic Information Department prior to registration. No student may register for more than 18 credits in one semester without the permission of his or her advisor and the dean. No registration is complete unless all related financial obligations to the University are satisfied. No registration will be accepted after the second week of classes.

Grading System

Grades at the University are given in terms of letters, with the option of a plus or minus designation, representing levels of achievement. The basis for determining a grade is the relative extent to which the student has achieved the objectives of the course. The student's work in each course is graded as follows:

- | | |
|-----|---|
| A | High honors |
| B | Honors |
| C | Satisfactory, successful, and respectable meeting of the course objectives |
| D | Low-level work, below the average required for graduation for an undergraduate, and a failing grade for a graduate student. In addition, individual departments may limit the number of D grades accepted, as stated in the departmental sections of this catalog. The paragraphs on Minimum Grade and Academic Suspension and Repeated Courses should also be noted. |
| F | Failure to meet the course objectives |
| P | Pass; given only for certain courses open to the pass-fail option |
| I | Incomplete; a temporary grade given when the student, because of extraordinary circumstances, has failed to complete the course requirements. Incomplete grades must be resolved by the end of each subsequent semester; the Registrar shall notify faculty members involved, and their department chair; of students who have carried unresolved incompletes on their transcript for one semester. If the incomplete is not resolved by the instructor, an I grade will be automatically counted as an F in the grade point average and so indicated on the student's permanent record. Under special circumstances, the instructor may request that the dean extend the time limit for a specific period. |
| INC | Permanent Incomplete. When a temporary incomplete (I) grade is not resolved to a normal letter grade, a permanent incomplete may be assigned in extraordinary circumstances as |

- determined by the instructor and the dean. In unusual circumstances wherein the faculty member is no longer available, the dean may exercise this function.
- L Stopped attending. The grade of L may be assigned to students who stopped attending a course without officially dropping the course. The grade of L will be computed as an F for purposes of the student's grade point average.
- MG Missing Grade. Occasionally, faculty assign students invalid grades for a course, or fail to submit a grade for a particular student in a course. In these cases, the Registrar's Office will note this act by designating a missing grade, or MG instead of a grade for the course. Missing Grades must be resolved by the end of each subsequent semester. The Registrar shall notify faculty members involved, and their department chair of students who have carried unresolved MGs on their transcript for one semester. If the missing grade is not resolved by the instructor, an MG grade will be automatically counted as an F in the grade point average and so indicated on the student's permanent record. Under special circumstances, the instructor may request that the dean extend the time limit for a specific period.
- W Withdrawal after the second week through the sixth week of a semester. If a student has not officially withdrawn by the end of the sixth week of the course, one of the above regular grades, normally F, will be assigned. The W notation may be obtained after the sixth week under unusual circumstances if so determined by the instructor and the dean. A threat of failure is not considered to be an unusual circumstance.
- Y Satisfactory progress after one semester of a two-semester course; grade and credits to be given upon completion of second semester.
- AU Student attended courses on a noncredit basis.

Grade Point Averages

The academic standing of each student is computed by the Registrar at the end of every semester. The following table represents the rating scale:

A	4.00 grade points per credit hour
A-	3.67 grade points per credit hour
B+	3.33 grade points per credit hour
B	3.00 grade points per credit hour
B-	2.67 grade points per credit hour
C+	2.33 grade points per credit hour
C	2.00 grade points per credit hour
C-	1.67 grade points per credit hour
D+	1.33 grade points per credit hour
D	1.00 grade points per credit hour
F	0.00 grade points per credit hour

To compute the grade point average for a semester, first multiply the grade points earned in each course by the number of credit hours assigned to that course. The resulting product is the number of quality points for that course. Then divide the total number of quality points earned during the semester by the total number of credits carried in that semester. The result is carried out to four decimal places to produce the grade point average for that semester.

To compute the cumulative grade point average, divide the total quality points earned by the total credits attempted in all semesters.

Dean's List

At the end of each semester, full-time, undergraduate degree students (12 semester hours or more) with grade point averages of 3.2 or above will be placed on the Dean's List. Those students on the list, whose names appear in the Public Directory of the University, will have their names released to the news media. Part-time students who attend both the fall and spring semesters and complete 12 hours are eligible for the Dean's List at the end of the spring semester. The eligibility requirements are the same as for full-time students except that the coursework for the entire year is considered.

Minimum Grade and Academic Suspension

Minimum cumulative grade point averages for all undergraduate programs at the University are as follows:

	<i>For Good Standing</i>	<i>For Probationary Standing</i>
<i>Associate Degree Programs</i>		
0-15 credit hours	1.60	1.35
16-30 credit hours	1.80	1.60
31-45 credit hours	2.00	1.80
<i>Baccalaureate Degree Programs</i>		
0-30 credit hours	1.70	1.50
31-60 credit hours	1.80	1.60
61-90 credit hours	1.90	1.70
91 or more credit hours	2.00	1.80

Students may be suspended from the University by the dean of the appropriate academic unit. Students who have two consecutive semesters of probationary standing may be suspended at the discretion of the dean. Ordinarily, a student may be suspended by the dean in consultation with the department chair or the student's advisor if the student's semester average falls below 1.0. While under suspension, students may not take coursework to be applied for credit at the University either at the University of Southern Maine or at other institutions without permission of the dean of the suspending academic unit. Academic suspensions are imposed for a length of one academic semester. Other standards vary from college to college and are outlined in the letter of suspension directed to the student from the appropriate dean. For details concerning disciplinary suspension and dismissal, consult the Disciplinary Code, published in the Student Handbook.

Students with majors or minors in English, history, political science, or psychology in the baccalaureate program of the College of Arts and Sciences, or the secondary education mathematics program of the College of Education must achieve at least six credits with grades of B or better in their major or minor requirements. No grades of D will count toward fulfillment of the major or minor requirements in these programs.

Industrial arts education majors must maintain a 2.5 cumulative index prior to and throughout the professional sequence, i.e., IEA 380, IEA 381, and EDU 324. No more than one D grade will be accepted in the technical and professional courses required of industrial arts majors.

Re-enrollment after Academic Suspension

Matriculated degree candidates may apply for re-enrollment at the University in accordance with the stipulations outlined in their letter of suspension. Unless noted otherwise in the letter of suspension, the student is eligible to re-enroll after one semester.

Unsatisfactory Progress

A student who is a degree candidate is expected to complete and pass the courses for which he or she is registered during a given semester. A student who fails or withdraws from more than two courses during a semester may be placed on academic probation or suspended by the dean of the college, school, or division.

Academic Dismissal

Students placed on academic suspension for a second time are dismissed from the University. In rare cases, students may be readmitted if they can provide evidence of significant academic improvement to the dean of their school or college. Such evidence would normally include high quality academic coursework at another institution. For details of disciplinary dismissal, consult the Disciplinary Code, published in the Student Handbook.

Class Membership

A minimum of 120 credit hours for graduation is required in most baccalaureate-level programs and 60 credit hours in associate-level programs. At least 30 credits should be earned each year. To progress satisfactorily through the University, a full-time student would carry at least 15 credit hours each semester. Permission must be obtained from the advisor and the appropriate dean to carry more than 18 credit hours.

For standing as a sophomore, a student shall have completed at least 19 percent of the hours required for graduation, for junior standing 44 percent, and for senior standing 69 percent.

The required number of credit hours by classes, schools, and colleges are:

<i>School or College</i>	<i>Sophomore</i>	<i>Junior</i>	<i>Senior</i>
Applied Science	23	53	83
Arts and Sciences	23	53	83
Business, Economics and Management			
Baccalaureate Programs	23	53	83
Two-Year Business	23		
Education			
Music Education	26	60	94
Elementary Education	23	53	83
All Other Programs	23	53	83

Schedule Changes

Once a semester commences, a period of one week is permitted to add courses and select or reverse the pass-fail option. A period of two weeks is permitted to drop courses with no grade notation. This procedure enables the student to make the necessary changes in the planned curriculum. A student dropping a course after the second week through the sixth week of classes will receive the grade notation of W. If a student has not officially withdrawn by the end of the sixth week of the course, he or she will be assigned a regular grade, normally F. The W notation may be assigned after the sixth week under unusual circumstances if so determined by the instructor and the dean. All students who register for a course and neither complete the course objectives nor officially withdraw in any one of the procedures described above will be graded F in the course and must assume all financial obligations associated with it.

Students who find that their names are not on the instructor's official list should check immediately with the Registrar's Office to make necessary corrections in the registration records.

Pass-Fail Option

The purpose of the pass-fail grade option is to encourage a student to broaden his or her educational experience with a reduced risk of lowering the overall grade point average. The student's choice is kept confidential and the instructor grades the student in the same manner as the rest of the class. The Registrar will retain the instructor's submitted grade on file. If the grade is A, B, C, or D it will be converted to a P and any other grade will be handled as described in the Grading System section beginning on p. 25 of this catalog. Please note that F grades will be included in grade point average computation.

Courses taken to satisfy Core curriculum, major, or minor requirements may not be taken pass-fail. Undergraduate degree candidates may register for a maximum of six hours of pass-fail credits in any one semester, up to a maximum of 18 hours of the total credit hours required for graduation.

Students may exercise the pass-fail option only during the registration period or during the add period each semester. The pass-fail option, once contracted, may be reversed only during the add period.

Repeated Courses

When a student repeats a course and earns a grade of A, B, C, D, F, or P, the initial grade remains on the transcript but only the later grade is used in computing the grade point average or for credit. No course in which one of the above grades has been earned may be repeated more than once without written permission of the dean or director of the appropriate school, college, or division. This policy does not apply to courses specifically designed to be repeated. Students should complete a Course Condition form each time they repeat courses.

Auditing Courses

Students who register to audit a course receive no credit for the course but will have an audit grade recorded on their transcripts. Audit courses must be declared at registration.

Independent Study

Junior and senior students may elect independent study in their major for one to six credits. Normally, no more than three credits may be earned in a semester. The student submits an independent study application which

includes a detailed description of the proposed program of study. Permission of the instructor and approval by the department chair are required. The approved independent study form is filed with the Registrar during the registration period.

Variable Credit Courses

A student should complete the necessary form during registration at the Registrar's Office. Variable credits may be obtained only for those courses so designated.

Grade Report

Grade reports are mailed to all students at their home address of record approximately two weeks after the end of each semester. Final grades cannot be secured in advance from the Registrar.

Permanent Academic Record

The permanent academic record including transfer credit evaluation is maintained by the Office of the Registrar for all students of the University. While the grade report is the unofficial notification to the student, academic dean, and advisor of the student's academic achievements for a given semester, the only true and valid documentation of academic work and student status is an official transcript of the academic record, stamped with the Registrar's signature and embossed with the seal of the University. The transcript is available only with the signature of the student and will be released to that student or a designee provided there are no outstanding charges against his or her account with the Business Office. There is a charge of two dollars for a single transcript and one dollar for each additional copy ordered at the same time. Other types of transcripts are: Unofficial—Issued Directly to Student, available at no charge to an active student, but limited to one per semester and only after grades are posted for that semester; Placement Transcript provided for the student's placement folder. This is unofficial, but may be reproduced by the Counseling and Career Development Office for prospective employers at no additional cost.

Academic Record Changes

Considerable care is taken to ensure that course registration and grades entered on a student's permanent record are accurate. Any student who suspects an error has been made should take the matter up immediately with the Registrar's Office. Records are assumed to be correct if a student does not report to the Registrar's Office within one year of the completion of the course. At that time, the record becomes permanent and cannot be changed.

Coursework at Other Institutions

Matriculated students at the University are expected to secure written approval from the appropriate dean prior to taking coursework at another institution. Credit approved for courses taken at other institutions will count towards the total degree hours required but will not be computed in the student's cumulative grade point average. For further information, contact the Office of Transfer Affairs.

Graduation Requirements

In addition to the minimum requirements of 120 credits for a baccalaureate degree and 60 credits for an associate degree, a candidate must (a) receive passing grades in courses required by the University, the school or college, and the major department; (b) accumulate the number of credit hours required by the school or college in which the student is registered; (c) achieve an accumulative average of not less than 2.00; (d) meet the requirements of the major department; (e) complete an Application for Degree form with the Office of the Registrar at the beginning of the semester of graduation. Responsibility for successfully completing the requirements of the program resides with the student.

Residence Requirement

In all undergraduate divisions of the University, a minimum of 30 credit hours including at least 9 hours in the major field, must be completed while registered in the school or college from which the degree is sought. A student may earn no more than 6 of these 30 credit hours at another campus of the University of Maine System. Unless special permission is granted by the dean of the school or college concerned to pursue work elsewhere, the work of the senior or final year must be completed at this University.

Graduation with Distinction

Graduating seniors are cited for graduation honors on the diploma and on the transcript. Students who have achieved a cumulative index of 3.50 or higher graduate *summa cum laude*; those with a cumulative index of 3.25 to 3.49 inclusive graduate *magna cum laude*; and those with a cumulative index of 3.00 to 3.24 inclusive graduate *cum laude*. The cumulative index for the purpose of graduation with distinction is based on the student's total college record.

Transfer students (including those transferring within this University from a two-year to a four-year program) must maintain a cumulative average of 3.0 or above for coursework in the baccalaureate program, and must earn at least 30 credits, normally the final 30 credits, at the University.

Post-Baccalaureate Study for Second Degree

A second bachelor's degree may not be granted a student until he or she has completed an additional year of college work, as represented by a minimum of 30 semester hours beyond the requirements for the first degree. Such work must be completed in accordance with all other University regulations.

It is the responsibility of the Office of the Dean of the school or college in which the second degree is sought to provide the approval for undertaking the second degree and certifying the completion of all requirements prior to receipt of the second degree.

Students who have already earned one baccalaureate degree and are undertaking work for a second baccalaureate degree are not required to satisfy Core curriculum requirements.

Withdrawal from the University

To withdraw from the University, a student must secure an official withdrawal form from the Registrar's Office and complete an exit interview with a member of the Educational Services staff.

If a student withdraws from the University during the first two weeks of the semester, there will be no courses or grades recorded. Students withdrawing after the second week through the sixth week will receive a W grade for each course in which the student was enrolled. Students withdrawing after the sixth week will receive regular grade designations as determined by the instructors. Under unusual circumstances, grades of W can be assigned after the sixth week if approved by both the instructor and the dean.

Students in good standing who have withdrawn from the University and who wish to return at a later date should follow the instructions given under Matriculation Status (Leave of Absence).

Information concerning financial obligations to the University relative to the withdrawal policy will be found on page 17.

Matriculation Status (Leave of Absence)

Matriculated degree candidates maintain their matriculation status for ten calendar years from the first semester of their attendance at the University of Southern Maine. If, for any reason other than dismissal from the University, a student does not register for any length of time during that ten-year period and then resumes registration, no readmission process will be required. In such cases the student should simply contact the Registrar's Office for registration instructions. If, however, a student wishes to resume studies as a degree candidate after the ten-year period has elapsed, an application for readmission must be filed with the Admissions Office.

Catalog Effective for Graduation Requirements

Freshmen and new transfer students (including transfers from other campuses of the University of Maine System) must satisfy the graduation requirements set out in the catalog in effect for the first semester of their attendance as a matriculated student. Students whose matriculation at the University has expired forfeit the right to pursue a degree according to the provisions of the original catalog and are bound instead by the catalog in effect for the first semester of attendance as a readmitted student.

At the student's choice, a later catalog may be selected for graduation requirements; but a student may not select an earlier catalog. In some cases, academic units have specific time limits for completion of graduation requirements. If so, that time limit will be noted in the appropriate school/college/division section of this catalog.

***Change of Major
within a School
or College***

Permission to change from one major to another is granted by the dean and head of the department in which the student expects to major. A form for the change may be obtained from the Registrar's Office. A change-of-major form must be filed with the Registrar's Office. Requests from undeclared students and admitted-with-conditions students must be processed by the Advising and Academic Information Department.

***Change of College
or School***

Information on the procedure for change of college or school may be obtained from the Registrar's Office or Advising and Academic Information Department.

Double Majors

When a student completes the basic requirement for graduation from schools or colleges and the course requirements for two majors, the student should request the dean to notify the Registrar, who will record the double major on the student's transcript.

Attendance Policy

The attendance policy is left to the discretion of the faculty member. Each semester, it is the responsibility of the faculty member to inform the students in each class of the attendance requirements for that class.

Examination Policy

The examination policy states that it is the responsibility of the faculty member to inform the students in each class of the examination requirements for that class. Usually, two to four preliminary examinations are administered in each course and count heavily toward the final grade. Giving a final exam is not mandatory; however, in classes where they are given, the examinations must be scheduled within the specific final exam period. Take-home exams are also due within the final exam period. By action of the Faculty Senate, no test or exam may be scheduled during the last week of classes.

***Absence from a Final
Examination***

Students who miss a final examination and are failing the course at the time will usually be given the grade of F instead of being marked I for the semester grade. A student who misses a final examination should immediately contact the instructor to apply for a special examination.

***Independent Study
Term***

Information regarding an independent study term is provided in the section of the catalog describing the College of Arts and Sciences.

***Confidentiality
Policy***

The University complies totally with the Family Rights and Privacy Act of 1974 (the Buckley Amendment). For the complete University Confidentiality Policy, consult the Office of the Registrar on either campus.

Student Life and Services

The University offers a wide range of academic and extracurricular services to supplement, enhance, and support students as they progress toward their educational goals. The breadth of these services is designed to accommodate the needs of a diverse student population.

Academic Advising

The University provides academic advising throughout a student's educational career. With the assistance of faculty from the schools and colleges of the University, the Advising and Academic Information Department conducts a New Student Advising Program for all newly admitted degree students. Upon declaring a major and being accepted by the appropriate department, students are assigned a faculty advisor in that academic department. Students are strongly encouraged to maintain regular contact with their academic advisors throughout their career at the University.

First Enrollment Advising and Registration

All newly admitted students are invited to participate in the New Student Advising Program conducted during the summer prior to the student's first fall semester. This program is repeated in December for those students entering the University for the first time in January. The program allows the new student to register for his/her first semester of coursework with the benefit of an interview with an academic advisor. During that interview, such issues as the Core curriculum requirements and the requirements of the major may be fully discussed.

Continuing Academic Advising

Following initial advising and registration, students, during their first semester at the University, are assigned for permanent advising to the department of their declared academic major. Students are encouraged to maintain close contact with their department advisor once this assignment has been made.

For certain students, however, the assignment of a permanent department advisor may be delayed. For such students the following arrangements are made.

Students who have not declared a major are provided academic advising by the Advising and Academic Information Department. An academic counselor assists the student in the development of educational goals and the selection of an appropriate major. Students should be ready to declare a major before completing 60 credits of coursework at the University.

Students "admitted with conditions" are assigned to the Advising and Academic Information Department staff for academic advising during the period they complete required coursework. Upon completion of these requirements, the student is assigned an advisor in his/her major department.

Special (non-degree) students (those who are enrolled in courses at the University on a space-available basis and who have not applied for admission) are advised by the Advising and Academic Information Department staff.

Students having questions regarding general academic policies and procedures, as well as about other aspects of University programs, are encouraged to contact the Advising and Academic Information Department office in Payson Smith Hall on the Portland campus (780-4040) and in Corthell Hall on the Gorham campus (780-5340).

Off-Campus Advising and Student Services

Students attending one of the University of Southern Maine off-campus centers (Bath-Brunswick, Saco-Biddeford, Sanford) may take advantage of the range of advising and support services listed on these pages. Each center is staffed by an academic adviser who provides services in cooperation with the appropriate on-campus department to ensure consistency and smooth transition. Services include academic advising, new student programs, placement testing, financial aid assistance, veterans' counseling,

registration, billing assistance, and admissions information. Also offered are a variety of social, general interest and student government-related activities. A more in-depth description of off-campus programs and services is available on page 231 of this catalog.

Student Testing and Prior Learning Assessment Services

The Office of Student Testing and Assessment is responsible for evaluating entry-level skills of students and the development of measures to assess student needs and interests. The Office administers national examinations, and coordinates the Prior Learning Assessment Programs through the Office of Prior Learning Assessment.

Students are encouraged to contact the Office of Student Testing and Assessment (780-4383) for general information regarding the various assessment programs available, and the Office of Prior Learning Assessment (780-4067) for specific information about prior learning assessment programs.

University Library

The University Library provides a full range of services on both campuses. In Portland the library is located in Luther Bonney Hall and in Gorham it is located in Bailey Hall. During regular semesters these libraries are open every day for a total of 86 hours a week. Among the services available are: circulation and reserves, informational and research reference, bibliographic instruction, electronic database searching, and inter-library borrowing.

The collection represents nearly 700,000 items including nearly 3,000 current subscriptions to scholarly journals, magazines, newspapers, and yearbooks; over 280,000 microfilms; 67,000 international, U.S. and state documents; and the Smith collection of maps, atlases, globes, and geographies from the period 1513-1800; the University archives; and other special collections. These collections are supplemented by the over 13 million titles to which we have access through the OCLC on-line interlibrary loan network.

The Library staff is dedicated to supporting the educational, scholarly, and public service activities of the University community and to meeting the informational needs of the citizens of Maine as well.

Off-Campus Site Libraries

The University contracts with public libraries in Bath-Brunswick and Saco to provide books, journals, reference assistance, and interlibrary loan services to off-campus students and faculty. Off-campus students and faculty are also encouraged to use the library facilities in Portland and Gorham.

Academic Computer Services

The University has available the following academic computer facilities: MS/DOS microcomputers, Apple II, MacIntosh (on both the Portland and Gorham campuses and at the off-campus centers); an IBM 4341 mainframe (located on the Portland campus and linked to three other IBM mainframes in the University of Maine System); a Data General, a VAX 11/750, and an ATT 3B2 (on the Portland campus and for use by students in upper-level computer science courses). The mainframe computer is linked to the BITNET network, allowing communication with mainframe computers all over the United States, Canada, and Europe.

Student Microlab Centers are located on the Portland and Gorham campuses and are open extended hours during the semester. The MS/DOS microcomputers offer a unique, menu-driven selection system with such general purpose software as word processing and electronic spreadsheets and more course-specific software.

Most residence halls on the Gorham campus have computer rooms with terminals connected to the Portland mainframe.

Educational Media Services

Educational Media Services maintains offices on both the Gorham and Portland campuses which provide services to support the academic mission of the University.

Each Media Center maintains a collection of film and videotape catalogs and reference materials. The Media Center maintains a collection of

instructional materials in addition to obtaining rental materials for USM classroom use.

Assistance is available in the design, production, implementation, and evaluation of instructional materials such as computer graphics, slides, overhead transparencies, video recordings, and audio materials.

Each Media Center provides, maintains, and delivers audiovisual equipment for classroom use.

Personal and Psychological Counseling Services

The Counseling and Career Development Department, through a staff of professional psychologists and counselors, assists students with personal counseling services on both a walk-in, as well as an appointment basis. As a part of this service, the office provides appropriate psychological testing, referral services, and maintains an effective liaison with community medical and mental health agencies. (780-4050)

Career Counseling, Placement, and Internship Services

The Counseling and Career Development Department offers career counseling, vocational testing, and part-time and full-time job placement services for University students. The staff provide a complete information service, guidance information, computerized terminal services, appropriate career inventory and testing, in addition to referrals. The department also offers internship opportunities related to academic majors. (780-4050)

Handicapped Student Services

Services for students with a handicapping condition are provided through the Advising and Academic Information Department. In addition to counseling and placement services, direct academic support (including, where necessary, readers and interpreters) is provided. A specially equipped bus provides round-trip transportation between the campuses for wheelchair-bound individuals. (780-4040)

Health Services

The University offers two health care facilities for students, one in Portland and one in Gorham. In Portland, a clinic located off the main lobby of the Gymnasium operates from 8:00 a.m. to 4:00 p.m., Monday through Friday. On the Gorham campus an out-patient clinic and full in-patient services are available twenty-four hours a day, seven days a week, during the academic year when classes are in session. Physician services are available at both locations only during the academic year. Services and staff are reduced during vacation periods. It is recommended that students call either of the Health Centers to find out what services are available, and when.

It is recommended that students avail themselves of the many services offered by paying the voluntary health fee. An enrollment period extends into the first month of each semester. Students choosing not to pay the health fee are charged a fee for services rendered. A schedule of fees is posted in each Health Center. Health insurance is available. For a brochure and further information call 780-5411 (Gorham) or 780-4211 (Portland).

International Students

International students are served for immigration documentation as well as academic and personal counseling by the Office of Student Affairs (780-5242) and the Office of International Student Development (780-5313).

National and International Study Opportunities

The University offers a variety of opportunities for students to spend a semester or full year at another university while enrolled in a degree program at USM. Through National Student Exchange, the University is affiliated with over 40 universities in the U.S. For further information regarding the National Student Exchange programs, contact the Registrar's Office, 780-5236.

International Study is facilitated through the Office of International Student Development, which maintains links to and information on programs offered throughout the world. Established exchange programs to England, France, Austria, Holland, and Ireland are offered each year. For information regarding International Study Programs contact the Office of International Student Development at 780-5242.

Veterans

Services to veterans are provided through the Department of Advising and Academic Information and include, in addition to certification and liaison with the Veterans' Administration, counseling and academic advising. (780-4040)

Student Activities, Facilities, and Student Government

Many organizations and clubs exist within the University to serve a variety of student interests and needs. These organizations range from political, social, and educational to special purpose groups.

The Student Senate administers student programs and supervises organizations including the student newspaper, *Free Press*; the student radio station, WMPG; and the literary journal, *Portland Review of the Arts*. Through its Student Events Board the Student Senate sponsors concerts, lectures, films, and other activities throughout the academic year.

The Student Center in Gorham and the Campus Center in Portland provide quiet areas for study and conversation, in addition to offices for student government and Student Activities organizations. For further information on Student Activities contact the Director. (780-4090 or 780-5470)

Fraternities and Sororities

Eight social fraternities and sororities are active on the Gorham campus of the University. Four of the fraternities maintain off-campus houses and all organizations are involved in philanthropic and social activities. (780-5470)

Phi Kappa Phi

Phi Kappa Phi (local chapter est. 1976) is a national honor society which is open to students enrolled in degree programs in all colleges and schools of the University. Election is based on outstanding academic achievement, with nominations for membership made on the basis of grade point average, from the top 5% of the senior class and the top 2.5% of the junior class.

Residence Halls

The University provides on-campus housing in Gorham for approximately 1,100 students in nine residential units, ranging in size from 15 to 180 students. Accommodations are either in single sex or coeducational dormitories, with a variety of visitation and quiet hour options as selected by residents themselves. The residential units have their own organizations and numerous programs are offered within the dormitory units throughout the year. The residence life staff includes four resident director/counselors, and twenty-six resident advisors and programming assistants. (780-5240)

Food Services

Dining facilities may be found at three separate locations on the two campuses. In Gorham, the main University dining facility is glass enclosed, providing vistas toward the Sebago Lake region, and accommodates approximately 650 diners. Also on the Gorham campus, the University pub offers short-order fare through late evening.

In Portland, the Campus Center offers a variety of dining facilities for large or small groups, and operates from breakfast until the evening hours. Special meals and events are held once per week in both locations, and students may use their meal program cards on either campus. For more information contact the Office of Residence Life. (780-5240).

Intramural and Recreation Programs

Both group and individual sports competition and recreational activities are available. The Gorham and the Portland gymnasias are the main facilities for free play, as well as basketball, flag football, badminton, racquetball, and other league competition sports. Programs in such areas as aerobic dance, Lifeline, and bodyshop and weightlifting are also available. For further information contact the Coordinator of Intramural and Recreation Programs, Gorham (780-5433).

Off-Campus Housing

The University maintains lists of available rooms and apartments off-campus for the benefit of students. The lists are available in the Department of Residence Life on the Gorham campus or the Office of Advising and Academic Information on the Portland campus. (780-5240 and 780-4040)

Child Care Services

The University Child Care Services serves over 300 children, from infancy to teens, in its three facilities, Portland, 68 High Street, and Gorham,

through a variety of programs: full day child care (7:30 a.m.-5:30 p.m.); evenings and weekends prearranged; after and before school; flex-care, (child care services on an hourly basis); infant and toddler care; summer camps. All programs are "child-centered," stressing learning and self-discovery, conducted by professional staff with early childhood education experience. *Reservations are encouraged.* For further information please contact USM Child Care, 96 Falmouth Street, Portland (780-4125).

*Intercollegiate
Athletics*

The University offers the following sports for men: cross country, soccer, basketball, ice hockey and baseball. Sports offered for women include: field hockey, soccer, basketball, cross country, and softball. Tennis and golf are open to both men and women. The University is a member of the National Collegiate Athletic Association, Eastern College Athletic Conference, the Little East Conference, and the Maine Association of Intercollegiate Athletics for Women. As members of these organizations, student athletes have an opportunity to qualify for and participate in state, regional and national tournaments. Contact 780-5430.

The Core Curriculum

Director, Core Council: Henry Amoroso, 102 Bedford St., Portland
Core Council: Amoroso, Boyle, Carper, Czupryna, Fithian, MacLeod, Rhodes, Shedletsky

Rationale and Structure of the Core Curriculum

The Core curriculum at USM has been designed to provide undergraduates with a general education, a core of skills and knowledge that educated persons need in order to excel in their professional and personal lives.

The Core curriculum includes three components:

- A. The *basic competence* component aims to develop academic skills in writing, using quantitative information, and critical thinking. The student must take (1) English composition or its equivalent, (2) an approved mathematics course, and (3) an approved philosophy or “skills of analysis” course. (In the case of English and mathematics, the University requires inadequately prepared students to meet *minimum proficiency* levels through remedial coursework.)
- B. The *methods of inquiry/ways of knowing* component introduces the student to the range of different academic disciplines: their subject matter, their methods, and their broader purposes. This part of the Core curriculum is subdivided into four areas: fine arts, humanities, social sciences, and natural sciences. The student may not use courses in his or her major department to satisfy this component.
 - (1) *Fine arts* courses seek to explore the aesthetic dimension either through personal performance or through historical study of the arts. The student must take one approved performance-centered and one approved history-centered art course, but may not take both in the same department.
 - (2) Through the *humanities*, the Core curriculum seeks to foster knowledge of literature and of the diversity of our historical and cultural heritage. What links these studies together is their focus on the meaning and values of human acts. Under this two-fold division of the humanities, the student develops the critical and aesthetic skills needed to interpret literature, and studies the methods through which we attempt to make sense of the past and/or understand alien cultures. The student must take one approved literature course and one approved course dealing with other times or other cultures.
 - (3) The *social sciences* aim to acquaint the student with the methods and theories used to study the social, political, and/or economic behavior of groups or individuals. The student must take two approved social science courses.
 - (4) Through lecture-laboratory courses, the *natural science* offerings seek to develop an understanding of scientific methods, theories, and the contribution of a particular science, and of natural science in general, to our understanding of the world. The student must take one approved science course with a laboratory section.
- C. The *interdisciplinary* component seeks to counteract the fragmentation that can result from compartmentalizing knowledge in academic specialties. These courses aim to show the student that the assumptions and methods of different disciplines may be conjoined in the study of a single issue or topic to achieve insight and understanding that is not merely the sum of the component disciplines. Interdisciplinary courses, which are always taught by two or more instructors, are developed under the guidance of the Core Council, a body with representation from all the schools and colleges. These courses are introduced and discontinued on a regular and periodic schedule. The student must take one interdisciplinary course after having completed his or her English composition and “skills and analysis/philosophy” requirements.

**Core Curriculum
Requirements**

Basic Competence

English Composition **Do one** (3 credits)

- Successfully complete ENG 100 or ENG 101
- Score 59 or above on the TSWE (no credit)
- Score 500 or above on the CLEP General or English Composition Test
- Satisfy composition standards in ENG 100 or ENG 101 by the second week of the term (no credit)

Quantitative Decision Making **Do one** (3 credits)

- Successfully complete an approved MAT 100 level course
- Successfully complete an approved statistics course (MAT 120, PSY 201, or SOC 307)
- Pass a locally administered examination (no credit) (Students in departments which do not specify mathematics requirements should consult their advisors or the Advising and Academic Information Office for guidance in selecting a course in this area.)

Skills of Analysis/Philosophy **Do one** (3 credits)

- Successfully complete an approved PHI 100 level course
- Successfully complete an approved Skills of Analysis course

Methods of Inquiry/Ways of Knowing

Fine Arts **Do one each** (6 credits)

- Successfully complete an approved performance-centered arts course
- Successfully complete an approved history-centered arts course

The fine arts courses must be selected from different departments.

Humanities **Do one each** (6 credits)

- Successfully complete an approved literature course
- Successfully complete an approved other times/other cultures course

The humanities courses must have different course prefixes.

Social Sciences **Do two** (6 credits)

- Successfully complete two approved social science courses

The social science courses must be selected from different departments.

Natural Science **Do one** (4 credits)

- Successfully complete one approved natural science course

The natural science course must include a laboratory.

Interdisciplinary Do one (3 credits)

- Successfully complete one approved COR interdisciplinary course

The prerequisite for COR courses is the successful completion of both the basic competence English composition and the skills of analysis/philosophy requirements.

**Core Curriculum
Regulations**

1. The student has primary responsibility for ensuring that she/he completes the minimum proficiency requirements and the Core curriculum requirements. Undeclared majors should seek advice from the Office of Advising and Academic Information. Declared majors should consult their school, college, or department advisors.
2. Courses in a student's major may not be used to satisfy methods of inquiry/ways of knowing requirements, except that one course from a double major may be so used.
3. The student should satisfy the basic competence requirements before the completion of 60 credits.

4. The student should successfully complete the COR interdisciplinary course before the completion of 90 credits.
5. Courses taken to satisfy the Core curriculum requirements may not be taken on a pass-fail basis.

**Transfer Students
and the Core
Curriculum**

All transfer students into a baccalaureate degree program are expected to meet the Core curriculum requirements as outlined above. The following guidelines should be noted:

Basic Competence

Transfer students should complete the Basic Competence requirements as early as possible after admission to the University. The *English Composition requirement* can normally be satisfied by transfer credit for an equivalent English composition course. If no such course is available for transfer credit, the student should refer to the other options noted under the Core curriculum requirements.

The *Quantitative Decision Making requirement* can normally be satisfied by transfer credit for an equivalent mathematics or statistics course. If no such course is available for transfer credit, the students should refer to the other options noted under the Core curriculum requirements.

The *Skills of Analysis/Philosophy requirement* can normally be satisfied by transfer credit for a course which deals with logic, reasoning, or analytical thinking. If no such course is available for transfer credit, the student should refer to the other options noted under the Core curriculum requirements.

Methods of Inquiry/Ways of Knowing

These requirements can normally be satisfied by transfer credit for equivalent courses in each of the four areas. Equivalent courses will be determined at the time of admission and transfer evaluation. Any CLEP examination which satisfies a course approved for the Core curriculum will satisfy the Core curriculum requirement in that area. When a specific requirement cannot be satisfied by transfer credit, the student is expected to take the appropriate course(s) from the list below.

Interdisciplinary

All transfer students granted less than 60 credits at the time of admission to the University are required to take the COR 100 level interdisciplinary course. Students granted 60 or more transfer credits are exempt from this Core curriculum requirement.

**Courses Approved
to Satisfy Core
Curriculum
Requirements**

In course registration schedules and other publications, courses approved to satisfy Core curriculum requirements are flagged by a letter following the course number.

Basic Competence

English Composition

ENG	100C	College Writing
ENG	101C	Independent Writing
Quantitative Decision Making		
MAT	100D	College Algebra
MAT	104D	Topics in Mathematics
MAT	109D	Linear Systems
MAT	110D	Calculus for Business
MAT	120D	Introduction to Statistics
MAT	131D	Number Systems for Elementary Teachers
MAT	140D	Precalculus Mathematics
MAT	152D	Calculus A
PSY	201D	Statistics in Psychology
SOC	307D	Statistical Methods for Social Research

Skills of Analysis/Philosophy

PHI	101E	Introduction to Philosophy: Man & His Will
PHI	102E	Introduction to Philosophy: Quest for Certainty
PHI	103E	Introduction to Philosophy: Human Alienation
PHI	104E	Introduction to Philosophy: Ways of Knowing
PHI	105E	Introduction to Philosophy: Theories of Human Nature
PHI	106E	Introduction to Philosophy: Why Philosophize?

PHI	107E	Introduction to Philosophy: Search for Identity
PHI	108E	Introduction to Philosophy: Search for God
PHI	109E	Introduction to Philosophy: Law, Politics, and Society
PHI	110E	Introduction to Philosophy: Self and Society
PHI	111E	Introduction to Philosophy
PHI	112E	Introduction to Philosophy
HTY	377E	Chinese Thought
ENG	110E	Straight and Crooked Thinking

Methods of Inquiry/Ways of Knowing

Fine Arts

Performance-centered arts:

ART	141F	Fundamental Design I
ART	151F	Fundamental Drawing I
ENG	201F	Creative Writing
ENG	202F	Fiction Writing
ENG	203F	Poetry Writing
ENG	302F	Fiction Workshop
ENG	303F	Poetry Workshop
MUS	110F	Fundamentals of Music
MUS	130F	Music Theory I
MUP	101F	Applied Music
MUP	102F	Applied Music
MUP	201F	Applied Music
MUP	202F	Applied Music
MUS	334F	Electronic Music I
MUS	400F	Chamber Orchestra
MUS	401F	The University Chorale
MUS	402F	University Concert Band
MUS	405F	The Chamber Singers
MUS	408F	Wind Ensemble
THE	120F	Acting I Fundamentals of Acting: Movement and Improvisation
THE	121F	Acting II Fundamentals of Acting: Scene Work
THE	122F	Contemporary Dance I
THE	170F	Public Speaking
THE	222F	Contemporary Dance II
THE	135F/ 136F	Stagecraft I & Lab
THE	290F	Oral Interpretation

History-centered arts

ART	101G	Approaches to Art
ARH	111G	History of Art I
ARH	112G	History of Art II
MUS	100G	Music Appreciation and History
MUS	102G	Music of the Portland Symphony
MUS	103G	Introduction to Jazz
MUS	120G	History of Music I
MUS	121G	History of Music II
MUS	202G	Music in America
MUS	203G	Music in the 20th Century
MUS	205G	Chamber Music Literature
MUS	220G	History of Music III
MUS	221G	History of Music IV
THE	101G	Introduction to Drama

Humanities

Literature

CIA	283H	The Epic Hero in Ancient Literature
CIA	284H	The Tragic Hero in Ancient Literature
ENG	120H	Introduction to Literature
ENG	160H	Poetry
ENG	161H	Fiction
ENG	162H	Drama
FRE	251H	Introduction to French Literature I

FRE	281H	Masterpieces of French Literature (in English translation)
FRE	283H	Contemporary French Thinkers (in English translation)
FRE	362H	French Poetry
FRE	363H	The French Theatre
GER	281H	The German Novelle (in English translation)
GER	351H	Introduction to German Literature I
GER	352H	Introduction to German Literature II
SPA	281H	Masterpieces of Spanish Literature (in English translation)
SPA	351H	Introduction to Hispanic Literature I
SPA	352H	Introduction to Hispanic Literature II
THE	210H	Play Analysis
<i>Other Times/Other Cultures</i>		
ANT	202I	Origins of Civilization
ANT	220I	North American Indians
ANT	222I	Peoples of the North
ANT	232I	Women in Cross Cultural Perspectives
ANT	301I	Victims of Progress: Primitive Peoples in the Modern World
ARS	124I	Patterns in Comparative Religion
CIA	291I	The Golden Age of Greece
CIA	292I	Rome, from Republic to Empire
FRE	201I	Intermediate French I
FRE	202I	Intermediate French II
FRE	291I	French Civilization—Historical Approach (in English)
FRE	292I	French Civilization—Contemporary France (in English)
GEO	201I	Cultural Geography
GER	201I	Intermediate German I
GER	202I	Intermediate German II
HTY	101I	Western Civilization I
HTY	102I	Western Civilization II
HTY	131I	U.S. History to 1877
HTY	132I	U.S. History Since 1877
HTY	133I	American History I
HTY	134I	American History II
HTY	161I	Introduction African History to Partition
HTY	162I	Introduction African History Since Partition
HTY	171I	Traditional East Asia
HTY	172I	Modern East Asia
HTY	181I	Latin America I
HTY	182I	Latin America II
ITA	201I	Intermediate Italian I
ITA	202I	Intermediate Italian II
PHI	310I	History of Ancient Philosophy
PHI	320I	History of Medieval Philosophy
PHI	330I	History of Early Modern Philosophy
PHI	340I	History of Late Modern Philosophy
PHI	350I	American Philosophy
PHI	360I	Existentialism
SPA	201I	Intermediate Spanish I
SPA	202I	Intermediate Spanish II
<i>Social Sciences</i>		
ANT	101J	Anthropology: The Cultural View
COM	102J	Introduction to Communications
ECO	201J	Principles of Economics I
ECO	202J	Principles of Economics II
GEO	101J	Principles of Geography
GEO	120J	Geography of Maine
GEO	303J	Economic Geography
HRD	333J	Human Growth and Development
POS	101J	Introduction to American Government

POS	102J	People and Politics
POS	104J	Introduction to International Relations
PSY	101J	General Psychology I
SOC	100J	Introduction to Sociology
SWO	101J	Introduction to Social Welfare
<i>Natural Sciences</i>		
ANT	102K	Biological Anthropology (with ANT 102 Lab)
AST	100K	Astronomy
AST	103K	Astronomy Exercises/Experiences
BIO	101K	Biological Foundations
BIO	102K	Biological Experiences
BIO	105K	Biological Principles
BIO	106K	Laboratory Biology
CHY	101K	Chemistry I
CHY	102K	Introduction to Laboratory Measurement
GEO	102K	Physical Geography
GEO	102L	Physical Geography Lab
GEY	111K	Physical Geology
GEY	112K	Physical Geology Lab
OCE	100K	Introduction to Oceanography
OCE	101K	Oceanographic Laboratory
PHY	101K	Introduction to Physics
PHY	102K	Introduction to Physics Laboratory
PHY	111K	Elements of Physics I
PHY	121K	General Physics I
PHY	122K	General Physics Laboratory I

COR 108 Poverty in America

An interdisciplinary examination of the issues associated with poverty and oppression in America. The course seeks to de-mystify common attitudes about the nature and causes of poverty and to examine the major social policy implications for improving the situation of the poor. As a consequence, students should be able to make informed decisions about poverty-related issues that ultimately influence political action. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 110 Old and in the Way?: Aging in America

Aging is a process that is common to all of us, yet many misconceptions and debates exist regarding growing old in American society. This course introduces students to the study of aging, its utility and ubiquity. We will examine the ways in which three different disciplines—biology, sociology, and the developmental view—conceptualize and discuss issues and questions about aging. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 111 Myth Making Old and New

This course explores the ways in which societies use myths and how traditional and tribal cultures pass down creation stories, narratives about gods and heroes, and other mythic beliefs. But it is not just “primitive” peoples who make myths. The course also examines myths and myth substitutes in modern Western society. Finally, the course will consist of a close reading of some contemporary poetry and fiction from the perspective of myth. Prerequisite:

ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 112 International Conflict in the Nuclear Age

“Since people quarrel, nations are bound to fight.” Is the model of interpersonal relations applicable to international politics and war? The purpose of this course will be to explore some of the ways in which the social sciences and humanities deal with the crucial issues concerning war, peace, and superpower relations in a nuclear age. The analysis will focus on (1) the roots of conflict that give rise to tensions between nations, (2) the management and control of international conflicts, and (3) a case study of conflict in U.S.-Soviet relations. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 113 Metaphor and Myth in Science and Literature

A comparative study of science and literature, focusing on their aims, methods, and values, and on the nature of truth and creativity in each discipline. Readings in fiction, poetry, and modern physical and biological science will provide a basis for discussion of the metaphorical and mythic nature of scientific and literary discourse. Our goal is to demonstrate that both science and literature are useful, full of insight, and wondrous. This team-taught course will consist primarily of readings, small-group discussions, and position papers. No college science background is required. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 114 Art and Literature of the New World Discovery

An interdisciplinary study of the first encounters between European and American Indian cultures. In addition to examining historical materials, this course will bring the methods of literary and artistic analysis to bear upon the imaginative works of the English (and, to a lesser extent, the Spanish) attempts at New World settlement. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 115 Modern Ireland in History and Literature

An introduction, through history and literature, to the evolution of modern Ireland, from the Great Famine of the mid-19th century to the troubles in the North today. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 116 The Gulf of Maine

Provides an interdisciplinary exploration of the resources of the Gulf of Maine, drawing on perspectives of the geosciences, political science, and law. The Gulf ecosystem contains a rich variety of living and nonliving resources that shape the economy and character of communities in the two countries which border it. Conflicting priorities and values attached to these resources, and demands for their use by different industries, management entities, and community interests will be examined. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 117 Learning and the Brain

Behavior studies and brain studies have coexisted separately for many years. Though behavior reflects neurological activity, no one was

certain which brain areas were involved in which behaviors. Now technological advances enable us to study activity in the normally functioning brain. In this course, which assumes no background in science, we will explore anatomy, physiology, and chemistry of the brain in an effort to develop an understanding of how the brain influences what and how we learn. Issues to be discussed include brain development, learning, and learning disabilities, mental disease, language, reading, spelling, attention, emotion, perception, and memory. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 118 New Directions in the Arts

Focuses on art and music from ca. 1920 to the present. Topically arranged classes relate contemporary culture to new developments in the arts such as electronics, computers, and multimedia productions. Students will also acquire a vocabulary for interpreting art and music. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

COR 119 The Illuminated Autobiography

An introduction to two creative processes—the visual and the literary. The course will explore the means (shared, specialized, and complementary) by which they communicate thematic content, and the transformation through which subjective discovery becomes accessible form. Students will develop a control of structural elements within and between the two disciplines sufficient to write, illustrate, design, and publish a limited autobiographical narrative. Prerequisite: ENG 100C and Skills of Analysis/Philosophy. Cr 3.

University Honors Program

Director: Martin A. Rogoff, Honors House, 102 Bedford Street, Portland
Honors Council: Bazinet (Applied Science); Burson (Nursing); Crochet (Foreign Languages and Classics); Franklin (Art); Friedman (Law); Markley (student); Monsen (Sociology); Neveu (Business, Economics, and Management); Pollock (Geosciences); Wood (Education)

The Honors Program provides an enriched undergraduate education to a selected group of students who are outstanding in their ability, curiosity, creativity, and motivation. Approximately 30 students are admitted to the Honors Program each year. Students entering the fall semester of their freshman or sophomore year, whether full-time or part-time and regardless of intended major, are eligible to apply. Students selected for the program work closely with faculty in a series of small seminar-type courses specially designed for Honors Program students that integrate knowledge from various disciplines and examine more fully than is possible in the general curriculum the ways of knowing, Western culture, and the contemporary situation. Later, Honors Program students take an advanced seminar and do a major independent research project under the direction of a faculty member in their department. All Honors Program work stresses independent learning, original thinking, and the development of skills in research, writing, and oral expression.

The Honors Program is more than a series of courses. Students in the Honors Program are part of a special social and intellectual community that extends beyond the classroom. This community has its physical location at Honors House, 102 Bedford Street, on the Portland campus. Honors House contains a seminar room, a lounge and reading room for the use of Honors Program students and faculty, and the program's faculty and administrative offices. Students come to Honors House to attend classes, to study, to meet with professors, and to socialize. In addition, speakers, seminars, discussion groups, artistic presentations, and social events are scheduled regularly at Honors House.

Honors Program work is rewarding and beneficial for all high-achieving students regardless of their academic interests or career goals. Honors Program courses provide a core of general knowledge and a sensitivity to important contemporary issues. The skills acquired through Honors study are applicable in any setting. In upper-level courses, Honors students may pursue in depth their particular interests. Honors Program work provides a superb background for further study and will assist students in gaining admission to graduate or professional school. Honors work is also excellent preparation for any career requiring demonstrated achievement and discipline.

To graduate with General University Honors, a student must successfully complete the following sequence:

HON	101	Honors Colloquium IA	(4 credits)
HON	102	Honors Colloquium IB	(4 credits)
HON	201	Honors Colloquium IIA	(4 credits)
HON	202	Honors Colloquium IIB	(4 credits)
HON	301	Honors Seminar	(3 credits)
HON	311	Honors Independent Tutorial I	(3 credits)
HON	312	Honors Independent Tutorial II	(3 credits)

Honors students may also choose from the following elective Honors courses:

HON	321	Honors Directed Research	(3 credits)
HON	331	Honors Directed Study	(3 credits)

Successful completion of the Honors Colloquia (HON 101, HON 102, HON 201, and HON 202) will satisfy the following Core curriculum

Honors Program Requirements

Core Curriculum Requirements

requirements: English Composition, Skills of Analysis/Philosophy, History-centered Fine Arts, Humanities Literature and Other Times/Other Cultures. Students who do not successfully complete *all* the Honors Colloquia should consult with the Director concerning the use of those Honors Colloquia successfully completed to satisfy Core curriculum requirements.

**Departmental
Major
Requirements**

Required and elective upper-level Honors courses (HON 301, HON 311, HON 312, HON 321, and HON 331) may be counted toward the number of credits departments require for graduation as a major. Students enrolled in the Honors Program should consult with the Director concerning the use of Honors Program courses to satisfy departmental major requirements.

**Admission to the
Honors Program**

Standards. The Honors Program is designed for highly motivated, intellectually curious students who would benefit from working closely with faculty in a challenging and enriched course of study. Admission to the Honors Program is based primarily on criteria designed to identify such students. The applicant's entire record is reviewed. Many factors are considered: the applicant's overall academic record; SAT and other test scores; extracurricular activities; recommendations; work experience; application essay; and an interview with the Honors Director. The Honors Program seeks a diverse group of students to provide a stimulating environment for all participants.

Application Procedures and Deadlines. Application to the Honors Program is separate from and in addition to application to the University. Students interested in applying for admission to the Honors Program should write or call University Honors Program, University of Southern Maine, Honors House, 102 Bedford Street, Portland, Maine 04103, (207) 780-4330, for an Honors Application Form. To be considered for September, a completed application should be received at Honors House by June 1. Later applications will be considered if there is space available in the program. As soon as a completed application is received, the applicant will be contacted to schedule an interview with the Honors Director. Applicants are notified of admissions decisions as soon as they are made or by August 1. Early application is advised.

**Retention in the
Honors Program**

To remain in good standing in the Honors Program, a student must successfully complete all Honors courses taken and also maintain an overall 3.0 grade point average during his or her first two years at USM and a 3.25 grade point average during his or her last two years. Before a student is dropped from the Honors Program for failure to maintain the required grade point average, he or she will have one probationary semester in which to regain the required grade point average.

**Graduating with
General University
Honors**

Honors students who successfully complete all required Honors courses (HON 101, HON 102, HON 201, HON 202, HON 301, HON 311, and HON 312) and have attained a 3.25 grade point average in all University work including Honors courses, will graduate with General University Honors. The Honors Council may award the designations High General University Honors and Highest General University Honors to those Honors students who have specially distinguished themselves in Honors coursework. General University Honors designations are in addition to *cum laude*, *magna cum laude*, and *summa cum laude*, which are awarded solely on the basis of cumulative grade point average.

**HON 101 Honors Colloquium IA: The
Ancient World**

This course begins the four-semester sequence of introductory Honors courses. The sequence has been designed to provide Honors students with exposure to the central disciplines in the humanities and social sciences and to teach

them the skills of critical analysis of texts, research, writing, and oral expression. This course examines the arts, literature, philosophy, and religions of the Ancient World with emphasis on their political, social, and economic contexts.

Cr 4.

HON 102 Honors Colloquium IB: The Medieval World

This course is a continuation of HON 101, with a focus on the Middle Ages. Cr 4.

HON 201 Honors Colloquium IIA: Renaissance, Reformation, and Enlightenment

This is the third course in the introductory sequence. It examines the philosophical, literary, and scientific developments during the Early Modern period. Cr 4.

HON 202 Honors Colloquium IIB: The Modern Age

This course is a continuation of HON 201, with a focus on the Modern Age. Cr 4.

HON 301 Honors Seminar

In this seminar students undertake the critical examination of a topic or problem of contemporary relevance and write a paper based on independent research. Cr 3.

HON 311 Honors Independent Tutorial I

During the senior year, each Honors student works directly with a faculty member in the student's major department in a year-long, in-

depth study of a particular area of interest. The student engages in readings under the direction of the faculty tutor and writes a major research paper. Cr 3.

HON 312 Honors Independent Tutorial II

This course is a continuation of Honors Independent Tutorial I. Cr 3.

HON 321 Honors Directed Research

This optional course allows an Honors student with a particular research interest to write a research paper under the direction of a faculty member who is willing to supervise the project. Approval of the Director is required. Cr 3.

HON 331 Honors Directed Study

This optional Honors course allows an Honors student with an interest in a particular area to design a course of reading in collaboration with a faculty member who is willing to tutor the student. This course affords an Honors student an additional opportunity to pursue his or her individual interests. Approval of the Director is required. Cr 3.

Convocation

Convocation Scholar: Merle W. Loper

Each year the University of Southern Maine sponsors a year-long series of lectures, debates, workshops, programs, and cultural events focused on an important contemporary theme. Previous themes have been "The City," "Changing Roles of Women and Men," "The Age of the Computer," "Peace and War in the Nuclear Age," "The Aging of America," and "The Arts in Our Lives." The 1987-88 convocation topic is "The Constitution: Roots, Rights, Responsibilities."

This year's Convocation will encourage us to trace the Constitution's evolution through amendment and judicial interpretation; to look to the future of this noble American experiment, not intended to be infinitely elastic but intended, as Chief Justice Marshall phrased it, "to endure for ages to come, and, consequently, to be adapted to the various crises of human nature." It will also provide opportunity to examine the Constitution's role in our personal and professional lives and to consider our individual and institutional responsibilities as citizens governed under its aegis.

All students, faculty, and staff are encouraged to participate in Convocation by offering ideas, by supporting and sponsoring events in collaboration with the Convocation Committee, by sharing in the organizing and planning tasks, and by teaching or enrolling in courses related to the theme. It is hoped that every member of the University community and many members of the Greater Portland community will find this shared enterprise intellectually rewarding. Students are encouraged to engage in independent study and research within the framework of the Convocation theme.

For further information contact Alyce O'Brien, Executive Director for University Relations and Administrative Chair of Convocation.

Women's Studies Program

Director: Joanne Preston, 94 Bedford St., Portland

Women's Studies Council: Barnes, Benedict, Franklin, Gish, Holden, MacPherson, Messerschmidt, Murphy, Reno, Shedletsky, Thompson, Tizon

Women's studies is an interdisciplinary program that takes as its subject matter women, their culture and history, and gender as a social construction that intersects in nearly all aspects of cultural life. Women's studies has as its core a feminist theoretical approach. Questions likely to be treated in women's studies courses are those concerning the establishment of gender segregation in work, inequities in compensation, and gender differences in behavior and values. Women's studies is also dedicated to the retrieval of lost cultural contributions by women in the arts and humanities and to the reconstruction of women's traditions in these fields; for example, the American woman's tradition in literature. The program offers a major leading to a bachelor of arts degree through the Self-Designed Program in the College of Arts and Sciences. Students may also minor in women's studies.

Women's studies includes both a core curriculum offered by the program and electives offered within departments, such as Feminist Philosophy, Sociology of Gender, or Women in Cross-Cultural Perspectives. Courses offered by the program are interdisciplinary and focus on the major texts, ideas, theories, and methods common to women's studies. Department courses examine the role of women and women's ideas in specific disciplines. In addition to a broad, integrated vision of society and culture, women's studies students develop skills in analysis, critical thought, writing, and practical application of theoretical understanding.

Graduates with a self-designed major in women's studies are prepared for graduate and professional schools in a variety of disciplines. They are also prepared for careers in social science, affirmative action and equal employment programs, education, personnel or career advising, women's agencies and programs, human services agencies, and public service.

Programs and Requirements

Self-Designed Major in Women's Studies

The minimum number of credits (exclusive of the University's Core curriculum) required for the self-designed major: 39.

The women's studies self-designed major consists of a minimum of 21 hours of required courses and 18 hours of women's studies elective or related courses.

Required Courses (select at least 21 hours)

WST	130	Introduction to Women's Studies
HTY	328	History of Women in The United States
WST	330	Feminist Research Seminar
WST	430	Comparative Feminist Theories
WST	440	Field Experience/Internship in Women's Studies

One of the following:

ANT	232	Women in Cross-Cultural Perspective
SOC	316	Sociology of Gender
SOC	358	Sociology of Women's Work

and a choice of/or both

PHI	265	Feminist Philosophy
WST	360	Classics of Feminism

Women's Studies Elective and Related Courses (select at least 15 hours)

WST	320	Topics in Women's Studies
WST	450	Women's Studies Independent Study
ENG	285	Earlier Women Writers
ENG	295	Contemporary Women Writers
NUR	308	Women and Health
BUS	349	Women and Management
ANT	232	Women in Cross-cultural Perspective
COM	495	Sex-related Differences in Communication
ARH	218	Women in Art
POL	201	Women and Politics

SOC	316	Sociology of Gender
HST	499	History of Women in Europe: 18th and 19th Centuries
SOC	358	Sociology of Women's Work
HTY	328	History of Women in the United States
PHI	265	Feminist Philosophy

Minor in Women's Studies

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18 hours of women's studies courses and 6 hours of related courses.

For students interested in the minor in women's studies, the program offers the following concentration:

Required (15 hours)

WST	130	Introduction to Women's Studies
WST	230	Psycho-social Development of Women
WST	330	Feminist Research Seminar
WST	430	Comparative Feminist Theories
HTY	328	History of Women in The United States

and the choice of/or both (at least 3 hours)

WST	350	Feminist Ethics
WST	360	Classics in Feminism

and women's studies elective courses or related courses

(at least 6 hours)

WST	320	Topics in Women's Studies
WST	450	Women's Studies Independent Study
ENG	295	Contemporary Women Writers
ENG	285	Earlier Women Writers
NUR	308	Women and Health
BUS	349	Women and Management
ANT	232	Women in Cross-cultural Perspective
COM	495	Sex-related Differences in Communication
ARH	218	Women in Art
POL	201	Women and Politics
SOC	316	Sociology of Gender
HST	499	History of Women in Europe: 18th and 19th Centuries
SOC	358	Sociology of Women's Work
HTY	328	History of Women in the United States
PHI	265	Feminist Philosophy

Major Credit and Grade Policy

There are prerequisites for many of the women's studies courses. See departmental course listings for specific information. Certain courses may require the instructor's or coordinator's permission. Others will accept permission of the instructor in lieu of the prerequisite. In some cases, waivers or equivalents for required courses will be accepted. No grade of D will count toward fulfillment of the women's studies self-designed major. Courses taken pass/fail are not acceptable.

Curriculum Summary and Guide

The curriculum core in women's studies is structured to offer introductory, intermediate, and advanced level courses providing comprehensive knowledge of the history, theories, research, methodology, and applications of women's studies. The first-year student is encouraged to complete Core curriculum requirements. In the second year, students should take Introduction to Women's Studies (an interdisciplinary examination of major issues in the field), Psycho-Social Development of Women, and electives in women's studies. Students who plan to minor in another discipline should also begin the suggested sequence for that year. Third-year courses should include History of Women in the United States, Classics of Feminism, Feminist Ethics, and women's studies electives. These courses provide a further grounding in major feminist texts and in the contributions, ideas, and experience of women. Fourth-year courses should include Comparative Feminist Theories, Feminist Research Seminar, and Field Experience/

Internship in Women's Studies. These courses offer advanced experience in feminist theory, research and practical application. Students must also complete elective requirements and any minor requirements in their fourth year.

Summary

Year I

Core curriculum requirements

Year II

Complete Core curriculum requirements

Introduction to Women's Studies (fall)

Feminist Philosophy (fall)

Women's studies electives (fall and spring)

Begin any minor requirements

Year III

History of Women in the United States (fall)

Classics of Feminism (fall)

one of the following:

Women in Cross-Cultural Perspective

Sociology of Gender

Sociology of Women's Work

Feminist Ethics

Women's studies electives (fall and spring)

Continue minor requirements

Year IV

Feminist Research Seminar (fall)

Comparative Feminist Theories (spring)

Field Experience/Internship (fall and/or spring)

Women's studies electives (fall and spring)

Complete minor and elective requirements

Declaration of Major

Students are encouraged to explore a variety of disciplines and courses before declaring a self-designed major in women's studies. A minimum of 30 hours of arts and sciences courses, including at least one women's studies course, should be completed before application is made. Consistent with Interdepartmental Major Board policy, students should declare a major prior to completion of 53 credits and prior to completion of 30 percent of the proposed major.

WST 130 Introduction to Women's Studies

This course introduces students to the study of women as a diverse social group with a history, culture, and experience of its own. The course, which is interdisciplinary, focuses primarily on women in the United States. Readings range from fiction and poetry to articles in fields such as history and sociology. Particular emphasis is placed on issues of class and race as they affect women. Topics covered include feminism, work, family, religion, politics and power, sexuality, reproductivity, pornography, art, language, media and culture. Cr 3.

WST 230 Psycho-social Development of Women

This course is designed to introduce, investigate, and critique traditional developmental theory as well as the current research which seeks to expand the basic knowledge of women's development and the ways in which women learn. Emphasis will be placed on the study of psychological, cognitive, moral, and

sociological development of women from conception through the life span. The interaction of biological and environmental factors will be considered as new theories and research related to women's development over the life span are explored. Prerequisite: WST 130 or permission of the instructor. Cr 3.

WST 320 Topics in Women's Studies

Each semester topic areas not already covered by regular course offerings in women's studies will be offered. The course may be repeated for credit when different topics are considered. Cr 3.

WST 330 Feminist Research Seminar

This seminar will explore feminist research and methodology from an interdisciplinary perspective. Similarities and differences between feminist and traditional research, sex biases and the role of values in research, and new research paradigms will be examined. Emphasis will be on applying critical and scholarly feminist approaches to selected

issues and topics related to women through involvement in a major research project. Prerequisites: ARS 130, ARS 230 or permission of instructor. Cr 3-6.

HST 499 History of Women in Europe and America

A survey of women's roles during critical historical periods and in specific cultures will be examined with emphasis placed on a socio-cultural investigation of the feminist movement. Students will be introduced to the methods and materials of oral history and the relevance of folk sources to the study of women's history and culture. Cr 3.

WST 350 Feminist Ethics

This course is an introduction to feminist ethics. The first part of the course explores some of the diverse approaches to feminist ethics, examines both the distinctiveness of each approach and similarities among them, and investigates why such diversity exists and to what extent it is necessary. The second part of the course explores specific issues and areas of ethical reflection, such as power, sexuality, dualism, nonviolence, and means of social change. Prerequisite: ARS 130 or permission of the instructor. Cr 3.

WST 360 Feminist Classics

Feminist Classics is an in-depth study of selected great books by women. Although it is not a summary and cannot be inclusive, it draws on texts from the 16th to the 20th century and represents many strands of feminist thought. Diverse texts will be linked by a specific theme such as the centrality of language to the definitions and creative potential of women or the development of a women's tradition. Readings include Wollstonecraft, deBeauvoir, Friedan, Woolf, Daly, Rich and others. Cr 3.

WST 430 Comparative Feminist Theories

This comparative course focuses on five selected theories, only four of which would ordinarily be described as feminist. The first theory, conservatism, is based upon the concept of a female biological imperative as natural and inevitable. The other four theories—liberal feminism, traditional Marxism, radical feminism—build their argument both against this background of conservatism and through their on-going dialogue with each other. The practical implications of these theories for women and men will be examined within the three dimensions of work, family, and sexuality. Prerequisite: ARS 130, 230, 340 or permission of instructor. Cr 3.

WST 440 Field Experience/Internship in Women's Studies

This course is designed to provide an opportunity for students to relate feminist theory and philosophy to practice. The links between community and campus, social action and research will be emphasized through experiential learning. Requirements include 120-240 hours of work in a community or government agency or private organization, in addition to meeting with other interns in seminars and scheduled meetings with a supervisor. Prerequisite: self-designed major in Women's Studies, senior standing, and permission of the instructor. Cr 3-6.

WST 450 Independent Study in Women's Studies

This course provides junior and senior students with the opportunity to pursue a project independently, concentrate on a particular subject of concern, or conduct individually arranged reading or research studies under the advice and direction of a faculty member. Prerequisite: advanced standing and permission of the coordinator. Cr 3.



College of Arts and Sciences

Dean: Stephen J. Reno

Coordinator of Scheduling: Maurice J. Chabot; *Assistant Dean for Student Academic Services:* Margaret A. Fahey

The College of Arts and Sciences offers a wide variety of majors and programs leading to graduate and professional study, and directly to careers. The College offers courses and programs of study to students in all schools of the University for intellectual development and aesthetic enrichment.

Departmental Organization

The College of Arts and Sciences is composed of the following departments:

Art	Mathematics
Biological Sciences	Music
Chemistry	Philosophy
Communication	Physics
English	Political Science
Foreign Languages and Classics	Psychology
Geography-Anthropology	Social Work
Geosciences	Sociology
History	Theatre

Baccalaureate Degree Programs

Programs of study leading to a bachelor of arts (B.A.) degree are available in the areas listed below. In addition, bachelor of fine arts (B.F.A.) is offered by the Art Department; bachelor of science (B.S.) is offered by the Departments of Chemistry, Art, Mathematics, and Music; and bachelor of music in performance (B.M.) is offered by the Music Department.

Art	Mathematics
Biology	Music
Chemistry	Philosophy
Communication	Physics
Criminology	Political Science
Economics	Psychology
English	Self-Designed
French	Social Science
Geography-Anthropology	Sociology
Geology	Social Work
History	Theatre
Liberal Studies	

Requirements for all Baccalaureate Degree Candidates

To be eligible for a baccalaureate degree from the University, a student must meet the following:

- I. minimum proficiency requirements
- II. Core curriculum requirements
- III. departmental or program requirements
- IV. minimum of 120 credits of accepted courses
- V. minimum of 2.0 cumulative grade point average

Minimum Proficiency Requirements

Every baccalaureate degree student who is admitted to the University must produce evidence (no credit granted) of both a minimum writing proficiency and a minimum mathematics proficiency. These requirements are described in the Academic Policies section of this catalog.

Core Curriculum Requirements

Every baccalaureate degree student who is admitted to the University is required to meet the Core curriculum requirements. These are set out on page 38.

Departmental or Program Requirements

The College requires that every baccalaureate degree student fulfill the requirements of a major program. Students normally declare a major program prior to completing 53 credits.

Fine arts students, especially in the Departments of Art and Music, usually must begin their program earlier owing to portfolio and audition requirements. Students planning to major in a science are urged to obtain an advisor in the appropriate department and begin the required course sequence as early as possible.

Selecting a major is an important and often difficult decision. Students who are undecided about a major should take courses in programs that interest them before making a final decision. Undecided students are encouraged to consult the Advising and Academic Information Department as well as those departments which interest them prior to declaring a major.

Individual departmental or program requirements are described in the sections that follow.

Associate of Arts Degree Program in Liberal Arts (60 credits)

The College of Arts and Sciences offers a two-year degree program leading to the associate of arts (A.A.) degree in liberal arts. This program is also offered off-campus in conjunction with the Division of Off-Campus Instruction and Academic Support. Graduates of this program may transfer into a baccalaureate degree program.

To be eligible for the associate of arts degree in liberal arts from the University, a student must meet the following:

I. minimum proficiency requirements

II. Core curriculum requirements

III. electives from the College of Arts and Sciences. The degree candidate may take up to two courses at the 100 level or above outside the College of Arts and Sciences. Taking additional courses in this category requires permission of the Dean.

A list of courses approved for satisfying the requirements of the Core curriculum may be found on page 39.

Students who wish to transfer into a baccalaureate degree program should ensure that their electives are from courses carrying a number of 100 or higher. They may also wish to consult the major requirements of baccalaureate programs in which they are interested.

Academic Majors for the College of Education

The College of Arts and Sciences offers certain liberal arts majors for students in the College of Education. These are: art education (K-12); mathematics (secondary education); and music education (K-12).

In addition, liberal arts concentrations (36 credits) for students in elementary education are available in certain departments of the College of Arts and Sciences. These will be available as interdisciplinary sequences in the liberal studies major. Students should contact the Office of the Dean of the College of Education for further information.

Other Educational Opportunities

Independent Study Term

Students who have an academic project which they feel would contribute significantly to their program may, with the approval of a faculty sponsor, the appropriate department, and the dean, apply for a semester of independent study. General guidelines for the independent study term may be obtained from departments or the Office of the Dean of the College of Arts and Sciences.

Double Majors

Students interested in a double major should consult the appropriate departments and obtain a declaration of major form from the Registrar's Office.

College of Arts and Sciences Minors

Minors are available in the following departments: art history, biology, chemistry, communication, English, foreign language, geography/anthropology, geology, history, mathematics, music, political science, and sociology.

Salt Center for Field Studies

The College of Arts and Sciences, in association with the Salt Center for Field Studies, offers an interdisciplinary field study semester conducted off campus which allows students to focus their academic interests and talents on Maine as a subject matter.

Students combine theory and practice in the field as they work together to document, in words and on film, a highly traditional culture, with strong links to the past, now undergoing major changes. The interdisciplinary field semester is designed to complement coursework in a wide variety of academic majors. Students' work is published in *Salt* magazine, a quarterly cultural journalism project about Maine. The program is conducted by the resident and visiting faculty and staff of the Salt Center for Field Studies, Cape Porpoise, Maine, and is offered in the fall semester as well as during the summer session.

Application for the Field Study Semester may be made after the student has earned a minimum of 30 credit hours with a cumulative grade point average of 2.50 or better. Students may earn 15 credits for work undertaken during the fall semester and 12 credits for work undertaken during the summer session.

For further details, contact the Dean's Office, College of Arts and Sciences or Pamela H. Wood, Director of the Salt Center for Field Studies, P.O. Box 1400, Kennebunkport, Maine, 04046; telephone: (207) 967-3311.

College of Arts and Sciences Courses

The College also offers courses on a variety of topics and themes which are not sponsored by individual departments. The courses currently offered are the following.

ARS 121 The Religious Dimension

This course will explore the religious dimensions of our lives in a number of different ways. We will develop a personal and satisfying definition of religion, investigate the expressions of religion in the whole life, gain understanding of the experience of various religious communities, and explore our own personal identities. The focus will be through Western religious thought, a study of myths, and exploration of the perceptions on religion by Carl G. Jung. Cr 3.

ARS 122 Career Development

This course is designed for upper-level students to investigate the world of work in terms of their own personal-professional goals. Emphasis is placed upon the career-planning process in relation to current opportunities. Activities will assist students to formulate and clarify realistic job objectives as well as plan appropriate strategies to achieve employment. Experiences will include inventory-awareness exercises, career exploration with field visitations, and preparation with resume construction and interviewing procedures. Cr 1.

ARS 123 Topics of Human Sexuality

The purpose of this course is to provide individuals with a thorough understanding and accurate information concerning their sexuality. The course will show the subtle complex interrelationship among sociology, biology, philosophy, psychology, theology, behavior, and interpersonal relationships as they pertain to sexuality. Topics to be discussed

include sexual growth and development, sexual attitudes, sexual anatomy and physiology of males and females, human sexual response cycle, sexual attraction, love and relationships, contraception, homosexuality and bisexuality, alternative forms of sexual behavior, sexual fantasies, sexual dysfunctions and problems, sexual history and research.

Cr 3.

ARS 124 Patterns in Comparative Religion

This course seeks to stimulate a broadened understanding of religion through an examination of such typical religious phenomena as rites associated with birth, life-stages, death, sacred times, sacred places, myths, and religious symbolism. Course materials, including lectures, readings, and other sources, will be drawn from the major religions of the world as well as from ancient and regional traditions. Throughout the course, particular emphasis will be given to a sympathetic, rather than judgmental, examination of religious traditions. No prerequisites. Cr 3.

ARS 223 Attitudes of Human Sexuality

The purpose of this course is to allow individuals to understand better their sexual feelings, attitudes, and relationships. Emphasis will be placed on developing skills necessary in dealing with one's own sexuality, as well as the sexuality of others. Topic areas will include sexual communication skills, body images and sensory awareness, values clarification, male and female sexual identity, sexual assertiveness, overcoming sexual dysfunctions, sexual

lifestyles, understanding sexual deviancy, sexual scripting. The course will rely heavily on lecture, group process and role playing. Prerequisite: ARS 123. Cr 3.

NUR 570/ARS 399 Biology and Gender

In this course we will approach the question, "what is gender?" We will study the contribution that biology makes to this debate by learning the fundamental information about gen-

der in the fields of genetics, embryology, physiology, and evolution. We will see how science works, consider alternative explanations and test the question, "are gender differences real?" by studying a series of applied topics. Prerequisite: sophomore standing or higher; introductory course in biology, anthropology, sociology, or psychology. Cr 3.

Interdepartmental Major Programs

Chair: Robert B. Loudon, 47 Exeter St., Portland

Faculty Council: Erickson, Rhodes, Ubans, Wood, Fithian, Heckman

All interdepartmental major programs are approved and administered by the Faculty Council for Interdepartmental Majors. Within these programs it is possible for a student (or a group of students), in consultation with appropriate faculty advisors, to develop and propose interdepartmental major programs to the Faculty Council. Faculty members may also propose interdepartmental majors to the Faculty Council.

Individualized Programs

Two programs are available for individual students whose academic needs cannot be met through other academic department majors.

The *liberal studies major* is a structured, generalized program in the College of Arts and Sciences for students who choose not to specialize in an academic discipline. Students interested in such an option may apply to the Faculty Council for Interdepartmental Majors at the normal time for declaring a major. Guidelines for this program may be obtained from the Office of the Dean of the College of Arts and Sciences or from the chair of the Council.

The *self-designed major* allows a student to design a multi-disciplinary program not currently available through a department major. Persons wishing to pursue such an option should apply to the Faculty Council for Interdepartmental Majors for approval, normally during the student's sophomore year.

A self-designed major program must be as comprehensive as departmental majors in the College of Arts and Sciences. Coursework outside the College may be included, but the major must consist mainly of courses within the arts and sciences.

Deadlines for submission of completed proposals are September 15, February 15, and April 15. Students may obtain applications, program descriptions, and guidelines from the Office of the Dean of the College of Arts and Sciences or from the chair of the Council.

Group Contract Programs

Group contract majors offered through the self-designed major program require appropriate courses offered by program-related departments. These majors allow a number of students to be enrolled in the same program.

Students interested in majoring in any of the following programs may obtain additional information and guidelines in the Office of the Dean of the College of Arts and Sciences or from the appropriate office indicated.

Students and faculty interested in designing and proposing group contract majors are encouraged to do so and should obtain additional information from the Office of the Dean of the College of Arts and Sciences or from the chair of the Faculty Council for Interdepartmental Majors.

Biotechnology Program

Coordinator: Michael Derby, 204 Science Building, Portland.

Steering Committee: Derby, Gainey, Holmes, O'Mahoney-Damon, Rhodes, Ricci, Stebbins

The Biotechnology Program is an interdisciplinary degree program designed to provide students with a liberal arts education emphasizing cellular and molecular biology. An integral part of this program is a semester-long, full-time internship at one of several local biotechnology firms which will provide students with practical experience in biotechnology.

Students may apply for admission to the program at the end of their freshman year (after completion of one year of chemistry and one year of biology coursework). The committee will recommend the most qualified students for admission to the program. Minimum requirements are a "B" average in all coursework required for the program. The number of students admitted to the program will be determined by the committee; however, students will not be admitted unless there is a reasonable expectation of their being placed in an internship.

Students will be required to maintain a 2.5 GPA in required coursework to remain in the program. Students who do not maintain this average will be placed on probation for one semester; if no improvement is noted, they will be dismissed from the program. Required coursework with a grade of "D" will not be counted toward fulfilling the program requirement.

Complete details and guidelines may be obtained from the program coordinator.

Self Designed Major in Biotechnology

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 76.5 or 77.5

Biology (21.5 credit hours)

1. 2 semesters freshman biology (BIO 105, 106, 107, 108)
2. Genetics (BIO 301)
3. Microbiology (BIO 311, 312)

Chemistry (32 credit hours)

1. 2 semesters freshman chemistry (CHY 113, 114, 115, 116)
2. 2 semesters Organic Chemistry (CHY 251, 252, 253, 254)
3. Analytical Chemistry (CHY 231, 232)
4. Biochemistry (CHY 361, 362)
5. CHY 363, 364, or BIO 406 or BIO 409, 410

Internship (12 credit hours)

Physics (9 or 10 credit hours)

1. 2 semesters introductory physics
(PHY 121, 122, 123, 124 or PHY 111, 112)

Mathematics (7 credit hours)

1. 1 semester Calculus (MAT 152)
2. 1 semester Statistics (MAT 120)

Foreign Languages Study Programs

The self-designed major of the College of Arts and Sciences provides students with a flexible opportunity to tailor their major to their interests and needs in foreign language study. In order to help students prepare their application for approval by the Faculty Committee for Interdepartmental Majors, five possible models are presented. Additional information may be obtained from the chair of the Department of Foreign Languages and Classics.

Self-Designed Major in Foreign Languages

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

For a major in foreign languages, students may choose any two of the following languages and take these courses in the languages of their choice:

Spanish: SPA 321, 322, 351, 352, 281

German: GER 321, 322, 351, 352, 281

French: FRE 321, 323, 291, or 292; any two of 361, 362, or 363.

Classical Languages: GRE 251, 252, LAT 251, 252, and either GRE 470 or LAT 470

In addition, the student is required to take two foreign language Core courses bringing the total of credits required to 36.

Self-Designed Major in Classical Studies (Concentration in either Greek or Latin)

The minimum number of credits (exclusive of the University's Core curriculum) for the major: 36.

Core Course

Language and Literature

Concentration in Greek

GRE 251 Introduction to Literature

GRE 252 Introduction to Literature

GRE 470 Independent Study

LAT 251 Introduction to Literature

LAT 252 Introduction to Literature

Civilization and Literature in Translation

CIA 283 Epic

CIA 284 Tragedy

CIA 291 5th Century Athens

Related Courses (electives)

ARH 111 History of Art I

ARH 212 Classical Art

HTY 231 Ancient History I

HTY 232 Ancient History II

PHI 310 Ancient Philosophy

POS 289 Political & Social Thought I

Concentration in Latin

LAT 251 Introduction to Literature

LAT 252 Introduction to Literature

LAT 470 Independent Study

GRE 251 Introduction to Literature

GRE 252 Introduction to Literature

Civilization and Literature in Translation

CIA 283 Epic

CIA 284 Tragedy

CIA 292 Rome

Self-Designed Major in French Studies

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Core Course

French Language and Literature

Any two

FRE 321 Workshop in Writing French

FRE 323 Workshop in Speaking French

FRE 305 French Phonetics

Any two

FRE 361 The French Novel

FRE 362 French Poetry

FRE 363 The French Theatre

One French literature course from the 400 level.

French Civilization and Literature in Translation

FRE 291 French Civilization

and 292

Select one		
FRE	283	Contemporary French Thinkers
FRE	284	Avant-Garde Theatre in France
FRE	285	18th Century Literature in France and England
Electives (any three)		
LAT	101-	Beginning Latin
	102	
HTY	242	French Revolution and Napoleon
HTY	244	20th Century Europe
POS	235	Democratic Governments of Europe
ARH	316	Modern Art
MUS	203	Music in the 20th Century
SOC	361	Sociology of Franco-Americans

Self-Designed Major in German Studies

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Core Course

German Language and Literature

GER	321-	Composition/Conversation
	322	
GER	351-	Introduction to German Literature
	352	
GER	281	The German Novelle
GER	470	Independent Study

Social Sciences (any three)

HTY	244	20th Century Europe
HTY	256	World War I and World War II: European War and Diplomacy
HTY	272	Germany to 1945
HTY	273	Germany since Hitler
HTY	412	Totalitarianism: Nazism and Communism

Humanities (any two)

PHI	340	History of Late Modern Philosophy
PHI	275	Theories of Language
ARH	411	Philosophy of Art
MUS	220	History of Music III
ENG	341	Critical Approaches to Literature
ENG	396	Modern Novel: Themes and Methods

Self-Designed Major in Hispanic Studies

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Core Course

Spanish Language and Literature

SPA	321-	Composition/Conversation I & II
	322	
SPA	351-	Introduction to Hispanic Literature I & II
	352	
SPA	281	Masterpieces of Hispanic Literature
SPA	470	Independent Study

History

HTY	181-	Latin America I & II
	182	

Social Science (any two)

HTY	381	Latin America and the United States
HTY	383	The Society and Culture of Latin America
ANT	221	South American Indian

Humanities (select one)

ARH	311	Topics in Art History
ARH	315	Western Art (1790-1880)
PHI	275	Theories of Language

Course substitutions can be made in the electives upon prior approval of the Faculty Council for Interdepartmental Majors.

**Social Science
Self-Designed
Major**

Coordinator: Eugene Schleh, 300B Bailey Hall

The social science self-designed major is a multi-disciplinary program offered by the Departments of Economics, Geography-Anthropology, History, Political Science, and Sociology. Each student must take a minimum of 51 credits, 21 of which must be in a particular subject area.

Students must meet the following requirements within the discipline selected for concentration:

- I. a. Geography-Anthropology—to include GEO 101, GEO 102 or GEO 201, ANT 101 or ANT 103, and at least 3 courses in geography or anthropology at the 300 level or above. (21 credits)
- b. History—to include at least 21 credit hours at the 200 level or above. (21 credits)
- c. Political Science—21 credit hours as arranged with advisor
- d. Sociology—to include SOC 100, SOC 300, SOC 305; or SOC 307, SOC 312, or SOC 356. (21 credits)
- e. Economics—to include ECO 201, ECO 202, ECO 301, and ECO 302, and three advanced economics courses. (21 credits)
- II. Remaining courses must include three each, in each of three of the remaining four disciplines. Nine of these credits must be upper division level (200 or above).
- III. One course (3 credits) must be Independent Study to be supervised by two faculty, one of whom is in the discipline of concentration. This requirement may only be met during the senior year or during the second semester of the junior year.

Program descriptions and guidelines are available in the Office of the Dean of the College of Arts and Sciences or from the chair of the Council.

**International Studies
Self-Designed
Major**

Coordinator: Karen Erickson, 515 Luther Bonney, Portland

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 81

Prerequisite courses for the major: HTY 101, HTY 102, POS 104.

Fundamental requirements include courses in research and writing; statistical analysis; American history and government; economics and geography; sociology and anthropology; and philosophy and literature.

Specialization courses: Each student will select one of three principal fields of concentration: (1) Foreign Policy Analysis; (2) Foreign Affairs Management; and (3) Regional Affairs.

Foreign language requirement: third-year competency in a foreign language, or 18 credit hours.

Seminar and thesis: Majors will be required to take a Senior Seminar in International Studies and to write a thesis under the supervision of a faculty advisor. Thesis topics must be approved by the first semester of the senior year. The Senior Seminar and the thesis are each worth 3 credits.

For further details of the program, contact the Coordinator, Karen Erickson.

**Women's Studies
Self-Designed
Major**

For information regarding the women's studies self-designed major, please see p. 47.

Art

Chair of the Department: Michael G. Moore, 201 Academy Building, Gorham
Professors: Bearce, Franklin, Ubans; *Associate Professors:* Hewitt, M. Moore, Rakovan, Schiferl; *Assistant Professors:* Burk, Cassidy, Marasco, J. Moore, Shaughnessy

The department offers three bachelor's degrees: the bachelor of arts (B.A.), the bachelor of fine arts (B.F.A.), and the bachelor of science (B.S.). The requirements for the B.F.A. heavily involve the student in studio art courses and prepare him/her for graduate school or suitable professions. The B.S. gives the student preparation in several studio areas and professional education, and leads to teacher certification, grades K-12, in the state of Maine. The B.A. is designed to provide a broad liberal arts education and to prepare students for graduate study in allied fields. In all of the programs, the faculty strive to promote the student's creative abilities.

Specifically, the department goals are a.) to provide a broad and challenging foundations program, which will enable students to develop a self-awareness, an historical perspective, and insight into the meaning and application of creative media in the visual arts; b.) to develop the capacity for critical analysis, the ability to investigate and experiment, and to make judgments within a framework of reason; c.) to develop an art vocabulary appropriate to the visual arts; d.) to develop an overview and understanding of literature on art; e.) to develop an open attitude for viewing and creating art; f.) to develop basic proficiencies in a variety of art media, as well as an in-depth competency in selected art areas; g.) to develop understanding of nonverbal communication skills; and h.) to provide an enriching gallery program for students, faculty and staff, and the greater Portland community.

Above all, the faculty helps students develop an intelligent and cosmopolitan attitude about art, and encourages self-reliance in developing their own artwork and other creative endeavors.

Admission Requirements

Students wishing to apply for admission to the Department of Art should observe the following procedure: Formal application should be made to the Director of Admissions, Admissions Office. Current degree candidates enrolled at the University, wishing to transfer into the Department of Art from another discipline, must obtain a change of major form and submit this form with an up-to-date transcript to the chair of the Department of Art.

By following these procedures a student is identified as a candidate for matriculation in the Department of Art. All candidates must complete the art foundation (consisting of Fundamental Design I & II, Fundamental Drawing I & II, and History of Art I & II) before matriculating as an art major in the Department of Art.

In order to become a full-time matriculated art major in one of the three degree programs, a portfolio of original works must be submitted to the Department for evaluation. This must be done subsequent to or during the semester in which art foundation requirements are being completed. The portfolio should consist of 12 works in varying media, including one self-portrait drawn from life. The entire portfolio may indicate the applicant's current interest and should include examples of designs and drawings typical of those completed at the art foundation level. The portfolio may also include prints, paintings, posters, and photographs, but 35mm slides or photographs of three-dimensional work should be submitted rather than the work itself. In addition to the quality of the works, presentation should be considered for the purposes of appearance and protection. The Department cannot accept responsibility for damage or loss, and asks that no glass, three-dimensional work, or work larger than 24" x 36" be submitted.

Portfolio deadlines and application forms may be obtained from the Admissions Office or the Department of Art.

Final notification of a decision will come from the Department of Art approximately two weeks after the portfolios have been evaluated.

Students already enrolled in the University who wish to change their major to art also must follow the departmental admission procedures concerning submission of portfolio, as described above.

Only students who have completed the art foundation and who have earned 60 credits or more may enroll for Independent Study courses. Grades of C- or better must be earned to satisfy a major or minor requirement.

Programs and Requirements

Bachelor of Arts (B.A.)

The minimum number of credits (exclusive of the University's Core curriculum and electives) required for the major: 45.

Art Foundation (18 credits)

ART 141 Design I

ART 142 Design II

ART 151 Drawing I

ART 152 Drawing II

ARH 111 History of Art I

ARH 112 History of Art II

Art History Requirements (9 credits)

ARH 411 Philosophy of Art (may substitute PHI 220)

ARH Elective

ARH Elective

Studio Art Requirement (18 credits)

Electives (41 credits)

No more than 60 credit hours with ART designation may be used to fulfill 120 credit-hours degree requirement.

Minor in Art History

The minimum number of art history credits (exclusive of the University's Core curriculum) required for the minor: 21.

The minor consists of ARH 111; ARH 112; and ARH 411, and 12 credits of art history courses (noted by ARH prefix) above the 200 level including: a.) at least one of the following areas: Classical, Medieval, Renaissance; and b.) at least one in either of the following areas: 19th-Century Western Art, 20th-Century Western Art.

Bachelor of Fine Arts (B.F.A.)

The minimum number of credits (exclusive of the University's Core curriculum and electives) required for the major: 72.

Art Foundation (18 credits)

ART 141 Design I

ART 142 Design II

ART 151 Drawing I

ART 152 Drawing II

ARH 111 History of Art I

ARH 112 History of Art II

Art History Requirements (9 credits)

ARH 411 Philosophy of Art (may substitute PHI 220)

ARH Elective

ARH Elective

Studio Art Requirement (45 credits)

9 credits in Drawing above the 152 level

6 credits from each of the following two categories: two-dimensional: painting, printmaking, photography; three-dimensional: ceramics, sculpture

24 credits ART electives

Studio Concentration Requirement

A 12-credit concentration in painting, sculpture, printmaking, photography, ceramics, or drawing is required. In addition, B.F.A. candidates are required to have an exhibit of their work during their senior year. The student's advisor and department chairperson must be notified about the place and time of the exhibit at least two weeks prior to the opening.

Electives (14 credits)

All B.F.A. matriculants are required by the end of their sophomore year to take the beginning level courses in ceramics, drawing, painting, photography, printmaking, and sculpture. To be implemented no later than fall 1987.

In order to receive a B.F.A. degree in art from USM, a student transferring to USM must complete at least two 3-credit studio courses and one 3-credit art history course at USM.

Bachelor of Science in Art Education

The minimum number of credits (exclusive of the University's Core curriculum and electives) required for the major: 80.

Art Foundation (18 credits)

- ART 141 Design I
- ART 142 Design II
- ART 151 Drawing I
- ART 152 Drawing II
- ARH 111 History of Art I
- ARH 112 History of Art II

Art History Requirement (9 credits)

- ARH 411 Philosophy of Art (may substitute PHI 220)
- ARH Elective
- ARH Elective

Studio Art Requirement (27 credits)

- ART 232 Ceramics I
- ART 261 Painting I
- ART 271 Photography I
- ART 281 Printmaking
- ART 291 Sculpture I
- ART Elective
- ART Elective
- ART Elective
- ART Elective

Professional Education Requirement (26 credits)

- AED 221 Practicum in Art Education
- AED 321 Principles and Procedures in Art Education
- EDU 200 Studies in Educational Foundations
- HRD 333 Human Growth and Development
- EDU 324 Student Teaching (6 Cr course)
- EDU 324 Student Teaching (6 Cr course)
- AED 421 Seminar in art education

Electives (6 credits)

Minimum Grade Point Average

A 2.5 minimum G.P.A. must be maintained in order to register for AED 321, AED 421, EDU 324, and in order to graduate from the program.

Liberal Arts Requirement

40 credit hours in liberal arts are required, including the University Core curriculum. These must be non-Art Department courses.

ART 101 Approaches to Art

Selected experiences using original works, lecture, panel discussion, slides, films, and other means to confront the student with the significance of the visual arts in human history. The aim of the course is to involve students in direct experiences affecting their own perception of visual form.

Cr 3.

ART 416 Exhibitions & Gallery Management

Problems in the operation of an art gallery. Various exhibition, installation and handling techniques; design and distribution of promotional material. Practical experience in connection with the operation of the USM Art Gallery. Prerequisite: art foundation courses.

Cr 3.

ARH 111 History of Art I

Examination and discussion of the early epochs of art from prehistoric cultures through the Renaissance. Special attention is directed to the relationships of historical and theoretical knowledge to creative expression. Divergent viewpoints of the art historian, the critic, and the artist are explored. The first half of an overview of the visual arts emphasizing the interrelationships of cultural values and the forms of art. Prerequisite: preference given candidates for matriculation in the Department of Art, or those with permission of the instructor. Cr 3.

ARH 112 History of Art II

A continuation of ARH 111 from the Renaissance through the 20th century. In both semesters of the course, examples of architecture and sculpture, paintings, etc. are used as the basis of inquiry. Prerequisite: preference given candidates for matriculation in the Department of Art, or those with permission of the instructor. Cr 3.

ARH 212 Classical Art

A survey of ancient art and architecture with special emphasis on discussing the key monuments of Greek and Roman art and their influence on later artistic periods. Prerequisite: ARH 111. Cr 3.

ARH 213 Medieval Art

A survey of the various medieval styles from the Early Christian through the Gothic period with a special section on Islamic art. The relationship of culture to art will be examined for architecture, painting and sculpture. Prerequisite: ARH 111. Cr 3.

ARH 214 Renaissance Art

An examination of the art and architecture of the fifteenth and sixteenth centuries both north and south of the Alps. Emphasis will be given to the cultural traditions, historical events and theoretical foundations which contributed to the development of Renaissance art. Prerequisite: ARH 112. Cr 3.

ARH 215 Seventeenth and Eighteenth Century Art

The course will survey the Baroque and Rococo movements in painting, sculpture, and architecture. The impact of the Academies and academic art and the Enlightenment will be given special attention. Prerequisite: ARH 112. Cr 3.

ARH 217 Oriental and Non-Western Art

A survey of some of the major styles in Asian art (India, China, Japan) followed by an overview of the art of tribal Africa and Indian art of the Americas. The emphasis will be on an understanding of the art through the cultural factors which influenced its development. Prerequisite: none. Cr 3.

ARH 218 Women in Art

A focus on women in the arts; their images, ideals, dialogues, politics, and history through contemporary trends. The course will be enhanced with slides, films, video, tapes, papers, panels and discussions. Prerequisite: permission of instructor. Cr 3.

ARH 273 Film as Image and Idea

An approach to the appreciation of motion pictures and allied arts through the understanding and analysis of the context, range, and resources of this, the only major form of creative expression conceived and developed entirely within the Industrial Age. Principles of evaluation, illustrated through the development of motion pictures to their present state. Prerequisite: permission of the instructor. Cr 3.

ARH 315 Western Art (1790-1880)

A study of the major movements of the first half of the modern era covering the period between 1790-1880. Prerequisite: ARH 112. Cr 3.

ARH 316 Modern Art

A continuation of ARH 315 covering the period from 1880-1950 and including the growth and development of the modern "isms." Prerequisite: ARH 112. Cr 3.

ARH 317 Contemporary Art (1950-Present)

An examination and discussion of development in the visual arts since 1950. Prerequisite: ARH 112. Cr 3.

ARH 411 Philosophy of Art

An investigation into the theories of art and beauty found in the writings of philosophers, painters, writers, and critics which form the basis of understanding of the fine arts. Readings and discussion of writers from ancient to modern times. Prerequisite: ARH 112. Cr 3.

ARH 412 Topics in Art History

A seminar on a selected topic in art history which will be the focus of in-depth research and discussion. Prerequisite: Permission of the instructor. Cr 3.

ARH 418 Independent Study in Art History

An opportunity for the student who has demonstrated competence in a specific area of study to work independently with scheduled tutoring from a faculty member of the student's choice. Prerequisite: permission of instructor and Art Department chairman. Cr 1 to 6.

ART 141 Fundamental Design I

A studio introduction to the basic elements of two-dimensional and color relationships. Cr 3.

ART 142 Fundamental Design II

A studio introduction to the basic elements of three-dimensional relationships, and "the aggregate," an extended project interrelating the two and three-dimensional. Prerequisite: ART 141. Cr 3.

ART 151 Fundamental Drawing I

A studio introduction to drawing, including the basic elements of line, tone, design, and representation. Cr 3.

ART 152 Fundamental Drawing II

A continued introduction to drawing, using the basic graphic elements studied in Drawing I. Cr 3.

ART 231 Ceramics

An introduction to methods and processes of clay forming, including modeling, pressing, handbuilding, and the potter's wheel. Emphasis on form and texture, with aspects of glaze composition and firing procedures. Prerequisite: art core courses. Cr 3.

ART 251 Drawing

Extensive combining of media. Stress on role of images, both object and model. Prerequisite: ART 152. Cr 3.

ART 261 Painting

An introduction to basic aspects of the painting process as related to visual perception and technique. Prerequisite: art core courses. Cr 3.

ART 271 Photography

Photography as a creative medium. Introduction to basic skills in the use of the camera and darkroom equipment. Investigation and practice in the fundamental techniques and processes of black and white photography as an art form. Prerequisite: art core courses. Cr 3.

ART 281 Printmaking

Introduction to the rudimentary materials and methods of basic printmaking media such as intaglio, lithography, relief and serigraphy. Prerequisite: art core courses. Cr 3.

ART 291 Sculpture

A foundation course directed towards the developing awareness of basic elements of sculptural form and the discipline of making objects. Prerequisite: art core courses. Cr 3.

ART 331/332 Intermediate Ceramics

Application of design principles in production of ceramicware with a concentration on advanced problems in wheel-thrown forms and hand-building sculptures. Prerequisite: ART 231. Cr 3/3.

ART 351/352 Intermediate Drawing

Continued drawing with emphasis on independent direction. Prerequisite: ART 251. Cr 3/3.

ART 361/362 Intermediate Painting

Continued investigation of the painting process using both assigned problems and arrangements of the student's own invention. Use of a variety of media. Prerequisite: ART 261. Cr 3/3.

ART 363 Painting/Watercolor

Watercolor; wash, dry-brush, ink and wash, gouache, and other techniques in watermedia. Emphasis on individual concepts and personal expression. Prerequisite: ART 261. Cr 3.

ART 365/366 Intermediate Watercolor

Continuation of Painting/Watercolor with emphasis on personal expression. Prerequisite: ART 363. Cr 3/3.

ART 371/372 Intermediate Photography

Exploration of concepts and techniques of photography with emphasis on individual forms of expression. Prerequisite: ART 271. Cr 3/3.

ART 381/382 Intermediate Printmaking

Application of the basic knowledge of printmaking as it concerns image making, with an emphasis on at least two of the media studied in ART 281. Prerequisite: ART 281. Cr 3/3.

ART 391/392 Intermediate Sculpture

The theory and practice of sculptural composition using a variety of techniques with traditional and new materials. Prerequisite: ART 291. Cr 3/3.

ART 407 Advanced Problems in Art

An opportunity for the student to do advanced work in the discipline of his/her choice, culminating in a related project. Prerequisite: permission of instructor and Art Department chairman. Cr 1 to 6.

ART 408 Independent Study in Art

An opportunity for the student who has demonstrated competence in a specific area of study to work independently with scheduled tutoring from a faculty member of the student's choice. Prerequisite: permission of instructor and Art Department chairman. Cr 1 to 6.

ART 412 Topics in Studio Art

A course on a selected topic in the studio arts. To be offered at least once each year. Prerequisite: permission of the instructor. Cr 3.

ART 431/432 Advanced Ceramics

Investigation and realization of advanced ceramics projects with an emphasis on personal development and professional attitudes. Prerequisite: ART 331 and 332. Cr 3/3.

ART 451/452 Advanced Drawing

Making personal and complete drawings and series of drawings. Emphasis on individual concepts and personal expression. Prerequisite: ART 351 and 352. Cr 3/3.

ART 461/462 Advanced Painting

Continuation of Intermediate Painting. Emphasis on individual concepts and personal expression. Prerequisite: ART 361 and 362. Cr 3/3.

ART 471/472 Advanced Photography

Investigation of advanced photography projects with emphasis on personal expression and individual concepts of image-making. Prerequisite: ART 371 and 372. Cr 3/3.

ART 481/482 Advanced Printmaking

Study and realization of personally developed imagery through advanced investigation of preferred print-making media. Prerequisite: ART 381 or ART 382. Cr 3/3.

ART 491/492 Advanced Sculpture

Continuation of Intermediate Sculpture with emphasis on the pursuit of personal imagery. Prerequisite: ART 391 and 392. Cr 3/3.

ART Independent Study Term

An opportunity for the student who has demonstrated competence and exceptional independence in a specific area of study to work with scheduled supervision from a faculty member of the student's choice. Prerequisite: permission of the Department of Art and the Dean of the College. Cr 12-15.

*Art Education***AED 221 Practicum in Art Education**

An introduction to art education theories and processes through reading, writing, discussion, observation, and clinical experiences with children. The examination of the relationship between art-making and learning is relevant to prospective art and classroom teachers. Prerequisite: sophomore standing or above. Cr 3.

AED 321 Principles and Procedures in Art Education

History and philosophy of art education, theories of child art, relationship of goals to art education strategies, development of a workable set of beliefs about art education through readings, writings, discussion, observation, interview, and field experiences. Intended for the art education major. Prerequisite: AED 221 and art core courses. Cr 3.

AED 407 Advanced Problems in Art Education

An opportunity for the student to do advanced work in art education related problems. A total of 6 credits may be taken. Prerequisite: completion of the sequence of

courses in the related discipline and permission of the instructor and Art Department chair. Cr 1 to 6.

AED 412 Topics in Art Education

A course on a selected topic in art education to be offered at least once a year. Prerequisite: permission of the instructor. Cr 3.

AED 421 Seminar in Art Education

This seminar examines art curriculum design and evaluation. Critical issues in art education for the emerging art education professional today are explored through discussion, writing, and readings. This course is to be taken while student teaching. Prerequisite: AED 321. Cr 2.

AED 428 Independent Study in Art Education

An opportunity for the student who has demonstrated competence in a specific area of study to work independently, with scheduled tutoring from a faculty member of the student's choice. Prerequisite: permission of instructor and Art Department chair. Cr 1 to 6.

Biological Sciences

Chair of the Department: Patricia M. O'Mahoney-Damon, 206 Science Building, Portland

Health Education Advisor: Patricia M. O'Mahoney-Damon, 206 Science Building, Portland. *Professors:* Mazurkiewicz, Najarian; *Associate Professors:* Gainey, Greenwood, Holmes, O'Mahoney-Damon, Riciputi, Schwinck; *Assistant Professors:* Derby, Dorsey

A four-year program leading to a B.A. in biology is offered. The program provides students with a liberal arts education emphasizing the sciences. The required biology courses expose the student to an examination of life from the molecular level to the biotic community. Other biology courses may be elected to suit individual interests and needs. The required courses in chemistry and physics reflect the interdisciplinary status of biology today. Graduates of this program have found careers in biological and medical research laboratories, field biology and pharmaceutical sales, or have furthered their education by entering graduate medical, dental, optometry, veterinary, and law schools, as well as schools for allied health professions.

Biotechnology

The department also offers a self-designed major in biotechnology in conjunction with the Department of Chemistry. For further information see the Interdepartmental Major Programs section of this catalog.

Pre-medical Students

Almost every American school of medicine, veterinary medicine, and dentistry requires for admission a baccalaureate degree (major optional), two years of biology, two years of chemistry, one year of physics, a course in calculus, satisfactory performance on a national professional aptitude test, and a recommendation from a committee at the baccalaureate institution. At this campus, the Health Professions Pre-professional Evaluation Committee is comprised of faculty from the Departments of Biology, Chemistry, and Physics and is responsible for evaluating, comparing, and recommending students. For further information contact Patricia O'Mahoney-Damon, 206 Science Building, Portland.

Programs and Requirements

Bachelor of Arts

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 64.5. A grade of C or higher in courses with a BIO prefix is required for the major, and a GPA of 2.0 in all courses is required for the major.

All of the following are required:

BIO	105, 106	Biological Principles and Laboratory Biology I
BIO	107, 108	Biological Principles II and Laboratory Biology II
BIO	301	Genetics

One course (lecture and laboratory combination) from each of the following areas:

AREA 1: Organismal Biology

BIO	205	Comparative Vertebrate Anatomy
BIO	231	Botany
BIO	304	Embryological Development
BIO	351, 352	Invertebrate Zoology and Survey of Invertebrates

AREA 2: Community-Ecosystems

BIO	331, 332	Ecological Principles and Laboratory
BIO	341, 342	Limnology and Laboratory

AREA 3: Functional Biology

BIO	401, 402	General Physiology and Laboratory
BIO	403, 404	Comparative Physiology and Laboratory

AREA 4: Cellular Biology

BIO	311, 312	Microbiology and Laboratory
BIO	409	Cell and Molecular Biology PLUS
BIO	410	Cell and Molecular Biology Laboratory OR
BIO	406	Molecular Biology and Genetics
The biology major must also satisfactorily complete all of the following:		
CHY	113, 114	Principles of Chemistry I and II and Laboratory
CHY	115, 116	Laboratory
CHY	251, 252	Organic Chemistry I and II and Laboratory
CHY	253, 254	Laboratory
MAT	120, 220	Statistics
MAT	152	Calculus A
PHY	121, 122	General Physics I and II and Laboratory
PHY	123, 124	Laboratory
PHY	111, 112	OR Elements of Physics I and II

In addition, students must fulfill the University Core curriculum requirements.

Minor in Biology

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

The minor consists of BIO 105, BIO 106, BIO 107; or BIO 105, BIO 106, BIO 211, BIO 212; plus electives numbered 200 or above to equal 18 hours in biology coursework. Students must complete at least 6 hours of this coursework at USM.

BIO 019 Biological Basis of Human Activity

A course designed to elucidate the basic biological constraints of human performance. This course does not serve as a prerequisite for BIO 107 or BIO 211. Associate degree credit only. Cr 3.

BIO 101 Biological Foundations

An introduction to the areas of current biological interest: molecular and cellular biology, genetics and development, and evolution and population biology. Intended primarily for students selecting a laboratory science to satisfy the Core Curriculum or for those students not intending to take other courses in the Biological Sciences. This course cannot be used as a prerequisite for other biology courses. Cr 3.

BIO 102 Biological Experiences

Laboratory studies to complement and illustrate the concepts presented in BIO 101. Prerequisite: BIO 101 or concurrently. Cr 1.

BIO 105 Biological Principles I

An introduction to scientific principles underlying the unity and diversity of life. Prerequisite: students must have fulfilled the University minimum proficiency requirements in writing and mathematics. Cr 3.

BIO 106 Laboratory Biology I

Laboratory experiences illustrating concepts and principles introduced in BIO 105. Must be taken concurrently with BIO 105. Three hours. Cr 1.

BIO 107 Biological Principles II

An introduction to the structure, function and ecological relationships of living organisms. Prerequisites: grades of C or higher in BIO 105 and BIO 106. Cr 3.

BIO 108 Laboratory Biology II

Laboratory experiences illustrating topics introduced in BIO 107. Must be taken concurrently with BIO 107. Three hours. Cr 1.5.

BIO 205 Comparative Vertebrate Anatomy

The comparative study of vertebrate organ systems from an adaptational and evolutionary point of view. Lecture three hours/week; one four-hour laboratory/week. Prerequisite: Grade of C or higher in BIO 105 and BIO 106. Cr 5.

BIO 207 Human Heredity and Embryology

This course presents the fundamental principles of genetics and embryology as they apply to humans. The influence of nutrition, drugs, viruses and physical agents on development will be discussed. Prerequisite: grade of C or higher in BIO 105. Cr 3.

BIO 211 Human Anatomy and Physiology

The study of functional anatomy and physiology of the human. Prerequisite: grade of C or higher in BIO 105. Cr 3.

BIO 212 Practical Human Anatomy and Physiology

Laboratory studies of the structure and functions of the human body including histology and physiological experiments. NOT open to

those who have completed BIO 205. Prerequisite: grade of C or higher in BIO 106; BIO 211 or concurrently. Cr 1.5.

BIO 217 Evolution

A study of the processes of biological evolution. Prerequisite: grade of C or higher in BIO 105. Cr 3.

BIO 231 Botany

A study of structure, function, development, reproduction, and environmental adaptations of representative non-vascular and vascular plants. Lecture three hours/week; one three-hour laboratory/week. Prerequisite: grade of C or higher in BIO 105 and BIO 106. Cr 4.5.

BIO 241 Plant Physiology

A study of the physiological activities of plants, and their growth and development as influenced by internal and external factors. Prerequisites: BIO 107, or BIO 231, one year of college chemistry or permission of the instructor. Cr 3.

BIO 251 History of Biology

A chronological survey of developments in biological investigations from earliest records to the present day. Prerequisite: grade of C or higher in BIO 105. Cr 3.

BIO 281 Microbiology and Human Disease

Fundamentals of microbiology with emphasis on infectious diseases of people, including bacteria, rickettsia, fungi, viruses, protozoa and helminths. Prerequisites: grade of C or higher in BIO 105, and college chemistry. Cr 3.

BIO 282 Microbiology and Human Disease Laboratory

Laboratory techniques in the cultivation, identification and control of microorganisms. Prerequisites: BIO 281 or concurrently. Cr 2.

BIO 291 Ornithology

The basic biology of birds: life histories, migration, behavior, and economic importance, with emphasis on species found in Eastern North America. (Students supply their own binoculars or spotting scopes.) Prerequisite: grade of C or higher in BIO 105. Cr 3.

BIO 301 Genetics

A study of the molecular basis of heredity and methods of genetic analysis. Lecture: 3 hours/week; discussion 1 hour/week. Prerequisite: grade of C or higher in BIO 107, 108 or BIO 211, 212; one year of college chemistry; or permission of instructor. Cr 3.

BIO 304 Embryological Development

An integrated lecture-laboratory course covering embryological development from fertilization through organogenesis. Prerequisite: a

grade of C or better in BIO 301, or permission of the instructor. Cr 3.

BIO 305 Developmental Biology

An analysis of the cellular and molecular interactions leading to normal development. Prerequisite: grade of C or higher in BIO 301 and prior or concurrent registration in BIO 304, or permission of the instructor. Cr 3.

BIO 311 Microbiology

A consideration of protozoa, fungi, bacteria, and viruses of medical and biological importance. Prerequisites: grade of C or higher in BIO 105, one year of college chemistry. Cr 3.

BIO 312 Microbiological Laboratory

The laboratory isolation and examination of microorganisms by various techniques. Prerequisites: grade of C or higher in BIO 105, BIO 311 or concurrently. Cr 2.

BIO 331 Ecological Principles

The interrelationships of living organisms and their environments, including man's impact on ecosystems. Prerequisite: grade of C or higher in BIO 107, and BIO 108. Cr 3.

BIO 332 Field Ecology

Field and laboratory studies demonstrating basic concepts of ecology. Numerous field trips. Prerequisites: BIO 331 or concurrently. Cr 3.

BIO 333 Ichthyology

The systematics, structure, natural histories, and economic importance of fishes, with emphasis on species of the northeastern U.S. Prerequisites: grade of C or higher in BIO 107. Cr 3.

BIO 334 Ichthyology Laboratory

Laboratory and field methods for collecting, identifying, and studying aspects of the natural history of fishes. Field work at a variety of habitats. Prerequisites: BIO 333 or concurrently. Cr 2.

BIO 335 Entomology

Integrated lecture-laboratory course on the biology of insects and their impact on man. Prerequisite: grade of C or higher in BIO 107 and BIO 108. Cr 3.

BIO 341 Limnology

The study of inland waters with special concern for the factors that influence the living populations within these waters. Prerequisite: grade of C or higher in BIO 107 and BIO 108. Cr 3.

BIO 342 Field Limnology

Practical application of the methods and materials used to study inland waters and their associated living populations. Prerequisite: BIO 341 or concurrently. Cr 2.

BIO 345 Pathophysiology

A study of the physiological, genetic, biochemical and environmental basis of noninfectious diseases. Prerequisite: grade of C or higher in BIO 211 or permission of instructor. Cr 3.

BIO 351 Invertebrate Zoology

The morphology, physiology, and phylogenetic relationship of non-backboned animals. Prerequisite: grade of C or higher in BIO 105. Cr 2.

BIO 352 Survey of Invertebrates

Laboratory experience on the anatomy, physiology, and behavior of invertebrate animals. Prerequisite: BIO 351, or concurrently. Cr 2.

BIO 361 Parasitology

The life histories and host-parasite relationships of animal parasites, with emphasis on those of humans. Prerequisite: grade of C or higher in BIO 105. Cr 2.

BIO 362 Parasitological Laboratory

The morphology and life cycles of parasitic protozoa, helminths, and arthropods. Prerequisite: BIO 361, or concurrently. Cr 2.

BIO 401 General Physiology

A study of physiological processes and their regulation in animals. Prerequisites: grade of C or higher in BIO 107 or BIO 211; one year of college chemistry; one semester of physics, or permission of instructor. Cr 3.

BIO 402 General Physiology Laboratory

Laboratory examination of physiological mechanisms in animals. Prerequisites: BIO 401 or concurrently. Cr 2.

BIO 403 Comparative Physiology

Physiological and biochemical basis of environmental adaptation. Prerequisite: grade of C or higher in BIO 107; one year of college chemistry, junior standing. Cr 3.

BIO 404 Comparative Physiology Laboratory

Laboratory experiments on the physiological basis of environmental adaptation. Emphasis is on marine organisms. Prerequisite: BIO 403 or concurrently. Cr 2.

BIO 406 Molecular Biology and Genetics

An integrated lecture-laboratory course exploring modern molecular approaches in genetics, developmental biology and cell physiology, and providing direct experience in areas such as protein isolation and characterization, gene cloning, and analysis of membrane function. Prerequisite: CHY 251 and a grade of C or higher in BIO 301, or permission of the instructor. Cr 3.

BIO 409 Cell and Molecular Biology

A study of the eukaryotic cell at the level of organelles and molecules. The biochemical aspects of cell growth and reproduction are emphasized. Prerequisites: two semesters of college biology with a grade of C or higher; CHY 251. Cr 3.

BIO 410 Cell and Molecular Biology Laboratory

A course in which the techniques of cell fractionation and biochemical analyses are applied to the eukaryotic cell. Prerequisite: BIO 409 or concurrently. Cr 2.

BIO 421 Biology Seminar

Weekly oral reports and discussions by students and staff, on biological topics of current interest. Prerequisite: 16 hours of biology or permission of instructor. May be repeated. Cr 1 or 2.

BIO 441 Problems in Biology

Independent library or laboratory studies on a special topic, as mutually arranged by instructor and student. Prerequisite: by arrangement. Credit Arranged.

Chemistry

Chair of the Department: Richard Stebbins, 360 Science Building, Portland
Professors: Ricci, Smith, Sottery; *Associate Professors:* Rhodes, Stebbins; *Assistant Professors:* Newton, Pflug

The field of chemistry is concerned with the structure of matter; its transformations, and the energy changes related to these transformations. Departmental aims are to contribute to the student's understanding of chemistry's place within the sciences and in today's industrial and business world, and to provide students concentrating in this field with a thorough and practical education which will be useful in teaching or in industrial, technical, or graduate work.

To achieve these aims the Department of Chemistry offers a four-year program with two tracks leading to baccalaureate degrees (B.A. in chemistry or a B.S. in applied chemistry). Since the chemistry courses in each track are the same for the first two years it is possible to switch tracks through the junior year. Students interested in a chemistry major are strongly urged to consult with a member of the chemistry faculty to discuss the total program and should pay particular attention to the pre- and co-requisites necessary for different courses.

Programs and Requirements

Bachelor of Arts: Chemistry

The minimum number of credits in chemistry and related areas (exclusive of the University's Core curriculum) required for the major in this track: 60.

The courses include: CHY 113 & 114; 115 & 116; 231 & 232; 251 & 252; 253 & 254; 371 & 372, 373 & 374; and two of the following four offerings: 321, 351, 361 or 377 & 378, and 401 (a minimum of 39 hours within the department). In addition PHY 121, 122; 123, 124; MAT 152, 153; COS 140 (FORTRAN) or a math/computer science course approved by the Chemistry Department are required (a total of 21 more hours).

Additional requirements for graduation include minimum standards of academic excellence and a demonstrated proficiency in technical writing. To graduate as a chemistry major a student must maintain a minimum overall grade point average (GPA) of 2.0 and a GPA of 2.0 in all courses required for the chemistry major.

Bachelor of Science: Applied Chemistry

The minimum number of credits in chemistry and related areas (exclusive of the University's Core curriculum) required for the major in this track: 63.

The courses include: CHY 113 & 114; 115 & 116; 231 & 232; 251 & 252; 253 & 254; 371 & 372; 321 or 361; and 401 (a minimum of 31 hours within the department). In addition PHY 121 & 122; 123 & 124; MAT 152; COS 140 (FORTRAN) or a math/computer science course approved by the Chemistry Department are required (a total of 17 hours). In addition, a candidate for the B.S. degree must elect 15 hours of CHY 490, Senior Research.

Additional requirements for graduation include minimum standards of academic excellence and a demonstrated proficiency in technical writing. To graduate as a chemistry major a student must maintain a minimum overall grade point average (GPA) of 2.0, and a GPA of 2.0 in all courses required for the chemistry major.

As a general rule, candidates for the B.S. degree in applied chemistry should complete the majority of their formal coursework at the University by the end of their junior year. The fourth year in the B.S. program consists partly of the intensive independent study and field experience in a specific application of chemistry. After a reasonable orientation period, the student will participate in the day-to-day operations of a laboratory (or alternative facility) as a functioning member of the staff. Supervision of the applied chemistry major during this period will be provided by a suitable qualified staff member of the host facility and by a member of the chemistry faculty, who will also supervise the independent study.

Minor in Chemistry

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 17. The minor consists of CHY 113, 114, 115, 116, 231, 232, 251 and 252.

Biotechnology

The Department, in conjunction with the Department of Biological Sciences, offers a biotechnology program. See Interdepartmental Major Programs section of this catalog.

Admission Requirements

Students who apply for admission to the chemistry program should have completed college preparatory courses in chemistry, physics, and mathematics. At least two years of algebra and a semester each of geometry and trigonometry are recommended as part of the student's high school program. (Freshmen in the chemistry program who lack this preparation in mathematics are required to take MAT 140, Precalculus Mathematics.)

CHY 100 Foundations for College Chemistry

A course designed to help students who are inadequately prepared to complete successfully the CHY 113-116 (Chemical Principles) sequence, either on the basis of their own perceptions or of their scores on two chemistry placement tests. The course will review basic chemical principles commonly presented in high school chemistry and emphasize solving mathematical problems commonly done in freshman college-level chemistry. Two lectures and one recitation session per week. No prerequisite. Offered each semester. Cr 2.

CHY 101 Introduction to Chemistry

General topics in chemistry including introductory units on matter and its properties; measurement; elements and compounds; atomic structure; solutions, dispersions, and water; osmotic pressure; chemical bonds; chemical nomenclature; stoichiometry; radiochemistry; gases; acids, bases and buffers; and energy relationships in chemical processes. Three hours lecture per week (usually concurrent with CHY 102). Prerequisite: high school algebra and one year of high school chemistry (taken during the past five years) or a satisfactory grade level on the proficiency test administered by the Department. Not appropriate for science majors, pre-med, pre-vet or pre-dentistry. Cr 3.

CHY 102 Introduction to Laboratory Measurement

Experiments will be designed to teach students how to perform accurate and reliable measurements using the major parameters of mass and volume. Topics to be covered include: physical and chemical changes; separation of a mixture; analysis of an ionic solution; properties of water; gases; acids, bases and buffers; titration. One recitation and two laboratory hours per week. Corequisite: CHY 101. Not appropriate for chemistry or biology majors. Cr 1.

CHY 103 Introduction to Organic and Biochemistry

Stress will be placed upon topics of special importance for students of the health sciences: nomenclature of organic compounds; electron distribution in organic molecules; structural features of organic molecules; substitution, elimination, and addition reactions; oxidation reduction reactions; carbohydrates; lipids; proteins and amino acids; enzymes; nucleic acids; metabolism; summary of some aspects of nutrition; pharmaceuticals; medical applications of radiochemistry. Three lecture hours per week (usually concurrent with CHY 104). Prerequisite: grade of C or better in CHY 101. Not appropriate for science majors, pre-med, pre-vet or pre-dentistry. Spring. Cr 3.

CHY 104 Introductory Organic and Biochemistry Laboratory

Students will perform experiments to illustrate aspects of organic chemistry of importance to living systems, as well as elementary principles of biochemistry. Topics include separation and identification of organic compounds; qualitative reactions of lipids, proteins, and nucleic acids; introduction to enzyme chemistry. One recitation and two laboratory hours per week. Offered spring semester. Corequisite: CHY 103. Not appropriate for chemistry or biology majors. Cr 1.

CHY 113 Principles of Chemistry I

A presentation of fundamental principles of chemical science. These principles will be presented in quantitative terms and illustrated by examples of their applications in laboratories and in ordinary non-laboratory experience. This course and CHY 114 (normally taken concurrently) provide the basis for further study of chemistry. Prerequisite: high school algebra and one year of high school chemistry (taken during the past five years) or a satisfactory grade level on the proficiency test administered by the Department. Three lectures per week. Fall. Cr 3.

CHY 114 Laboratory Techniques I

Laboratory experiments to illustrate the principles which are presented in CHY 113 lectures. One recitation and two laboratory hours per week. Corequisite: CHY 113. Fall. Cr 1.

CHY 115 Principles of Chemistry II

A presentation of topics of chemistry additional to those presented in CHY 113. This course is designed to provide a solid foundation for all further studies in chemistry and is a prerequisite for all upper-level chemistry courses. Prerequisite: grade of C or better in CHY 113. Spring. Cr 3.

CHY 116 Laboratory Techniques II

Laboratory experiments to illustrate the principles presented in CHY 115 lectures. One recitation and two laboratory hours per week. Prerequisite: grade of C or better in CHY 114. Corequisite: CHY 115. Spring. Cr 1.

CHY 231 Analytical Chemistry

A survey of modern analytical principles and instrumental techniques with emphasis on environmental, clinical, and industrial applications. Two lectures per week. Prerequisite: a grade of C or better in CHY 115. Spring. Cr 2.

CHY 232 Analytical Chemistry Laboratory

Quantitative experimental determination by means of gravimetric, volumetric, and instrumental methods. Classical procedures and modern instrumentation, including spectrophotometry, electroanalysis and chromatography. Six laboratory hours per week. Prerequisite: a grade of C or better in CHY 116. Corequisite: CHY 231. Spring. Cr 2.

CHY 251 Organic Chemistry I

An intensive treatment of organic chemistry. Topics include: nomenclature; structure and stereochemistry; reaction types: substitution, addition, elimination and oxidation-reduction; reaction mechanisms and factors influencing them; spectroscopic techniques of structure determination (mass, nuclear magnetic resonance, ultraviolet-visible and infrared). Three lectures per week. Prerequisite: a grade of C or better in CHY 115. Fall. Cr 3.

CHY 252 Organic Chemistry Laboratory

Experiments will be performed to illustrate the basic laboratory skills of crystallization, extraction, distillation, and melting and boiling point determinations. The preparation and isolation of compounds by the Friedel-Crafts and Grignard reactions will be performed. The latter part of the semester will comprise an introduction to organic qualitative analysis. One recitation and three laboratory hours per week. Prerequisite: a grade of C or better in CHY 116. Prerequisite or corequisite: CHY 251. Fall. Cr 2.

CHY 253 Organic Chemistry II

A continuation of CHY 251, but with a more extensive (and intensive) investigation of the principal categories of organic reactions. Extensive problem-solving in such areas as structure determination, spectroscopy, and stereochemistry. The structures and fundamental chemical reactions of lipids, carbohydrates, proteins and nucleic acids will be presented. Three lectures per week. Prerequisite: a grade of C or better in CHY 251. Spring. Cr 3.

CHY 254 Organic Chemistry Laboratory II

A continuation of the experiments begun in CHY 252 on organic qualitative analysis, including solubility tests, classification tests, and preparation of derivatives. Interpretation of spectroscopic data to assist in the process of identification of unknowns. One recitation and three laboratory hours per week. Prerequisite: a grade of C or better in CHY 252. Prerequisite or corequisite: CHY 253. Spring. Cr 2.

CHY 321 Inorganic Chemistry

Descriptive chemistry of the inorganic compounds, structure, bonding and ligand field theory. Three lectures per week. Prerequisite or corequisite: CHY 371. Alternate years. Cr 3.

CHY 322 Inorganic Chemistry Laboratory

Preparation and characterization of inorganic compounds. One recitation and three laboratory hours per week. Prerequisite or corequisite: CHY 321. Not offered every year. Cr 2.

CHY 351 Advanced Organic Chemistry

The major areas of discussion include: synthetic organic chemistry; linear free energy relationships; photochemistry; stereochemistry; an introduction to natural products (steroids, alkaloids, and terpenoids); electrocyclic reactions; spectroscopy; and the literature of organic chemistry including the use of on-line retrieval services. Three lectures per week. Prerequisite: grade of C or better in CHY 253. Alternate years. Cr 3.

CHY 361 Biochemistry

Application of chemical methods and principles to understanding biological processes. Topics include structure and action of proteins, lipids, carbohydrates, and nucleic acids; enzyme kinetics and mechanisms; nucleic acid replication and transcription; protein synthesis and the genetic code; and metabolism and energy conversion. This one-semester course provides a complete survey of the major areas of biochemistry. Three lectures per week. Prerequisite: grade of C or better in CHY 253. Fall. Cr 3.

CHY 362 Biochemistry Laboratory

Basic experimental methods in modern biochemistry. Experiments include detecting, purifying, and characterizing proteins and

nucleic acids; and measuring enzyme action, nucleic acid dynamics, and metabolic activity. Techniques include UV and visible spectrophotometry, ion-exchange and gel chromatography, and centrifugation. One hour lecture and three hours laboratory per week. Prerequisite: grade of C or better in CHY 254. Prerequisite or corequisite: CHY 361. Fall. Cr 2.

CHY 363 Biochemistry II

Continuation of CHY 361. Topics include selected biosynthetic pathways; photosynthesis; conformational analysis of biomolecules; genetic regulation in procaryotes and eucaryotes; viruses; genetic engineering; molecular basis of immunity, membrane transport, hormone action, nerve action, and motility; and origin of life. Three lectures per week. Prerequisite: grade of C or better in CHY 361. Spring. Cr 3.

CHY 364 Biochemistry Laboratory II

Continuation of CHY 362. Experiments include detecting and characterizing lipids, sequencing proteins and nucleic acids, analyzing protein conformation, measuring protein synthesis, and characterizing antigen-antibody interactions. Techniques include paper and thin-layer chromatography, handling and detecting radioisotopes, gel electrophoresis, radioimmunoassay, and computer graphics. One hour lecture and three hours laboratory per week. Prerequisite: grade of C or better in CHY 362. Prerequisite or corequisite: CHY 363. Spring. Cr 2.

CHY 371 Physical Chemistry I

Introduction to the principles of theoretical chemistry: classical and statistical thermodynamics, molecular energetics, quantum phenomena and equilibrium. Candidates for the B.S. degree elect this course in the fall semester of the junior year. Three lectures per week. Prerequisites: grade of C or better in CHY 231, MAT 152, and PHY 123. Fall. Cr 3.

CHY 372 Physical Chemistry Laboratory I

Experiments illustrative of theoretical principles pertinent to chemical processes, such as thermochemistry, absorption phenomena, and physical properties of gases and liquids. One recitation and three laboratory hours per week. Prerequisite: grade of C or better in CHY 232. Prerequisite or corequisite: CHY 371. Fall. Cr 2.

CHY 373 Physical Chemistry II

Additional principles of theoretical chemistry: reaction kinetics, surface chemistry electrochemistry, quantum mechanics and spectroscopy. Three lectures per week. Prerequisite: a grade of C or better in CHY 371. Spring. Cr 3.

CHY 374 Physical Chemistry Laboratory II

Experiments illustrating material presented in CHY 373. One recitation and three laboratory hours per week. Prerequisite or corequisite: CHY 373. Spring. Cr 2.

CHY 377 Instrumental Analysis

A consideration of the applicability of current laboratory instrumentation both to the elucidation of fundamental chemical phenomena and to the measurement of certain atomic and molecular parameters. Topics include absorption and emission spectroscopy in the ultraviolet, visible and infra-red regions, chromatography, electrochemistry, mass spectrometry, and magnetic resonance. Two lectures per week. Prerequisite or corequisite: CHY 371 or permission. Alternate years. Cr 2.

CHY 378 Instrumental Analysis Laboratory

Experiments will be performed in low resolution ultraviolet and infrared absorption spectroscopy, flame spectroscopy, and atomic absorption. Prerequisite: a grade of C or better in CHY 371. One hour of pre-lab recitation and three laboratory hours per week. Alternate years. Cr 2.

CHY 401-409 Seminar

Oral and written presentation of a current topic in chemistry or of research results. Required of all senior majors. Satisfactory completion of written paper fulfills technical writing requirement. Cr 1.

CHY 410-419 Special Topics

Reading and discussion of advanced subjects or instruction in special topics/research. Permission of instructor required. 6 credits maximum. Cr 1-3.

CHY 490 Senior Research Project

Open to senior majors. Prerequisites include a 3.0 GPA in chemistry, completion of the Analytical and Organic Chemistry series, and permission of the department. 15 credits maximum. Cr 3-15.

Communication

Chair of the Department: Leonard Shedletsky, 218 Bailey Hall, Gorham
Associate Professor: Shedletsky; *Assistant Professors:* Cojuc, Hanisko, Kivatisky, Lasky, Lockridge, Sayers

The development of communication understanding and skills, like communication itself, is a continual process. The study of communication involves the examination and exploration of processes by which verbal and/or nonverbal information is transmitted from one information processing system to another, the physical and social-psychological factors which affect the transmission and reception of the messages, and the consequences of feedback on the systems. The systems could be individuals, groups, organizations, societies, cultures, or cybernetic mechanisms. During human transactions, symbolic information such as words and behaviors are transmitted and processed by the participants. Machine-based communication focuses on the transmission and processing of electronic data. The Department of Communication emphasizes the study of human transactions in its coursework. However, students may focus their degree programs on other areas of communication theory by supporting their program with courses from appropriate departments, schools, or colleges within the University.

In order to understand the interdisciplinary nature of communication, majors may take courses in such fields as philosophy, business, sociology, psychology, education, and political science. The Communication Internship Program allows majors to study a particular aspect of communication in the field. This allows for applying knowledge acquired in the classroom to a practical setting. Since communication is essential to most forms of human endeavor, communication majors may prepare for employment or further study in education, government, business, law, health care, and the media.

Programs and Requirements

Bachelor of Arts

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Students seeking to major in communication should: 1) complete COM 102, Introduction to Communication, with a grade of C or better; 2) have an overall 2.0 cumulative GPA with a minimum of 24 credit hours in courses 100 level or above; 3) plan to take at least two academic years to complete the degree program after taking COM 102, Introduction to Communication.

In addition to COM 102, Introduction to Communication, all majors must take one course from each of the following categories A through E:

- A) Intrapersonal Communication COM 265 or Theories of Language COM 275
- B) Persuasion COM 272
- C) Mass Media and Human Interaction COM 280
- D) Interpersonal Communication Theories or Small Group Communication COM 340
- E) Senior Seminar COM 495

Majors must complete at least 2 courses from categories A through D before proceeding in their coursework. When two of the categories (A through D) have been completed, students may begin to take the 6 additional elective communication courses required for the major. Senior Seminar, COM 495, should be among one of the last courses to be completed. The following distribution must be used in making course selections:

2 of the courses must be **200-level or above**

3 of the courses must be **300-level or above**

1 course must be at the **400-level**

all 400-level courses require junior standing

Students may take any of the following as general electives, but they will not be included in the 36 hours required for the major:

COM 150 Business Communication

COM	171	Interpersonal Communication
COM	430	Internship
COM	491	Independent Study

In order to graduate, majors must have received a grade of C or better in all required courses, and have an overall 2.5 cumulative average in the major.

Minor in Communication

Students seeking to minor in Communication should:

- 1) Complete COM 102, Introduction to Communication, with a C or better.
- 2) Have an overall minimum 2.0 cumulative GPA with a minimum of 24 credit hours.

In addition to Introduction to Communication, COM 102, all minors will take one course from each of the following categories, A through E:

- A) Intrapersonal Communication COM 265 or Theories of Language COM 275
- B) Persuasion COM 272
- C) Mass Media and Human Interaction COM 280
- D) Interpersonal Communication Theories COM 330 or Small Group Communication COM 340
- E) Senior Seminar COM 495

COM 102 Introduction to Communication

This course is designed to provide students with a conceptual framework of the basic elements of human communication. Students will examine different levels of communication analysis, learn to chart and analyze communication behavior, and discuss the effects of communication on themselves and others. Topics discussed will include communication theory, self-concept, interpersonal communication, nonverbal behavior, small group interaction, and mass communication. Students will be encouraged to adapt communication principles to their various fields of endeavor.

Cr 3.

COM 150 Business Communication

A lecture-discussion course in business communication, emphasizing industrial, managerial, and labor communication. Investigation of theory, models, nets, barriers to communication, and other topics, including basic methods and techniques of internal business communication.

Cr 3.

COM 171 Interpersonal Communication

An experiential learning-based course designed to acquaint the student with the elements of interpersonal communication, its basic nature and function. The course involves a study of the potential of human communication; with applications to the problems of misunderstanding and their remedy.

Cr 3.

COM 242 Media and Children

This course examines the impact of media presentations on the child audience, from a developmental perspective. Special attention is given to the issue of the effects of televised violence and educational or prosocial programming. The readings and discussions cover the various theoretical approaches and

models, as well as the major findings reported in the scientific literature. Legal, economic, and policy considerations that surround the debate on children and television are discussed. The course focuses mainly on the critical and empirical study of how young people use the mass media, how the media play a role in their lives.

Cr 3.

COM 250 Business and Professional Interviewing

Conducting effective interviews is an essential component of a successful career in business, government, and education. This skill is crucial to any professional who manages the work of other people. This course will aid students in applying theoretical concepts and developing communication skills essential to interviewing.

Cr 3.

COM 265 Intrapersonal Communication

This course examines our ability to use what we know and feel in order to send, receive, and store information. Whether stimuli come from an external source or from within the self, the focus of intrapersonal communication is on the ways in which we process those stimuli, our ability to make sense out of our experiences, to remember, to retrieve information from memory, and to create messages at whatever level of consciousness, and no matter how many people are involved, in face-to-face or mediated communication. Prerequisite: COM 102 or permission.

Cr 3.

COM 272 Persuasion

A course designed to help students understand the basic principles of persuasion. The course deals with persuasion as a social phenomenon. The perspective from which the course is offered is the analysis of persuasion as a behavioral process. As such, the course will

investigate the social science research which relates to persuasion. Students will examine the attempts made by others to persuade them, as well as the attempts they make to persuade others. Further, the course will deal with the issue of ethics in persuasion. Although this issue will be illusive, it is hoped that each student will give this topic adequate thought.

Cr 3.

COM 275 Theories of Language

The purpose of this course is to instigate thinking about the nature of language. The course is premised upon the conviction that, because language is such a central concern of so many disciplines and because various disciplines have made important contributions to our understanding of it, language can only be studied adequately via an interdisciplinary approach. The student will be introduced to some of the foremost efforts to comprehend language in the fields of psycholinguistics, philosophy, and linguistics. Through these disciplines, we intend to raise and pursue questions concerning the nature of language, its structure and function, its relation to man's perception of reality, and its relation to the mind. Prerequisites: COM 102, any PHI 100 level course, or permission of the instructor.

Cr 3.

COM 280 Mass Media and Human Interaction

Mass Media and Human Interaction concentrates on the history and effects of mass communication in our society. Through readings and independent research, the student will explore the content and social consequences of our rapidly changing telecommunication technology. Media to be discussed include print, broadcasting, and cable.

Cr 3.

COM 294 Television Processes

The general purpose of this course is to enhance understanding of TV processes by introducing students to several basic visual aspects of reality as mediated through a camera lens. Topics covered will include techniques of lighting, camera angles, perspective, shot distance, cutting to continuity, and montage. Students will use 35 mm cameras to produce assignments on color slides. These will be used in class discussion in conjunction with illustrations taken from magazines which demonstrate the same techniques. In addition to learning some rudiments of visual language, students will examine visual persuasive strategies used in magazine and television advertising, political photographs, documentary images, and other relevant forms. The course is open to all communication majors who have access to a 35 mm camera with manual controls. Automatic camera controls are optional. Prior experience with photographic procedures is helpful but not necessary since all students will receive instruction leading to a working knowledge of photographic techniques.

Cr 3.

COM 295 Communication Development in Children

This course will examine the structural and the functional development of children's communication behavior. Syntactic, semantic, and pragmatic aspects of communication development will be explored from both learning and acquisition theory perspectives. This course includes a final project of the student's creation. Freshmen must have instructor's permission.

Cr 3.

COM 310 Nonverbal Communication

A study of the effects of nonverbal factors on the process of human communication. Proxemics, body motion, paralanguage, metacommunication, and other specific areas of nonverbal behavior will be explored and examined. Each student will be required to conduct a research project and prepare a scholarly paper related to a particular area of nonverbal communication. Prerequisite: COM 102 or permission of the instructor.

Cr 3.

COM 320 Intercultural Communication

This course is primarily concerned with the interrelationship between communication and culture in human interaction. Initially, the course focuses on sensitizing students to intercultural communication variables which influence their interactions. Thereafter, those variables are applied to varied sub-cultures within the U.S. in an effort to expand students' knowledge and sensitivity to such sub-cultures. Course content includes theoretical readings and experiential exercises and discussions.

Cr 3.

COM 330 Interpersonal Communication Theories

A study of the current thinking in interpersonal communication with emphasis upon specific theories of human interaction. Students will engage in behavioral observations, experiential learning activities, group research projects, individual study, and will complete a final project on a selected topic in interpersonal communication. Prerequisite: COM 102. Offered each spring semester.

Cr 3.

COM 340 Small Group Communication

A discussion-participation course designed to familiarize students with the theories and techniques of small-group communication. Students will examine role behavior, group norms, conflict, group development, decision-making, communication flow, and other variables relevant to small-group interaction.

Cr 3.

COM 375 Meaning and Communication

This course examines the assignment of meaning to verbal behavior, especially conversational exchange. Researchers have paid special attention to the ways in which words and actions take on meaning in context. We'll focus on the full communicative event involving talk, i.e., context, pragmatics, grammatical struc-

tures, conversational structures, and types of meaning. A central question of the course is: How do people interpret what other people say? The course makes use of close reading and discussion of theory as well as the collection and analysis of naturally occurring spontaneous spoken and written discourse. Prerequisite: Junior or senior standing. Cr 3.

COM 390 Organizational Communication

A lecture-discussion course with a practical field study required. The class will examine factors relevant to communication within organizations and will discuss such topics as organizational roles, information flow, decisionmaking, leadership, and the nature of organizational change. Prerequisite: COM 340 or permission of the instructor. Cr 3.

COM 394 Theory of Film

The emergence and evolution of the film medium are traced through the writings and teachings of both the classic and the modern theorists/film-makers, from several perspectives: humanistic, ideological, and technical. The course focuses on the contributions of historical trends, film genres, major schools of thought, and the works of selected individuals in shaping a concept of what the medium of film is, how it operates as a language, how it relates to reality and what functions it serves. Students will apply these notions in their examination of the often conflicting relationship among the various theories as well as between film theory and film criticism. Cr 3.

COM 420 Communication and Cognition

A seminar designed to explore the relationship between communication and thought processes. The nature of consciousness is explored through a consideration of the acquisition, retention, and retrieval of information. Special attention is given to experimental analysis of thought processes. Prerequisites: junior, senior; or permission of the instructor. Cr 3.

COM 430 Communication Internship

An in-depth experience in specific areas of communication acquired in the field. Students will focus their efforts in an area related to their choice of communication expertise (i.e., organizational communication, mass commu-

nication, interpersonal communication). Prerequisite: a precise definition of the project, and director's consent. Pass/Fail only. Cr var.

COM 485 Sex-Related Differences in Communication

This seminar on sex-related differences in communication is designed primarily to evaluate critically the research literature. It is concerned with whether or not males and females differ in their actions of sending, receiving, and interpreting messages. The course examines gender-role stereotyping, empirical findings on sex-related differences in communication behavior (e.g., talking, interpersonal style, touching, eye contact, etc.), and explanations for sex differences. Critiques of some major theoretical positions are discussed (e.g., sex differences in dominance, aggression, cognition, and brain organization). Prerequisite: junior or senior standing. Cr 3.

COM 490 Theories of Mass Communication

A discussion of significant factors related to communication theory. Contemporary theories of mass communication, the mass media, audience analysis, and the role of mass communication in society will be among the topics examined in the course. Students elect to examine an aspect of mass communication which is of interest to them, and present their findings in research papers and projects. Prerequisite: COM 280 or permission of the instructor. Cr 3.

COM 491 Independent Study

A concentrated program of research or study on a particular topic of the student's choice, with approval of a communication faculty advisor. Periodic conferences with the advisor are required. Enrollment by permission of faculty sponsor only. Cr 3-6.

COM 495 Theories of Communication: Seminar

This course is designed for upperclass students who are majoring or minoring in communication studies. Based on a seminar format, students in this course will explore in depth several advanced theories of communication, mechanistic through interactive, with examples and application for each. Open to juniors and seniors having at least 12 credit hours of communication coursework. Cr 3.

Criminology

Coordinator: Piers Beirne, 120 Bedford Street, Portland

The bachelor of arts in criminology is a four-year degree offered by the Department of Sociology. Criminology is the study of the complex relations among crime, law, and society. Criminologists have traditionally sought to understand why particular individuals or groups engage in criminal activities. Recently, however, the study of crime has been extended to the structures and processes which define certain behavior as criminal and to the ideas, ideals, and ideologies embedded in definitions of crime that are expressed in our everyday perceptions of crime, criminality, and crime control.

The curriculum in criminology is a rigorous series of courses that provides students with a comprehensive knowledge of crime and crime control in a contemporary, historical, and comparative perspective. The core of the curriculum is an integrated set of required courses. These courses are designed as a cumulative set of experiences and must therefore be taken in sequence. Elective courses enable students to place their criminological interests in a broader sociological perspective.

Many students in the program are interested in law studies or in social service occupations related to criminal or juvenile justice. The program also prepares students for a wide variety of other career options and provides an excellent basis for graduate study in criminology, other social sciences, and law.

Programs and Requirements

Bachelor of Arts

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 37.

The criminology major consists of 28 hours in required courses and 9 hours of sociology electives. Elective courses should be selected in consultation with the student's advisor.

Students are reminded that they must complete the requirements of the College of Arts and Sciences and the University Core curriculum.

Required Courses				Hours
CRM	215	Criminology		3
CRM	216	White Collar Crime		3
SOC	205	Methods of Social Research		4
CRM	301	Criminological Theory		3
CRM	302	Punishment and Discipline		3
CRM/ SOC	317	Gender and Crime		3
SOC	336	Law and Society		3
SOC	375	Deviance		3
CRM	401	Comparative Criminology		3
				<hr/>
				28 hours

Elective Courses				9 hours
SOC	300	Sociological Theory I		3
SOC	301	Sociological Theory II		3
SOC	310	Social Change		3
SOC	312	Class and Inequality		3
SOC	315	Self and Society		3
SOC	337	Juvenile Justice		3
SOC	350	Urban Sociology		3
SOC	353	Social Movements		3
SOC	355	Social Structure & Politics		3
SOC	357	Bureaucracy in Modern Society		3
SOC	374	Mental Health and Illness		3
SOC/ CRM	373	Pornography & Violence		3
CRM	390	Independent Projects		3
CRM	395	Internship		4-6
CRM	412	Research in Criminology		3

Major Credit and Grade Policy

There are prerequisites for most major credit courses. See the departmental course listings for particulars. Courses to be taken for major credit at other colleges and universities must be approved in advance. Grades of C- or better must be achieved in all courses for major credit. Courses taken pass/fail are not acceptable. The coordinator of the program routinely requests faculty teaching major courses to submit a list of those students doing less than C work at mid-semester. These students are strongly encouraged to meet with their professor, and may be required to meet with the coordinator for counseling.

Curriculum Summary and Guide

The Criminology curriculum is a series of structured and integrated case experiences of the student. The curricular sequence is as follows:

Year	Required Courses	Elective Courses
I	Introduction to Sociology Core requirements	
II	Complete Criminology Core requirements (fall or spring) Methods of Research (fall or spring) White Collar Crime (fall or spring)	
III	Criminological Theory (fall or spring) Gender and Crime (spring) Law and Society (spring) Deviance (spring)	Electives (fall or spring)
IV	Punishment and Discipline (fall) Comparative Criminology (spring)	Electives (fall or spring)

Declaration of Major

Consistent with the general policies of the College of Arts and Sciences, the Criminology program does not normally accept formal declaration of the major before the second semester of the sophomore year.

Students in or beyond the second semester of their sophomore year should complete a major declaration form. At the same time, their record will be evaluated and a final, binding version of their major requirements will be written. To be accepted as a formal major, the student must have been at the University for at least one full semester, be in good standing, and have demonstrated satisfactory performance in major courses.

Students are invited, before this time, to list their major with the Registrar and to be advised through the Criminology Office. This listing, however, should be considered a declaration of intent.

Transfer students must also formally declare their major even though they enter with junior or senior standing.

Supplementary information is published each semester by the Criminology Office to assist students in planning their course schedules. The information includes a summary of major courses for freshmen and sophomores, listings and descriptions of special courses, and general information for majors.

To obtain these publications, or for other information, write to: Coordinator, Criminology Program, University of Southern Maine, 96 Falmouth Street, Portland, Maine 04103 or telephone: (207) 780-4105.

Transfer Students

Transfer students and students contemplating transfer into the criminology program are urged to meet with department faculty as early as possible for an evaluation of their progress and their requirements in the major.

Required Courses

CRM 215 Criminology

This course focuses on the difficult question, "what is crime?" and on problems concerning the measurement and distribution of crime. The criminology course examines some of the popular misconceptions and myths about crime, the creation and utility of official and unofficial crime statistics, popular presumptions about the causes of crime, and the institutional responses to crime in our society. The course is also listed as SOC 215. This course is one of the two basic courses in the Criminology program, along with Law and Society (SOC 336). Prerequisite: SOC 100 or permission of instructor. Cr 3.

CRM 216 White Collar Crime

This course provides an analysis of the different sociological perspectives on white collar crime as well as focusing on some specific types of white collar crime: organized crime, occupational crime, corporate crime, political crime, and state terrorism. The course also discusses what can be done to curb these types of white collar crime. Prerequisite: CRM/SOC 215. Cr 3.

SOC 205 Methods of Social Research

Conceptualization and research design, data collection and analysis, logic of inquiry, and research techniques. Includes one hour per week of laboratory exercises. Prerequisite: SOC 100 or permission of instructor. Cr 4.

CRM 301 Criminological Theory

This course focuses on the development of criminological theory from 1830 to the present. The course is historical in nature and addresses such fundamental problems as why certain behavior is defined as criminal, the causes of crime, and the consequences for the individual of being labeled as a criminal. Offered spring semesters. Prerequisite: SOC 300 and CRM 215. Cr 3.

CRM 302 Punishment and Discipline

This course distinguishes between different forms of discipline, such as punishment, ther-

apy, conciliation, and repression. It traces the development of punishment as the definitive style of discipline in modern societies. Specific historical emphasis is given to the emergence of the doctrine of the rule of law. The development of the modern police and the modern prison are traced as responses both to the necessity of social control and to crises generated by social disorder and political instability. Offered fall semesters. Prerequisite: CRM 301. Cr 3.

CRM/SOC 317 Gender and Crime

This course provides a feminist analysis of gender as related to the criminality of both males and females. The course focuses specifically on how liberal, Marxist, radical, and socialist feminists have analyzed gender as related to crime. Cr 3.

SOC 336 Law and Society

An examination of the interrelationships between law and society, focusing on law, custom, and morality as well as law in relation to social goals. Specific examples of how law functions in the context of the social structure will be used to highlight the major theoretical models used traditionally in this area. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 375 Deviance

The origin and nature of socially disapproved behavior. Analysis of societal interpretations of and responses to the deviant. Prerequisite: SOC 100 or permission of instructor. Cr 3.

CRM 401 Comparative Criminology

This course focuses on the application of American criminological theory in cross-cultural contexts. Specific emphasis is given to the problems of cultural relativism and intellectual imperialism while providing an integrative senior experience for majors. Offered spring semesters. Prerequisite: CRM 301 and CRM 302. Cr 3.

Elective Courses

SOC 300 Sociological Theory I

Critical evaluation of selected classical models of the social world. Includes consideration of the foundations of sociological thought, the content of major classical theories and theory groups, and the socio-cultural settings within which these theories developed. Prerequisites: SOC 100 and two other SOC courses, or permission of instructor. Cr 3.

SOC 301 Sociological Theory II

An investigation of contemporary sociological theory. Traces descent of the classical statements through to the present, and identifies

both linkages and discontinuities in sociological analysis. Attention is also given to the socio-cultural settings within which various schools of sociological theorizing presently flourish. Prerequisites: SOC 300 and two other additional SOC courses, or permission of the instructor. Cr 3.

SOC 310 Social Change

Analysis of sociocultural factors related to social change and the dynamics of the change process. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 312 Class and Inequality

A systematic assessment of structured social inequalities in wealth, power, and status in industrialized societies. Emphasis is placed on assessing social policies employed to reduce, ameliorate, or sustain such inequalities. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 315 Self and Society

A sociological examination of theory and research in major areas relating personality and social systems; attitudes and behavior; socialization; social perception; bureaucratic structure and personality; etc. Emphasis on issues involved in relating two theoretical levels of analysis. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 337 Juvenile Justice

Examination and analysis of juvenile justice philosophies, processing, and treatment, with an emphasis on historical and comparative materials. Prerequisite: SOC 100 or permission of instructor. Cr 3.

CRM 350 Topics in Criminology

Specially developed courses exploring areas of interest and concern in depth. Among those courses currently considered are criminal law, organized crime, occupational crime, and violent crime. Offered as resources permit. These courses can be applied to the nine-hour elective hours required in the criminology major. Cr 3.

SOC 350 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 maladjustment. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 353 Social Movements

The rise and development of social movements emphasizing structuring and institutionalization. Social movements and socio-political change. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 355 Politics and Society

Possibilities and limitations of political democracy in industrial, bureaucratic society. Capitalism and socialism, their underlying ideologies, and the resulting political structures will be contrasted. Emphasis on current American politics with comparative perspective when relevant. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 357 Bureaucracy in Modern Society

Examination of the nature and types of formal organization, the relationships between them, and the larger social context of which they are a part and their internal structure. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC/CRM 373 Pornography and Violence

The course provides a sociological analysis of pornography. Its focus is the feminist debate on pornography. Emphasis is placed on such issues as the definition of pornography, its possible harms and benefits, the relationship between pornography and violence, and what should be done about pornography. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 374 Mental Health and Mental Illness

An examination of theories of the causes of madness and the treatment of the mentally ill. Particular attention to the influence of culture on the definition of illnesses, the relationship between social factors and illness, and the social context of treatment. Prerequisite: SOC 100 or permission of instructor. Cr 3.

*Optional Courses***CRM 390 Independent Projects**

Individually arranged reading and/or research for juniors and seniors concentrating on a particular subject of concern under the advice and direction of a faculty member. Apply to program coordinator. Cr 3.

CRM 395 Internship

The course is designed to provide work/action experience and insight into professional roles in a variety of community agencies and organizations. The primary objective of the internship is the application of the perspectives, substantive knowledge, and methods of social science to a particular organizational setting. Thus, the internship can be understood as a participant observation experience within the

context of social science research. It is primarily designed as a field experience for upper-level social science majors with substantive background or coursework in the area of internship placement. In addition to field placement, students are expected to meet for a series of internship seminars, for which readings and reports will be required. Offered each semester. Contact departmental internship coordinator for details. Cr 4 to 6.

CRM 412 Research In Criminology

Independent or group-organized research project or activity under the direction of a faculty member. Open to advanced students with some training or experience in research methods. Apply to the program coordinator. Cr 3.

Economics

Coordinator: Robert C. McMahon, 227 Luther Bonney, Portland

The undergraduate program in economics is designed to prepare students broadly for careers such as civil service, law, management, public affairs, and labor relations. 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: microeconomic analysis, money and banking, macroeconomic analysis, international trade, comparative economic systems, public finance, and economic development.

Programs and Requirements

Bachelor of Arts

The minimum number of credits (including the University's Core curriculum) required for the major: 120.

Students interested in receiving a bachelor of arts degree in economics may not take more than 42 hours of economics courses or 21 hours of business courses for credit toward a bachelor of arts degree.

Students in this program are required to take MAT 110, MAT 120, and POS 101. Successful completion of either of the mathematics courses and of the POS 101 course will satisfy parts of the Core curriculum requirement.

In fulfilling the Core curriculum social science requirement, students may not take an ECO course. Students who fulfill the English Composition Competency requirement of the Core curriculum without earning academic credit must complete three credits of ENG or PHI electives.

Requirements in Economics and Business (36 credits)

Basic Requirements for Economics (9)

ACC	201	Principles of Financial Accounting
ECO	201	Principles of Economics I
ECO	202	Principles of Economics II

Major in Economics (27)

ECO	301	Macroeconomic Analysis
ECO	302	Microeconomic Analysis
ECO		Electives which may include: GEO 303 and HTY 338

General Electives (41)

An economics minor and a more math-oriented economics major are offered by the School of Business, Economics and Management.

ECO 201 Principles of Economics I

A theoretical analysis of the basic characteristics, institutions, and operational activities of a modern capitalistic economy which is involved in the transformation of scarce economic resources into the goods and services demanded by consumers. Topics discussed include inflation, unemployment, government monetary and fiscal policy to achieve full employment and economic growth.

Cr 3.

ECO 202 Principles of Economics II

A theoretical analysis of the firm and its role in the transformation of scarce economic resources into the goods and services demanded by consumers. Special attention is focused on the development of a market mechanism for the exchange of goods, services, and resources within a capitalistic economy. Topics discussed include consumer preferences and consumer behavior, production theory and production costs, the monopoly firm, and resource pricing.

Cr 3.

ECO 301 Macroeconomic Analysis

A theoretical analysis of the basic forces that cause inflation, growth, and fluctuations in economic activity. The effects on employment and other factors are thoroughly treated. Stabilization policies are examined and evaluated. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 302 Microeconomic Analysis

Price, income, and employment theory as tools in the study of economics. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 305 Mathematical Economics

This course will cover the development and application of contemporary quantitative methods to the analysis of economic theory. Primary emphasis will be placed upon optimization theory and techniques for solving systems of simultaneous equations. These tools will be developed within the framework of

economic models. Prerequisites: ECO 201, ECO 202; MAT 109 and 110 or MAT 152 and MAT 153, and junior standing. Cr 3.

ECO 306 Econometrics

Econometrics is a special field of economics in which models are used to test the validity of hypothesized theoretical relationships against actual data. Topics covered include: the bivariate linear regression model, heteroscedasticity, multicollinearity, serial correlation of errors, and two-stage least squares. Econometric forecasting and simultaneous equation estimation will be discussed. Prerequisites: ECO 201, ECO 202, MAT 212, and junior standing. Cr 3.

ECO 310 Money and Banking

This course examines the structure and operation of the financial system with major emphasis on commercial banking; reviews the structure of the Federal Reserve System and analyzes the tools of policy; develops alternative monetary theories; and discusses major issues in monetary policy. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 315 Political Economy

The course provides an overview of various perspectives on the U.S. economic system, its dynamics, problems, and its relation to the political sphere. Topics treated include: inequality and discrimination; crisis and state intervention; growth and the environment; military spending, productivity and growth; the U.S. and the world economy; and policies for the future. Prerequisite: ECO 201, and junior standing. Cr 3.

ECO 320 Labor Economics

This course emphasizes the application of economic analysis and concepts to a variety of labor problems such as the supply and demand for labor; labor markets, wage determination, wage differentials and structures, and wages and inflation. In addition, there will be a brief review of the evolution of the American labor movement and public policy toward labor. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 330 Urban Economics

This course seeks to introduce the study of urban economics through a three phase approach. Phase one provides a conceptual and historical background for analyzing the urban economy. Phase two outlines basic theoretical models of urban spatial structure, land use, transportation needs, demographic change, economic activity and employment analysis linking urban economics to the content of micro and macro economics courses. Phase three applies the tools of analysis developed in part two and the background presented in part one to several of the most urgent urban problems of the 1980s. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 340 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. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 350 Comparative Economic Systems

The structures and operating principles of the major contemporary economic systems are examined and compared. Prerequisite: ECO 201, and junior standing. Cr 3.

ECO 351 Economic Systems 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. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 360 Economic Development

The theories and practices of interregional and international economic development. Special attention is given to developmental problems of emerging nations. Prerequisite: ECO 201, and junior standing. Cr 3.

ECO 361 Applied Economic Development

This course provides case studies of the issues, problems, and policies of economic development. The development experience of various countries is examined in a comparative context. Prerequisites: ECO 201 and junior standing. Cr 3.

ECO 370 International Trade

The principles and practices of international trade and finance are thoroughly treated. Special emphasis is given to current trends in the international economy and to United States commercial policy. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 380 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. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 381 State and Local Public Finance

Development of the federal system; fiscal performance; intergovernmental fiscal relations; state and local revenue systems; budgetary practices; state and local debt. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 385 U.S. Economic Policy

This course examines currently perceived problems of the U.S. economy. A range of views of these problems and associated policy proposals are considered. Topics including the proper role of government, determinants of productivity change, domestic and foreign

investment, and foreign competition are examined as sources of problems. Free market, traditional monetary and fiscal, as well as new "industrial" policies are considered as potential solutions. Prerequisites: ECO 201, and junior standing. Cr 3.

ECO 390 Energy Economics

The purpose of this course is to assist the student in analyzing the "energy crisis" from an economic perspective. Topics to be covered include: the concepts of energy and efficiency, the role energy plays in the U.S. economy, stocks of energy resources and the role of the government in creating and/or curing the crisis. Various energy related policies will be reviewed. Some time will be devoted to an analysis of alternate energy sources and tech-

nologies. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 450 Readings in Economics

A series of readings and discussions of important books of a socio-economic and politico-economic nature with which the well-informed economics major should be familiar but which, due to time constraints, have not been integrated into the study hours of economics. Cr 3.

ECO 490 Independent Readings and Research in Economics

Independent study and research of various student-selected areas of economics. Prerequisites: senior standing and a completed independent study form (available from SBEM Dean's office). Cr 1-3.

English

Chair of the Department: Kenneth Rosen, 411 Luther Bonney, Portland
Professors: Gish, Jacques, Plante, Rosen, Slavick; *Associate Professors:* Abrams, Ashley, Baier, Burke, Carner, Carper, Coffin, Heinzelman, K., Reuter, Selkin; *Assistant Professors:* Benedict, Gilmore, Heinzelman, S., McGrath, F.C., Peters, Rusch; *Instructors:* Johnsen, McGrath, B., Schaible, Walker

In the study of literature, students learn to appreciate the possibilities of language for serious and often moving expression. Through writing practice, students learn to use language effectively. The understanding of language is fundamental to an understanding of what we do, and the quality of language in a society determines and reflects its moral and political condition.

The English major serves those interested in preparing for any profession or vocation where an understanding of experience is important, from the law and medicine to social work and politics. The range of English courses is large, and will prepare the student to think and write clearly and creatively, talents vital to success in any field. For information and counsel regarding the major or appropriate courses for non-majors, students should visit English offices in Gorham (200 Bailey Hall) or Portland (411 Luther Bonney Hall).

Students not majoring in English who want to satisfy the Humanities Core curriculum requirement in English should begin with English 120, except when English 120 is waived. Courses numbered below 120 cannot be used to satisfy the Humanities Core curriculum requirement.

Programs and Requirements

Bachelor of Arts

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 48.

The English major begins with a course in writing (100 or 101) and an introduction to the study of literature (120). The student then selects more advanced English courses (and up to 6 credits in approved courses of other departments) to complete the 48-credit major requirement. The English major curriculum is designed to assure that the student has a familiarity with many of the outstanding literary achievements of Western culture, a knowledge of how the language has developed, and a sensitive appreciation of works by the great representative writers and critics in major periods of English and American literature. Elective and independent study courses will permit the student to go more deeply into subjects of personal interest, including creative expression.

While the Department does not require courses in other disciplines, majors are strongly advised to develop a reading proficiency in a foreign language and to elect or satisfy Core requirements with History of Western Civilization I and II (HTY 101 and 102), History of England (HTY 261), a course in American history (HTY 131, 132, 133, or 134), a lower-level philosophy course (PHI 101, 102, 103, 104, 106, 109), one or more history of philosophy courses (PHI 310, 320, 330, 340, 350, 360), an art course (ARH 101, 111, 112), a music course (MUS 100, 120, or 121), and one or more theatre courses (THE 101, 340, 341, 361, or 362).

English majors must meet the following English Department requirements. All courses must be passed with a grade of C- or better and six hours with a grade of B or better; at least nine hours must be taken from the 300-400 level offerings.

1. ENG 100 or 101 or waiver; ENG 120 (0 credits toward major)

A student may, with an advisor's approval, substitute the third Introduction for Majors course, or a second Classical and Biblical Backgrounds course for ENG 120.

2. Introduction for Majors (6 credits required)

ENG 160 Poetry (required of all majors)

ENG 161 Fiction

ENG 162 Drama

Majors who do not take the Fiction course (161) or the Drama course (162) must take an upper-level course in the omitted genre. For Drama, a course other than Shakespeare must be selected.

3. Writing Courses (3 credits required)

ENG 209 Business and Report Writing may not be used to satisfy this requirement.

4. Classical and Biblical Backgrounds (3 credits required)

5. Linguistics and Related Courses (3 credits required)

6. Criticism Courses (3 credits required)

7. Major Figures (6 credits required)

The two major figures courses should be selected as follows:

3 credits from Shakespeare (ENG 260 or 261); 3 credits from Chaucer (ENG 250), Milton (ENG 356), or another major figure or major figures seminar.

8. Periods of Literature Courses (15 credits required)

At least one course from *five* of the following six areas is required:

Continental and World Literature; Medieval Period; Renaissance; Neoclassical and Romantic Periods; 19th Century British and American Literature; Modern British and American Literature. Major figure courses other than Shakespeare also fulfill Periods of Literature requirements.

9. Electives (credits in courses numbered above 160 to complete the 48-credit major required)

Note: The requirements of the English major program may be waived in favor of an interdepartmental major that is approved in advance by the English Department Curriculum Committee.

Prerequisites and Course Waivers

ENG 100 or 101, or an equivalent or waiver, is a prerequisite for any English language or literature course, including ENG 120. For English-major and general-interest courses numbered 130 to 199, ENG 100 or 101 (or an equivalent or waiver) and ENG 120 or permission of the instructor are prerequisites. For courses numbered 200 to 499, prerequisites are ENG 100 or 101 (or an equivalent or waiver), and ENG 120. Certain advanced courses, as indicated in the course listings, and all Independent Study courses require the instructor's permission.

Note: Non-majors and students with special interests are encouraged to seek the instructor's permission to take any course for which they feel qualified. ENG 120 may be waived for a few exceptional students who pass a qualifying examination administered by the English Department, and for transfer students with certain literature course credits. English majors may, with their advisor's approval, substitute a third genre course (ENG 161 or 162) or a second Classical and Biblical Backgrounds course for ENG 120.

The Honors Degree in English

For a B.A. degree in English with honors, a student must achieve a B+ or better average, and he or she must successfully complete a seminar where a major paper is required (or a department-approved Independent Study course if a suitable seminar is not being offered).

Minor in English

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

The Department offers an English minor which requires 18 credits of upper-level (160 and above) courses in a program planned with an English faculty advisor and approved by the director of English Minor Programs. The goal of the program is to give students not simply a collection of courses, but a coherent experience with English courses chosen to suit their needs and interest, whether in literature generally, creative writing, American literature, language and composition, or another area of study.

Each program must meet these specific requirements beyond ENG 100/101 and ENG 120/122 (or waivers): a 200-level writing or language/linguistics course; three 200-level literature courses (one must be selected from those numbered 220 to 265, one from 270 to 291); one 300- or 400-level course.

Further information about the minor is available in the English Department offices.

Internships, Job Opportunities, and Exchange Programs

Students of English are encouraged to take advantage of a variety of internship opportunities as part of their program. Internships allow academic credit for work experiences that use and enhance English skills. Also, students are invited to discuss job opportunities for those with training in English, and to examine pamphlets and books on the subject, in the English office at Gorham.

English majors are encouraged to apply for semester or year-long exchanges in English departments at Whitelands College, London, and Nijmegen University, The Netherlands.

100-Level Courses

ENG 100 College Writing

Classes meet regularly to analyze professional and student writing as a way of sharpening awareness of how to use language effectively. The writing assignments encourage students to apply the principles discussed in class to their own work. To complete the course successfully, the student must pass a departmental exit examination. The exit examination is an integral part of the course; it may not be taken as a waiver examination. Passing the departmental examination does not, however, guarantee that the student will pass the course. Each instructor has his or her own standards. Students may not take both ENG 100 and 101 for credit. This course cannot be used to satisfy a humanities requirement. (every semester). Prerequisite: writing proficiency. Cr 3.

ENG 101 Independent Writing

A course especially designed for the mature student who has been well prepared in writing by high school or previous experience and who has the discipline to work independently. The course is conducted primarily in individual weekly conferences, though classes meet occasionally. Independent Writing focuses on

problems of style, presentation, and minor mechanical difficulties. To complete the course successfully, the student must pass a departmental exit examination as well as satisfy requirement. (usually fall semester). Prerequisite: writing proficiency. Cr 3.

ENG 102 Term Paper Writing

This course will teach the student to write a research paper. The choice of subjects will be worked out by instructor and student. The student will learn how to develop a topic, prepare a working bibliography, become familiar with library resources, take notes in an orderly and meaningful fashion, and then write a final paper after having polished a number of rough drafts. Cr 1.

ENG 103 Basic Grammar and Usage

This course is designed to teach the student current practice in grammar and usage as opposed to formal grammar. The student will master the many matters of agreement, punctuation, etc., needed in writing college papers. Cr 1.

ENG 110 Straight and Crooked Thinking

The analysis, interpretation, and evaluation of various kinds of arguments and ways to reach logical decisions, with critical tracts, speeches,

literary essays, scientific papers, and magazine articles. This basic course employs a new non-symbolic approach to practical reasoning expressed in natural language; its emphasis is on direct application to realistic cases. Exercises and readings are designed to aid undergraduates in reports, essays, and term papers. The materials for critical analysis have a broad appeal for future lawyers, administrators, executives, business people, and scholars. Regular oral reports; brief written exercises in critical reasoning and analysis; final examination based on actual specimens of contemporary argument. Prerequisite: ENG 100/101 or permission of instructor. Cr 3.

ENG 120 Introduction to Literature

A general introduction to the various literary genres—poetry, the short story, drama—which will include a study of critical terminology, close textual reading, and practice in writing. (every semester). Prerequisite: ENG 100 or 101 or waiver. Cr 3.

ENG 130 The Literature of Sport

Contemporary fiction, poetry, and drama on The Game, its players and watchers, its heroes and losers, its joy and sadness reflected in the works of such writers as Cheever, Updike, Algren, Wain, Roth, Shaw, Schulberg, Wright, Ellison, McCullers, Dickey, Williams, Moore, Ferlinghetti, Sillitoe, and many others. The social and cultural implications of sports, now and in the immediate future, will also be weighed. These include the ritualistic side of competition and spectacle; the blurring of professional and amateur; flaws in America's hero image; kid teams and adult ambitions; college conferences and academic standards; racism and nationalism in the Olympics; thrills, violence and gate receipts; winner-loser psychology; sex stereotypes; mass versus elite leisure; machismo politics and femlib. Readings will include two anthologies, a novel, a play, a collection of recent essays by social anthropologists. Cr 3.

ENG 131 The Literature of Business

The drama of business as reflected in the fiction of important writers like Twain, Norris, Dreiser, and Warren. The course will focus on

significant moments and problems in America's economic history and on the way these have been represented by writers who have concerned themselves with subjects like the exploitation of the West, the Robber Barons, manipulation in the stock market, and cycles of economic euphoria and disillusionment. Cr 3.

Eng 150 Topics in Literature

A selection of courses varying in content from term to term. Under consideration for coming semesters: Utopian Literature, Radicalism and Revolt in Fiction, Feminism in the World Novel, Native American Literature, and Popular Semantics. Descriptions of current offerings are available in the English offices. More than one section may be taken for credit. Cr 3.

ENG 160 Poetry

An intensive course in the close reading of many of the most significant poems in English. Attention will be given to important elements of poetry; including versification and the use of metaphor; characteristics and conventions of poetry written in different periods, early and contemporary, will also be explored. Required of English majors and recommended for all students seeking to understand a principal area of our cultural heritage. (every semester). Cr 3.

ENG 161 Fiction

An intensive course in the close reading of many kinds of fiction, with an emphasis on the tradition of psychological realism. The different styles and approaches to narrative that characterize writing by men and women in different eras, and the qualities that give superior writing its position of esteem in our culture, will be studied. (every fall). Cr 3.

ENG 162 Drama

Significant representative plays from several periods, including the contemporary, will be studied. Conventions of stagecraft at different points in the drama's history will be explored, and attention will be given to how dramatic and literary techniques, like the use of action, stage effects, and dialogue, contribute to the often profound meanings that plays can convey. (every spring). Cr 3.

Writing Courses

ENG 200 Advanced Essay Writing

Study of various forms of discourse with concentration on exposition. Provides experience in logical analysis and in the uses of persona, appeals to the reader, stylistic and fictional devices, and other strategies. (every semester). Prerequisite: a grade of B in ENG 100 or 101, or permission of the instructor. Cr 3.

ENG 201 Creative Writing

An introduction to the principles and practice of writing fiction, poetry, and drama. Emphasis is on fresh observation and meaningful selection of concrete details and their uses in the different genres. Recommended for beginners. (every semester). Prerequisites: ENG 100 or 101 and ENG 120. Cr 3.

ENG 202 Fiction Writing

A course for those who have already, in a course such as Creative Writing or on their own, written several pieces of fiction and are ready for more advanced work. Emphasis will be on writing well-developed short stories and on understanding the basic elements of fiction. A better-than-average competence in using English is required. Suggested preparation: ENG 201. (every semester). Cr 3.

ENG 203 Poetry Writing

A course for those who, in a creative writing course or on their own, have developed basic skills of careful, thoughtful observation and a preference for concrete details to convey emotional meanings, and who are interested in developing a sense of how poetry has been written in the past by major poets and how it is being created in the present. Emphasis will be on imitation of past and present writers and exercises that stress the elements of poetry, as

well as on the development of personal approaches. Suggested preparation: ENG 201. (every semester). Cr 3.

ENG 204 Playwriting

A lecture-practicum course designed to acquaint the student with playwriting principles. Emphasis is placed on the one-act play form. Students will be required to complete a series of creative exercises culminating with writing a one-act play. Prerequisites: THE 101 and THE 361 or 362 or 363. This course is also listed as THE 335. Cr 3.

ENG 209 Business and Report Writing

Primarily for juniors and seniors majoring in business administration. Training in clear and effective writing of formal reports, business communications, and related materials. (every semester). Cr 3.

ENG 302 Fiction Workshop

An advanced course requiring the completion of short stories or a substantial part of a novel.

Prerequisites: ENG 202 and instructor's permission. May be repeated for 3 additional credits with instructor's permission. Cr 3.

ENG 303 Poetry Workshop

A course for advanced students who, after experimenting with different approaches and styles, are developing their own themes and voices as poets. Work toward a completed chapbook-length manuscript of high-quality work will be the basis for the course grade. Prerequisites: ENG 203 and instructor's permission. May be repeated for 3 additional credits with instructor's permission. Cr 3.

ENG 400 Independent Study in Creative or Expository Writing

Cr var.

Journalism Courses

ENG 210 Newswriting

This course includes news and feature writing with intensive practice in journalistic-writing techniques, accuracy, judgment, and style. (every fall). Prerequisite: ENG 100/101. Cr 3.

ENG 310 Advanced Newswriting

A continuation of Newswriting. (every spring). Cr 3.

ENG 410 Independent Study in Journalism

Cr var.

Classical and Biblical Backgrounds

ENG 220 Ancient Masterpieces

A study of selected major works of classical times which will provide students with a background for understanding the most influential books of our culture. Included are Homer, Plato, Greek dramas, Virgil. HON 101 The Ancient World satisfies the English Department requirement for this course. (every semester). Cr 3.

ENG 222 The Bible

The Bible, the single most influential work (or group of works) in Western culture, will be considered as a literary text. Under such headings as plot, character, genre, theme, and symbol, the Old and New Testaments in the

Authorized or King James translation will be examined, with emphasis on the books which have had the greatest literary influence (e.g., Genesis, Exodus, Job, Matthew, Luke, Revelation). The course will also discuss the history of the text, translation, and influence. (every fall). Cr 3.

CLA 283 The Epic Hero in Ancient Literature
Intensive readings in English translations of *Gilgamesh*, *Iliad*, *Odyssey*, *Argonautica*, *Aeneid*; discussion, papers. Cr 3.

CLA 284 The Tragic Hero in Ancient Literature
Intensive reading of selected plays in English translation by Aeschylus, Sophocles, Euripides, Seneca; discussion, papers. Cr 3.

The following Foreign Languages and Classics courses carry English major credit as electives. Note that these courses cannot count both toward the English major and toward the Core curriculum requirement.

- CLA 291 The Golden Age of Greece
 CLA 292 Rome, from Republic to Empire
 FRE 281 Masterpieces of French Literature I
 FRE 282 Masterpieces of French Literature II
 FRE 283 Contemporary French Thinkers

- FRE 284 Avant-Garde Theatre in France
 FRE 285 18th-Century Literature in France and England
 GER 281 The German Novel
 SPA 281 Masterpieces of Spanish Literature

For descriptions, see Foreign Languages and Classics section of this catalog.

Up to six hours of specific courses offered by such other CAS departments as History, Theatre, and Philosophy may be elected for English major credit.

Linguistics and Related Courses

ENG 230 History of the English Language

This course includes a survey of the prehistory of the language as well as a detailed study of the Old, Middle, and Modern English and the forces which shaped these stages. Some methods of modern linguistic science are utilized in examining current usage. Change and development of the language are emphasized. (every fall). Cr 3.

ENG 231 Modern Grammars

Designed to acquaint students with the three most common forms of English grammatical analysis: traditional, structural, and transformational. The mechanics of the various analyses will be examined, and comparisons will be made to determine what tentative combination best explains the structure of English. (alternate spring). Cr 3.

ENG 232 Introduction to Linguistics

A general introduction to modern linguistic science, including studies in the development of language, phonology, morphology, the dictionary, and varieties of English usage. Also examined are the various grammatical philosophies and their methods—traditional, structural, and transformational. (alternate spring). Cr 3.

ENG 233 Discovering Grammatical Structure

This course prepares the student to find and understand the grammar and structure of any language. Includes work in American Indian languages, such as Passamaquoddy of Maine, and Maine Indian place names. (alternate fall) Cr 3.

ENG 234 Semantics

Interpretation of literature by means of analysis of the language used. Recommended for prospective teachers of literature and English. (alternate fall). Cr 3.

ENG 333 Structural Linguistics and Culture

The course analyzes the languages and culture (art, religion, poetry) of pre-literate societies, particularly the American Indian. Cr 3.

ENG 430 Independent Study in Linguistics

Cr var.

ENG 431 Seminar in Linguistics

An advanced course focusing on specialized problems in language study, including Old English. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: Old English, Beowulf, Modern Linguistic Theorists. Cr 3.

Criticism Courses

ENG 240 History of Literary Criticism

A study of the great literary critics, their methods and approaches, from Plato and Aristotle to the present day. Among the many figures included are Sidney, Johnson, Coleridge, Arnold, and T.S. Eliot. (alternate spring). Cr 3.

ENG 341 Critical Approaches to Literature

This course will provide an introduction to major critical perspectives of the twentieth century. Topics may vary from one year to the next but typically will include several perspectives that have dominated literary studies over the past 50 years, such as formalist, archetypal,

structuralist, post-structuralist, psychoanalytic, phenomenological, Marxist, feminist, and reader-response oriented criticism. Cr 3.

ENG 440 Independent Study in Criticism

Cr var.

ENG 441 Seminar in Literary Criticism

An advanced course focusing on specific problems or historical movements in literary criticism. Emphasis is on applying various scholarly approaches to important, limited subjects. Typical subjects: myth and myth criticism, psychoanalytic theory as myth. Cr 3.

ENG 225 Continental Masterpieces

A study of some of the masterworks of medieval and renaissance culture, including Dante's *Divine Comedy* and Cervantes' *Don Quixote*. (every spring). Cr 3.

ENG 325 Medieval Epic and Romance

The development of medieval traditions of epic and romance with readings of major works from England, Germany, France, Spain, and Italy (in translation). Focus of the course varies; it may be taught as an Arthurian literature course, for example. (3-year cycle, spring). Cr 3.

ENG 326 Satire

A thorough exploration of its backgrounds in Classical literature and an attempt to define satire as a mode will be followed by discussion of important satires in English and other languages. Cr 3.

ENG 327 Modern Short Story: Themes and Methods

Detailed consideration of from six to ten short story collections reflecting contemporary themes and narrative methods. Although selections will vary, the recent reading list has included Jorge Luis Borges, Franz Kafka, Anton Chekhov, James Joyce, Thomas Mann, Virginia Woolf, and Isaac Babel. A necessarily wide range of themes is confronted: the corruption of reality by dream; personal inadequacy, alienation, and paranoia; self-deceit; varieties of ignorance and cowardice; the moral insight afforded the artist; violence as a mode of self-discovery. Students are respon-

sible for a term paper, a classroom report, and weekly review of some critical article. Prerequisite: junior class standing or permission of the instructor. (alternate spring). Cr 3.

ENG 328 Modern Novel: Themes and Methods

Works by six or more distinguished novelists expressing contemporary subject matter and technique. Among representative themes students will consider those of dream and illusion, revolution and personal revolt, alienation and anxiety, crime and self-assertion; among narrative techniques, ellipsis and adaptations of stream-of-consciousness. The list of novelists will vary, but recent assignments include Knut Hamsun, Franz Kafka, Thomas Mann, Herman Hesse, Andre Malraux, D. H. Lawrence, James Joyce, and Christina Stead. Students are responsible for a term paper, a classroom report, and a weekly review of some critical article. Prerequisite: junior class standing or permission of the instructor. (alternate fall). Cr 3.

ENG 420 Independent Study in Comparative Literature

Cr var.

ENG 421 Seminar in Comparative Literature

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: Continental humanism, Dante, Continental influences on English literature. Cr 3.

Medieval Period

ENG 250 Chaucer and the Medieval World

An exploration of Chaucer's historical, philosophical, and literary world through his major comic narrative, *Canterbury Tales*. (every fall). Cr 3.

ENG 350 Medieval English Literature

A survey of genres popular from the twelfth to the fifteenth centuries (including debates, lyrics, romances, allegories, drama), with emphasis on the literature of fourteenth-century England. Major readings will include Chaucer's *Troilus*, the *Pearl*, and *Sir Gawain and the Green Knight*. HON 102 The Medieval World satisfies the English Department requirement for this course. (3-year cycle, spring). Cr 3.

ENG 352 Medieval Drama

This course will introduce the theatre of the medieval world, which ranges from the liturgical,

ritual drama of the church, to the morality plays, performed by traveling companies, and the mystery cycles, produced by civic and guild pride in the 15th century. Attention will be paid to the aesthetic and theological principles underlying this conjunction of farce and high seriousness in the plays as well as to distinctly medieval techniques of staging and production. (3-year cycle, spring). Cr 3.

ENG 450 Independent Study in Medieval Literature

Cr var.

ENG 451 Seminar in Medieval Studies

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Cr 3.

Renaissance

ENG 255 The English Renaissance

A study of the principal writers of the English Renaissance exclusive of Shakespeare, with emphasis on major figures like Spenser, Donne, and Milton, but with some attention to other figures. (every fall). Cr 3.

ENG 356 Milton

Study of Milton's major poetry and selected prose with attention to critical and historical background. (every spring). Cr 3.

ENG 357 British Drama to 1642

Shakespeare's predecessors, contemporaries, and followers to 1642. (3-year cycle, fall). Cr 3.

ENG 455 Independent Study in Renaissance Literature

Cr var.

Shakespeare

ENG 260, 261 Shakespeare

ENG 260 and 261 each feature close reading of five to seven Shakespearean plays, and focus attention both on theatrical and philosophical meanings. The division of plays within the two courses is largely arbitrary. Its intent is to permit students to take a second course in Shakespeare without repeating the readings of the first course. Neither course is introductory or prerequisite to the other. The main difference is that ENG 260 often includes a section on Shakespeare's history plays, while ENG 261 includes a section on Shakespeare's "romances" (dramatic fairy tales). Both courses

ENG 456 Seminar in Renaissance Studies

An advanced course focusing on individual writers, or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: the metaphysical poets, Elizabethan prose fiction. Cr 3.

include tragedies and comedies. (ENG 260 alternates fall-spring each year. ENG 261 alternates spring-fall each year.) Each course: Cr 3.

ENG 460 Independent Study in Shakespeare

Cr var.

ENG 461 Seminar in Shakespeare Studies

An advanced course in Shakespeare which emphasizes the application of various critical and scholarly approaches to important aspects of the poet and dramatist's work. Typical subjects: allegorical elements in Shakespeare's plays, Shakespeare and the daemoniac. Cr 3.

Neoclassical and Romantic Periods

ENG 265 The Neoclassical Age

The principal writers from the Restoration to the Romantic Period are studied. Emphasis is on the achievements of major figures, including Dryden, Pope, Swift, and Johnson. (alternate fall). Cr 3.

Alexander Pope, Thomas Gray, and the poets of sensibility. Cr 3.

ENG 366 Restoration and 18th-Century Drama

A study of Restoration and early 18th-century drama with emphasis on innovations in the post-Elizabethan theatre and on changing definitions of the tragic and comic will include Davenant, Dryden, Otway, Etherege, Shadwell, Cibber, Wycherley, Congreve, Farquhar. (3-year cycle, fall). Cr 3.

ENG 270 Major Romantic Writers

A study of the major British poets and essayists of the Romantic period (approximately 1785-1832) and of the nature of the Romantic movement. Readings selected from among Blake, Burns, Wordsworth, Coleridge, Keats, Byron, Shelley, Lamb, DeQuincey, Beddoes, Hunt, Peacock, etc.; also Mary Shelley's *Frankenstein*. (alternate fall). Cr 3.

ENG 369 The Earlier English Novel

The principal novelists from Defoe through Smollett. Cr 3.

ENG 370 Fiction of the Romantic Period

The novels of Jane Austen; readings in Maturin, Peacock, Edgeworth, Lewis, Godwin, Mary Shelley, Scott. (alternate spring). Cr 3.

ENG 465 Independent Study in the Neoclassical Period

Cr var.

ENG 470 Independent Study in the Romantic Period

Cr var.

ENG 466 Seminar in Neoclassical Studies

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: Swift, the poetry of

ENG 471 Seminar in Romantic Studies

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: William Blake, the gothic novel, Wordsworth and Coleridge. Cr var.

Nineteenth-Century British and American Literature

ENG 275 Eminent Victorian Writers

Major writers of the Victorian era, such as Emily Bronte, Tennyson, Browning, Arnold, Dickens, George Eliot, Ruskin, Pater, Hardy and Wilde. (alternate fall). Cr 3.

women writers and to consider in detail the voices of women on women and society. Women novelists and poets have explored the entire range of human experience, of social, political, and philosophical issues as well as personal experience. This course will discuss the ways in which they have treated such issues as they relate to women's own lives. Although

ENG 285 Earlier Women Writers

The aim of this course is twofold, to introduce students to the wealth of major works by

specific content may vary from semester to semester, the course will introduce students to the wealth of major works by women writers and consider the voices of women on women and society. Readings are likely to emphasize nineteenth-century writers like Jane Austen, George Eliot, Charlotte Bronte, and Elizabeth Gaskell. (alternate spring) Cr 3.

ENG 375 The Victorian Novel

The principal novelists from Austen to Hardy. (alternate spring) Cr 3.

ENG 377 Victorian Poetry and Prose

A study of the major poets and non-fiction prose writers of the Victorian period, such as Tennyson, the Brownings, Arnold, the Rossettis, Meredith, Morris, Swinburne, Hopkins, Hardy, Carlyle, Newman, Ruskin, and Pater. (alternate spring) Cr 3.

ENG 475 Independent Study in the Victorian Period

Cr var.

ENG 476 Seminar in Victorian Studies

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Cr 3.

ENG 280 The American Renaissance

Major American writers of the mid-19th century. Includes critical study of major works by Emerson, Thoreau, Hawthorne, Melville, Whitman, and Dickinson with attention to the social and literary backgrounds. (alternate fall) Cr 3.

Modern Literature

ENG 290 The Modern Age: British

The purpose of this course is to define and discuss the nature of Modernism as it developed in 20th-century Britain. Both technical change and innovation and changes in themes and attitudes will be considered. What kind of world, for example, does a poem like *The Waste Land* or a novella like *Heart of Darkness* portray? What assumptions underlie them? What changes in poetic narrative form do they demand? The class will emphasize early Modern (pre-World War II) but will attempt to discover, as well, how contemporary British literature has developed since then. The course will include such writers as Joyce, Conrad, Yeats, MacDiarmid, Woolf, Lessing and Beckett. (alternate fall) Cr 3.

ENG 291 The Modern Age: American

The purpose of this course is to examine the nature of Modernism as it developed in 20th-century America. Early precursors such as Whitman and Twain will be considered with a view to determining what special issues and techniques developed to express an American Experience. Emphasis, however, will be on

ENG 381 Colonial American Literature

A study of early American writers of religious prose, fiction, and poetry. A course in early American history is recommended background. Cr 3.

ENG 382 The Earlier American Novel

An historical survey of the American novel from Charles Brockton Brown to Henry James. (alternate fall) Cr 3.

ENG 389 Writers of Maine

Historical and literary analysis of writers in and about Maine. The emphasis will be on the literary quality of the best-known men and women writers and the place in history both past and present of the lesser-known writers. Extra credit in the course will be given for a report about any off-campus project related to an author and a particular locality in Maine. English majors should have already taken a survey of American literature; prospective teachers will prepare an annotated bibliography of one author of their choice. (every year) Cr 3.

ENG 480 Independent Study in American Literature

Cr var.

ENG 481 Seminar in Earlier American Literature

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: backgrounds of American thought, Hawthorne and Melville, Twain and James, Thoreau. Cr 3.

major recent writers such as Faulkner, Hemingway, Fitzgerald, Pound, Williams, Katherine Anne Porter, Flannery O'Connor, and selected contemporary poets. (alternate fall) Cr 3.

ENG 295 Contemporary Women Writers

The focus of the course is on 20th-century novelists and/or poets. Specific readings and thematic approaches will vary depending on instructor. The course has been taught, for example, with an emphasis on the regional and ethnic cultures from which American women writers come, reading works by Kate Chopin, Willa Cather, Eudora Welty, Alice Walker, Toni Morrison, Maya Angelou, Leslie Silko, Maxine Kingston, Grace Paley, and Anne Sexton. (alternate spring) Cr 3.

ENG 390 Modern British Poetry

Modern British poetry has taken diverse forms and concerned itself with a wide range of themes. This course, however, will focus on two or three selected major figures such as Hardy, Yeats, Eliot, MacDiarmid, Auden, and Thomas with the aim of placing them in the larger context. The class will examine and discuss

early changes in poetic forms, the impact of World War I poets and the Georgians, the developments in contemporary Britain. The primary focus will then be to consider in depth the two or three major figures, defining what determines their particular voice and vision of reality. The selected poets will vary with the semester. (alternate spring). Cr 3.

ENG 391 Modern American Poetry

This course will focus on two or three major poets such as Stevens, Frost, Marianne Moore, Pound, and Williams. The course will also, however, seek to place them in a historical perspective, both in technical development and specifically American themes and conceptions of reality. There will be some examination of poets like Whitman and Dickinson, who stand at the beginning of modern American poetry, as well as contemporary poets like Strand, Snyder, Kinnell, and Bly. The primary focus will then be to examine the selected figures against the broader context, with the purpose of defining their unique voices and forms. The selected poets will vary with the semester. (alternate spring). Cr 3.

ENG 392 Twentieth-Century British Novels

Selected novels from the late 19th century to the present. (alternate fall). Cr 3.

ENG 393 Twentieth-Century American Novels

An historical survey of American novels beginning around 1900. (alternate spring). Cr 3.

ENG 394 Experimentation in Modern Poetry

This course explores the tradition of experimentation in modern poetry from Rimbaud to the present day. It draws from a range of figures such as Cavafy, Ponge, and Calvino in an effort to bring into focus the achievement of such English and American figures as Eliot, Williams, Auden, Moore, and such contemporaries as Dorn and Berryman. Cr 3.

ENG 395 Anglo-Irish Literature

A study of the major Irish writers from 1880 to

the present. Topics may vary, but they will typically include some of the foremost Irish writers of the past century, such as Yeats, Lady Gregory, Wilde, Shaw, Synge, Joyce, O'Casey, Behan, Beckett, O'Connor, Bowen, Lavin, Heaney, and Friel. (alternate fall). Cr 3.

ENG 397 American Drama

A study of the drama in the United States. A brief history of early American playwrights followed by a close study of major figures, with O'Neill as the center. Others: Maxwell Anderson, Robert Sherwood, Tennessee Williams, Arthur Miller, and Edward Albee. (This course is also listed as THE 460). Cr 3.

ENG 398 The Southern Renaissance

The post-World War I flowering in Southern letters, with emphasis on the fiction of Wolfe, Faulkner, Elizabeth Madox Roberts, Tate, Gordon, Porter, Warren, Welty, Peter Taylor, Flannery O'Connor, and Walker Percy. (alternate fall). Cr 3.

ENG 490 Independent Study in Modern Literature

Cr var.

ENG 491 Seminar in Modern British Literature

An advanced course focusing on individual writers or particular literary themes or problems. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: Joyce's *Ulysses*, modern Scottish literature. Cr 3.

ENG 492 Seminar in Modern American Literature

An advanced course focusing on individual writers or particular literary movements. Emphasis is on applying various critical and scholarly approaches to important, limited subjects. Typical subjects: the image of Blacks in American literature, the fugitive poets, Fitzgerald, Hemingway, and Faulkner. Cr 3.

Experimental Courses

Occasionally the English Department offers special courses not listed individually in the catalog. They appear in the current Schedule of Courses under the designation 199, 299, 399, or 499. Such courses will usually be experi-

mental: pursuing original research, testing new alignments of figures or materials, or trying out courses before including them in the department curriculum.

Foreign Languages and Classics

Chair of the Department: Edith Lepelley, 416 Luther Bonney Hall, Portland
Professor: Duclos; *Associate Professors:* Crochet, Dalvet, di Benedetto, Lepelley, Rolfe, Ubans; *Assistant Professors:* Owens, Rosenthal, Suscavage

A foreign language major offers a uniquely rich and diverse humanities background. The study of languages sensitizes us to other cultures and the relativity of values, it frees us from the confines of monolingualism and provincialism, it increases our understanding of and competence in our native language and, most important, it is an inquiry into language as language: the structure, system, code by which we interpret the world to ourselves and others. Through in-depth study of literature we develop skills of close reading and literary analysis, and in composition courses we hone our writing skills.

A foreign language is also a valuable and marketable skill in many professions, especially international relations and trade, government service, travel, social services, the arts, and teaching.

Programs and Requirements

The Department offers a major in French and broader, interdepartmental majors in foreign languages, classical studies, French studies, German studies, and Hispanic studies. Also classics, French, German, and Spanish minors are available which augment other majors in the College of Arts and Sciences. Courses in Italian are offered on a regular basis.

The Department also offers a number of courses in English translation requiring no knowledge of a foreign language and open to any student interested in foreign or classical literature and civilization. These courses are numbered 281-299. Courses in this category may be credited towards a major or a minor in the Department if the readings, exams, and papers are done in the target language.

Independent study courses, numbered 470, are available to qualified students with the permission of the instructor and the department chair.

Policies

Beginner courses (101-102) are for students who have never studied the language. Courses numbered 103 are a review of this beginner's level. Intermediate level courses (201-202 for modern languages, 251-252 for the ancient languages) are for students with two successful years of high school language study. Those whose background does not fit any of these categories, especially Franco-Americans and students with Hispanic, German, or Italian backgrounds, should consult an instructor in the language before registering. Courses numbered 105-206 give students a reading proficiency in French or German for research in their field, graduate school language requirements, or cultural enjoyment.

It is the policy of the Department that a student may receive 6 credits each, but no more for the elementary and intermediate levels. The courses can be taken in any combination. (This does not apply to students in FRE 107-108.) Elementary level: any two courses from 101, 102, 103, or 105. Intermediate level: any two from 201, 202, or 206.

The Department grants credit in French, German, Greek, Latin, and Spanish to an enrolled student who presents evidence of competency in one of those languages by completing the appropriate Advanced Placement Examination of the College Entrance Examination Board. For more details, contact the chair of the Department.

Language Laboratory

The language laboratory is located on the Portland campus in Payson Smith Hall, Room 203, and is open every weekday from 9 a.m. to 3 p.m. Students enrolled in beginner's or intermediate courses may register for supervised language practice amounting to a minimum of one hour a week

in the laboratory; they will receive one extra credit (on a pass/fail basis) for regular and active attendance. Since the work done in the language lab is coordinated with classroom work, only the students enrolled in a language course can take the corresponding lab section for credit. Credit for the lab is granted only if the student passes the course. Any exception to this has to be approved by the chair of the Department. All students are welcome to use the language lab facilities for their own purposes, without credit.

Students are also urged to get extra practice in French, German, Italian, and Spanish by participating in informal conversation tables sponsored by the Department. Tutoring is available, often at no cost to the student. For information, see the Department secretary in Luther Bonney 411.

All major programs in the Department of Foreign Languages and Classics require that the student fulfill the requirements of the Core curriculum.

Bachelor of Arts in French

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Core Course (to be announced by the Department)

Language

- FRE 321 French Composition/Workshop in Writing French
- FRE 323 French Conversation/Workshop in Speaking French
- FRE 305 Phonetics

Civilization

- FRE 291 Civilization, historical approach

OR

- FRE 292 Contemporary France

Literature (any two)

- FRE 361 The Novel
- FRE 362 Poetry
- FRE 363 Theatre

Any two

- FRE 460 Quebecer Literature
- FRE 461 17th Century Literature
- FRE 462 18th Century Literature
- FRE 463 19th Century Literature
- FRE 464 20th Century Literature

PLUS

- FRE 465 Survey of French Literature

Electives (or any two of the above courses)

- FRE 221 Practice in Writing
- FRE 223 Practice in Conversation

Summer and junior year studies in France or French Canada are encouraged and acknowledged by transfer of credits.

All majors already engaged in studies of French literature should maintain an active effort to reach fluency in speaking French through constant practice, use of the language laboratory, and participation in informal conversation tables. They are expected to have reached proficiency in speaking and writing French before their graduation.

Each student's progress will be reviewed periodically by the French faculty. All majors must achieve at least 12 credits of B or better grades in their major courses. No grade of D will count toward fulfillment of a French major.

Group Contract in Foreign Languages

The group contract major of the College of Arts and Sciences provides students with a flexible opportunity to tailor their major to their interests and needs in foreign language study. The following group contract majors are offered:

- Foreign Languages
- Classical Studies (concentration in either Greek or Latin)
- French Studies
- German Studies

Hispanic Studies

Please refer to p. 56 of this catalog or contact the chair of the Department of Foreign Languages and Classics for additional information.

Minors

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 9.

Since the knowledge of a foreign language, or languages, is valuable to all majors in other CAS disciplines, the Department offers minor programs in Classics (Latin or Greek), French, German, and Spanish. A given program consists of nine credits at the 300 level (200 level in classics) or above, selected from the following courses:

Classics Minor (Greek)

GRE 251, 252; 310; CLS 291

Classics Minor (Latin)

IAT 251, 252; 310; CLS 292

French Minor

FRE 321; 323; 305; 361, 362 or 363

German Minor

GER 321, 322; 351, 352; 281

Spanish Minor

SPA 321, 322; 351, 352

Literature and Civilization in English Translation

CLA 283 The Epic Hero in Ancient

Literature

Intensive readings in English translations of *Gilgamesh*, *Iliad*, *Odyssey*, *Argonautica*, *Aeneid*; discussion, papers. Cr 3.

CLA 284 The Tragic Hero in Ancient Literature

Intensive reading of selected plays in English translation by Aeschylus, Sophocles, Euripides, Seneca; discussion, papers. Cr 3.

CLA 291 The Golden Age of Greece

The literature, history, politics, philosophy, art, and architecture of the fifth century B.C. with particular attention to the achievements of Athens. Lectures, discussion, papers, museum trip. Cr 3.

CLA 292 Rome, from Republic to Empire

The literature, history, politics, philosophy, art, and architecture of Rome in the first century B.C. Lectures, discussion, papers, museum trip. Cr 3.

FRE 281 Masterpieces of French Literature I

Novels and plays representative of French literature from the beginning of the 19th century to the present. No knowledge of French is necessary. Cr 3.

FRE 282 Masterpieces of French Literature II

Novels and plays representative of French literature from the Middle Ages to the end of the 18th century. No knowledge of French is necessary. Cr 3.

Classics: Greek and Latin

GRE 101 Beginning Greek I

Fundamentals of classical Greek. Emphasis upon acquisition of reading knowledge. Cr 3.

FRE 283 Contemporary French Thinkers

Readings and discussion of recent works of French literature selected for their philosophical and ethical importance: Saint-Exupery, Sartre, Camus, de Beauvoir, Teilhard de Chardin and others. No knowledge of French is necessary. Cr 3.

FRE 291 French Civilization: A n Historical Approach

Aspects of the society, institutions, arts, literature, and religion of France, from the origins to the end of the 19th century. No French is spoken in the classroom. Cr 3.

FRE 292 French Civilization: Contemporary France

Institutions, education, society, economy, politics of France. No French is spoken in the classroom. Cr 3.

GER 281 The German Novelle

The study of the genre of the novelle and its development through the major literary movements from the early nineteenth century to the present. Authors read vary, but normally include Goethe, Tieck, E.T.A. Hoffmann, Kleist, C.F Meyer, Storm, Musil and Mann. No knowledge of German is necessary. Cr 3.

SPA 281 Masterpieces of Spanish Literature

The study of fiction, poetry, and essays representative of Hispanic literature of the 19th and 20th centuries. No knowledge of Spanish is necessary. Cr 3.

GRE 102 Beginning Greek II

Selections from Euripides' *Alceste*. Prerequisite: GRE 101. Cr 3.

GRE 251 Introduction to Greek Literature I

A study of Plato's *Apology*, *Crito* and selections from the *Phaedo*. Prerequisite: GRE 102 or equivalent. Cr 3.

GRE 252 Introduction to Greek Literature II

A study of selected books from Homer's *Iliad* or *Odyssey*. Prerequisite: GRE 251. Cr 3.

GRE 310 Seminar in Greek Literature

Readings in Greek prose and poetry; a different author will be read each semester. Translation, supplementary reading, paper. Prerequisite: GRE 252. Cr 3.

GRE 470 Independent Study

LAT 101 Beginning Latin I
Fundamentals of the Latin language. Cr 3.

LAT 102 Beginning Latin II

Continuation of LAT 101. Cr 3.

LAT 251 Introduction to Latin Literature I

Selected readings from masters of Latin prose and poetry. Prerequisite: LAT 102 or equivalent. Cr 3.

LAT 252 Introduction to Latin Literature II

Continuation of LAT 251. Cr 3.

LAT 310 Seminar in Latin Literature

Readings in Latin prose and poetry; a different author will be read each semester. Translation, supplementary reading paper. Prerequisite: LAT 252. Cr 3.

LAT 470 Independent Study*French***FRE 101 Beginning French I**

Beginner's course in French. Initiation in the four skills of language learning: listening comprehension, speaking, reading, and writing. Students are encouraged to register also for laboratory practice (one more credit). Cr 3. (With lab, Cr 4.)

FRE 102 Beginning French II

Continuation of FRE 101. Cr 3. (With lab, Cr 4.)

FRE 103 Review of Elementary French

Elementary French for students with some previous study of the language who feel the need for a refresher course before entering FRE 201. Cr 3. (With lab, Cr 4.)

FRE 105 Reading French I

Beginner's course in French aiming exclusively at a reading knowledge of the language. No French spoken. Recommended also as preparation for language tests required by graduate schools. Cr 3.

FRE 107 Intensive Beginning French

An intensive course for the beginning student, covering a full year's work at the college level to prepare the student for the intermediate level of college French. Emphasis is placed upon the four skills of language learning: speaking, understanding, reading and writing along with an introduction to contemporary culture and civilization. Daily practice in the language laboratory is required (for two additional credits). Offered during the summer only. Cr 6. (With lab, Cr 8.)

FRE 201 Intermediate French I

Review of grammatical structures. Further development of listening comprehension, speaking, reading and writing skills. Emphasis on understanding cultures and contemporary life of French-speaking countries through reading and discussion. Students are encouraged to also register for laboratory practice (one more credit). Prerequisite: FRE 102, FRE 103, two years of high school French or the equivalent. Cr 3. (With lab, Cr. 4.)

FRE 202 Intermediate French II

Continuation of FRE 201. Prerequisite: FRE 201 or the equivalent. Cr 3. (With lab, Cr 4.)

FRE 206 Reading French II

Further practice of the skill acquired in FRE 105 through an accelerated reading of books on various topics (fiction, history, science, etc.). Prerequisite: FRE 105, 102, 103, or instructor's permission. Cr 3.

FRE 221 Practice in Writing

Advanced study of the French language. Proficiency in writing, vocabulary development and idiomatic expression are the objectives of the course. Prerequisite: FRE 202 or equivalent. Cr 3.

FRE 223 Practice in Conversation

Intensive oral practice, expository reports, debates, class discussions. Prerequisite: FRE 202 or equivalent. Cr 3.

FRE 251 Readings in French Literature

Reading and discussion of representative literary works in the major genres (fiction, drama, poetry). Designed to give a general background for the major as well as to provide a representative sampling for the non-major. Prerequisite: FRE 201 or equivalent. Cr 3.

FRE 305 French Phonetics

A formal study of the French sound system and an initiation into phonetic transcription with practical and remedial work in pronunciation. Prerequisite: FRE 202 or equivalent. Cr 3.

FRE 321 Workshop in Writing French

Practice of free composition and translation. Prerequisite: FRE 221 or equivalent. Cr 3.

FRE 323 Workshop in Speaking French

Practice of French conversation for advanced students. Prerequisite: FRE 223 or equivalent. Cr 3.

FRE 361 The French Novel

A study of novels and short stories, especially of the 19th and 20th centuries, and of the various critical approaches to fiction. Prerequisite: FRE 251 or equivalent. Cr 3.

FRE 362 French Poetry

A study of works by famous French poets and of the critical approaches to French poetry. Prerequisite: FRE 251 or equivalent. Cr 3.

FRE 363 The French Theatre

A study of representative works by the major playwrights of France in the classical, romantic, and modern periods and of critical approaches to drama. Prerequisite: FRE 251 or equivalent. Cr 3.

FRE 460 Quebecer Literature

Reading and discussion of novels, short stories, poems, and plays by contemporary French Canadian writers Gabrielle Roy, Gerard Bessette, Jacques Godbout, M. Claire Blais, Marcel Dube, Saint-Denis Garneau, Alain Grandbois, and P.M. Lapointe. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 461 17th-Century Literature

A seminar in 17th-century French literature based on selected themes which will vary each time the seminar is offered. The theme will be announced the year that the course is given. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 462 18th-Century Literature

A study of the critical and revolutionary thought of the major 18th-century French

thinkers (Montesquieu, Voltaire, Rousseau, Diderot) in an attempt both to define the role of the Enlightenment in the downfall of the Ancien Regime and to determine its place in the history of ideas. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 463 19th-Century Literature

A seminar in 19th-century French literature based on selected themes which will vary each time the seminar is offered. The theme will be announced the year that the course is given. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 464 20th-Century Literature

A seminar in 20th-century French literature based on selected themes which will vary each time the seminar is offered. The theme will be announced the year that the course is given. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 465 Survey of Literature

An opportunity for senior students to review and complete their previous studies of French literature by surveying its development and styles through the centuries. Prerequisite: FRE 361, 362 or 363. Cr 3.

FRE 470 Independent Study*German***GER 101 Beginning German I**

Beginner's course in German. Initiation in the four skills of language learning: listening comprehension, speaking, reading, and writing. Students are encouraged to register also for laboratory practice (one more credit). Cr 3. (With lab, Cr 4.)

GER 102 Beginning German II

Continuation of GER 101. Cr 3. (With lab, Cr 4.)

GER 105 Reading German I

Elementary course in German aiming exclusively at a reading knowledge of the language. No German spoken. Offered every other year. Cr 3.

GER 107 Intensive Beginning German and GER 107 Lab

An intensive course for the beginning student, covering a full year's work at the college level to prepare the student for the intermediate level of college German. Emphasis is placed upon the four skills of language learning: speaking, understanding, reading, and writing, along with an introduction to contemporary culture and civilization. Daily practice in the language lab is required (for two additional credits). Offered during the summer only. Cr 6. (With lab, Cr 8.)

GER 201 Intermediate German I

Review of grammar. Further development of listening comprehension, speaking and reading skills. Emphasis on understanding German

culture and contemporary life through reading and discussion of short stories, articles and essays. Students are encouraged to also register for laboratory practice (one more credit). Prerequisite: GER 102, two years of high school German or the equivalent.

Cr 3. (With lab, Cr 4.)

GER 202 Intermediate German II

Continuation of GER 201. Prerequisite: GER 201 or the equivalent. Cr 3. (With lab, Cr 4.)

GER 206 Reading German II

Further practice of the reading skill acquired in GER 105. Recommended also as preparation for language tests required by graduate schools. Prerequisite: GER 105, 102, 103 or instructor's permission. Offered every other year. Cr 3.

GER 321 Composition and Conversation in German I

Systematic training in correct pronunciation and usage, and in vocabulary building, with written and oral practice. Prerequisite: GER 202 or equivalent. Cr 3.

GER 322 Composition and Conversation in German II

Continuation of GER 321. Reading and discussion of historical, journalistic, and literary material covering life in Germany from World War I to the present. Prerequisite: GER 321 or equivalent. Cr 3.

GER 351 Introduction to German Literature I

Reading and discussion of selected works representing the major literary movements from Enlightenment to Realism. Readings are in German; class discussions and exams are in English. Prerequisite: GER 202 or GER 106 or an equivalent reading ability of German. Cr 3.

GER 352 Introduction to German Literature II

Reading and discussion of selected works representing the major literary movements from Naturalism to the present. Readings are in German; class discussions and exams are in English. Prerequisite: GER 202 or GER 106 or an equivalent reading ability of German. Cr 3.

GER 470 Independent Study

Italian

ITA 101 Beginning Italian I

Beginner's course in Italian. Initiation in the four skills of language learning: listening comprehension, speaking, reading, and writing. Cr 3. (With lab, Cr 4.)

ITA 102 Beginning Italian II

Continuation of ITA 101. Cr 3. (With lab, Cr 4.)

ITA 201 Intermediate Italian I

Reading of short stories and essays reflecting the wealth and variety of Italian culture. Classroom practice of conversation. Prerequisite: ITA 102, two years of high school Italian or the equivalent. Cr 3.

ITA 202 Intermediate Italian II

Continuation of ITA 201. Prerequisite: ITA 201 or the equivalent. Cr 3.

ITA 251 Readings in Modern Italian Novels I

Students will read novels written in Italy during the past seventy years (Silone, Moravia, Vittorini, Calvino, Sciascia and others) and will discuss them in class. Prerequisite: ITA 202 or equivalent. Cr 3.

ITA 252 Readings in Modern Italian Novels II

Continuation of ITA 251. Prerequisite: ITA 251 or equivalent. Cr 3.

Russian

RUS 101 Beginning Russian I

Beginner's course in Russian. Initiation in the four skills of language learning: listening comprehension, speaking, reading, and writing. Students are encouraged to register also for laboratory practice (one more credit). Cr 3. (With lab, Cr 4.)

RUS 102 Beginning Russian II

Continuation of RUS 101. Cr 3. (With lab, Cr 4.)

RUS 201 Intermediate Russian I

Review of grammatical structures. Further development of listening comprehension,

speaking, reading and writing skills. Emphasis on understanding Russian culture and contemporary life through reading and discussion. Students are encouraged to also register for laboratory practice (one more credit). Prerequisite: RUS 102, two years of high school Russian or equivalent. Cr 3. (With lab, Cr 4.)

RUS 202 Intermediate Russian II

Continuation of RUS 201. Prerequisite: RUS 201 or the equivalent. Cr 3. (With lab, Cr 4.)

Spanish

SPA 101 Beginning Spanish I

Beginner's course in Spanish. Initiation in the four skills of language learning: listening comprehension, speaking, reading, and writing. Students are encouraged to register at the same time for laboratory practice (one more credit). Cr 3. (With lab, Cr 4.)

SPA 102 Beginning Spanish II

Continuation of SPA 101. Cr 3. (With lab, Cr 4.)

SPA 107 Intensive Beginning Spanish and SPA 107 Lab

An intensive course for the beginning student, covering a full year's work at the college level to prepare the student for the intermediate level of college Spanish. Emphasis is placed upon the four skills of language learning: speaking, understanding, reading, and writing, along with an introduction to contemporary culture and civilization. Daily practice in the language

lab is required (for two additional credits). Offered during the summer only. Cr 6. (With lab, Cr 8.)

SPA 201 Intermediate Spanish I

Review of grammatical structures. Further development of listening comprehension, speaking, reading and writing skills. Continued emphasis on understanding of Hispanic culture and civilization through reading and discussion of literary and historical texts as well as frequent reference to contemporary customs and events. Students are encouraged to also register for laboratory practice (one more credit). Prerequisite: SPA 102, two years of high school Spanish or the equivalent. Cr 3. (With lab, Cr 4.)

SPA 202 Intermediate Spanish II

Continuation of SPA 201. Prerequisite: SPA 201 or the equivalent. Cr 3. (With lab, Cr 4.)

SPA 321 Composition and Conversation in Spanish I

Advanced study of the Spanish language. Frequent practice of composition. Conversation and oral reports. Prerequisite: SPA 202 or equivalent. Cr 3.

SPA 322 Composition and Conversation in Spanish II

Continuation of SPA 321. Cr 3.

SPA 351 Introduction to Hispanic Literature I

A survey of the important periods and trends in Spanish literature with reading of representative works. Prerequisite: SPA 202. Cr 3.

SPA 352 Introduction to Hispanic Literature II

Continuation of SPA 351. Cr 3.

SPA 470 Independent Study

Geography-Anthropology

Chair of the Department: Judy H. Tizon, 300E Bailey Hall, Gorham

Associate Professors: French, Hodges, Tizon, Yesner; *Assistant Professor:* Crader

The program leading to a major in geography-anthropology emphasizes the integration of the two disciplines. Among the elements that are integrated in the major are common interests in the relationship between human populations and their natural environment, decision-making strategies of human groups, and the health and nutritional status of human societies. The major is a 36-hour interdisciplinary program wherein students are expected to take courses from both geography and anthropology. The program of study beyond the basic requirements should be planned carefully, in close consultation with the student's departmental advisor, and should be approved by the latter. Such an arrangement allows for flexibility according to the student's interests while also providing close guidance and a control of educational quality by the department.

Programs and Requirements

The Department offers the following programs: bachelor of arts in geography-anthropology; applied geography minor in planning; and anthropology minor in health and human services.

All students with majors or specific discipline minors in the social sciences must achieve at least six credits with grades of B or better in the requirements of those majors or minors. No grades of D will be counted toward fulfillment of the major or minor requirements. Except for Independent Studies, no required course may be repeated more than one time.

All students are reminded that, in addition to meeting departmental requirements for the major, they must also meet the University's minimum proficiency requirements and the Core curriculum requirements. (These may be found on page 38 of this catalog.)

Bachelor of Arts in Geography-Anthropology

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

All students must take: ANT 101, GEO 101, GEO 201, and GYA 400 or GYA 350-351.

Students electing to concentrate in anthropology must take:

GEO 104 or GEO 303

ANT 102

ANT 103

ANT 210 or ANT 305

AND

12 ANT hours

Students electing to concentrate in geography must take:

ANT 103 or ANT 210

ANT 213

GEO 102

GEO 104

AND

12 GEO hours

Additionally, all geography-anthropology majors are required to take: three hours of research writing or the equivalent; three hours of quantitative methods or the equivalent. Only 6 hours of internships and/or independent studies may be applied toward the major.

Beyond these basic requirements, the student must set up a program of geography-anthropology courses to fulfill the remaining credits of the total 36 credits for the major with his/her advisor. All courses in that program must be approved in advance by the advisor.

Applied Geography Minor in Planning

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

Required courses: GEO 101, GEO 104

Choice of one from: GYA 350-351, GYA 400

Choice of one from: GEO 204, GEO 205

Choice of one from: GEO 209, GEO 210

Choice of one from: GEO 303, GEO 402

Anthropology Minor in Health and Human Services

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

Required Courses: ANT 101, ANT 102, ANT 302, ANT 303,
GEO 401

Choice of one from: GYA 350-351, GYA 400

Archaeology Laboratory

The Archaeology Laboratory located in 317 Bailey Hall provides facilities for research in archaeology and related areas. Current facilities include human skeletons, fossil human skulls, a comparative faunal collection, and various research collections, primarily from Maine and Alaska. The Archaeology Laboratory also houses a small library including books, journals, slides, and maps. Opportunities are available for independent student research projects, and work-study positions are available in the laboratory each semester.

Cartography Laboratory

The Cartography Laboratory located in 323 Bailey Hall provides facilities for map making and air photo interpretation. The room is open for faculty and student use daily. There is a map collection available including Maine maps, topographic maps, and various world regional maps. Student proctors are present at most hours of the day to offer assistance.

Geography-Anthropology

GYA 100 Museum Aide

Museum aides serve on volunteer projects relating to research classification, maintenance and display of artifactual materials. Since the museum solicits input from students, their contributions are expected to show originality and complement the goals of the Museum of Cultural Change. A minimum of thirty (30) hours of service each semester is required for credit. Offered each semester.

Cr 1-3.

GYA 106 The Local Environment

This is a field-oriented course that deals with the application of fundamental geographic concepts in the interpretation of areal development. The local area serves as the "laboratory" and provides models of geographic interaction that have applications on a broader scale. Offered every 2 years.

Cr 3-6.

GYA 300 Archaeology Field School

The summer field school is designed to combine training in research methods of archaeology and geography. Students will receive intensive training in methods of site survey excavation and materials analysis. Several weeks will be spent at selected areas of coastal Maine involved in survey and excavation of sites, mapping sites and landscape features, and investigating potential food resources in site areas. This will be followed by some laboratory analysis of recovered materials. This course may be repeated up to twice with the permission of the instructor.

Cr 4-6.

GYA 321 Historic Material Analysis

This lab/discussion course involves the analysis of materials derived from field survey and archaeological investigation of selected his-

toric period North American sites. Activities include the chronological and distributional analysis of ceramics, glass, metal and other artifacts of the historic period. Students are encouraged to pursue specific research topics using documentary sources as well as assist in the curation of artifacts in the Museum of Cultural Change. Offered every 2 years. Cr 3.

GYA 350-351 Internship in Applied Geography-Anthropology

Internships offer the student practical experience in working with public agencies, private firms, and municipalities engaged in applied geographical-anthropological activities including, but not limited to, planning, transportation, delivery of human services, and natural resources.

A written contract will be drawn up by advisor and student for each internship, specifying the number of credits sought and work required for these credits. As a general rule, internships will require at least eight hours of actual work per week. Interns will be expected

to meet at least once every two weeks with instructor to discuss experiences and/or problems.

In addition, a major paper will be required from each student intern discussing an aspect of the internship or the work performed during the internship. The paper will be presented by the student at the end of the semester to a departmental seminar on applied geography-anthropology. Prerequisites: junior or senior standing in geography-anthropology. Offered each year. Grading will be pass-fail. Cr 1-6.

GYA 400 Independent Study in Anthropology or Geography

The department faculty offers independent study in a topic in anthropology or geography for upper-level students (junior and senior status). Individuals wishing to take advantage of this option should secure a faculty sponsor and departmental approval. Variable credits will be offered. Offered each semester.

Anthropology

ANT 101 Anthropology: The Cultural View

This course is a basic introductory survey of cultural anthropology. It examines the differences between cultures as well as cultural universals, and the relationship between social organization, ideology, economics, and political structure in different types of societies. It reviews the various theoretical approaches in cultural anthropology's attempt to explain human behavior, presenting examples from "primitive," intermediate, and complex cultures through readings and films. This course is required for all majors concentrating in anthropology. Offered each semester. Cr 3.

ANT 102 Biological Anthropology

This course examines man's place in nature; the relationship between human biology and culture; the relevance of primate behavior and human evolution to understanding contemporary human society; human biological adaptations, including a discussion of population and nutrition; and contemporary human variation with an evaluation of the concept of race. Cr 3.

ANT 103 Introduction to Archaeology

Introduction to Archaeology describes the methods and theories used by modern archaeologists to uncover information about past human life ways. Attention is given to techniques of survey and excavation of archaeological materials; concepts of space and time in archaeology; and detailed analysis of artifacts and organic residues. Some attention will be given to specific topics such as the archaeology of Maine. Cr 3.

ANT 202 Origins of Civilization

This course traces the evolution of human culture from the origins of farming and

domestication, to the development of complex societies. General processes of urbanization and social stratification will be investigated, and examples will be drawn from throughout the Old and New Worlds, including the classical civilizations of the Near East, Southeast Asia, Mexico, and Peru. Cr 3.

ANT 210 Culture Theory

This course is an historical survey of theory in anthropology from the early classical evolutionists to contemporary materialist and idealist approaches. It will examine the various theories in terms of their level of analysis, explanatory value, and relationship to the western society from which they emerged. This course is a requirement for those concentrating in anthropology. Prerequisite: ANT 101 or permission. Cr 3.

ANT 213 Strategies for Survival

This course examines interactions between human societies and their natural environments. Human adaptation is viewed as a problem-solving process, involving the development of strategies for maximizing energy efficiency and reproductive success, for warding off environmental stress, and for reducing conflicts. These management strategies are examined for a number of human societies, and are used to gain insight into modern decision-making processes. Prerequisites: ANT 101 or 102. Cr 3.

ANT 220 North American Indians

This course combines an ethnographic and archaeological perspective on the culture history and traditional cultures of native North Americans. Emphasis is placed on the relationship of aboriginal native cultures to their environments, and the evolution of complex

societies in certain regions of North America. Also included is discussion of the fragmentation of Indian societies that followed the European invasion of North America. No prerequisites. Cr 3.

ANT 222 Peoples of the North

This course is designed as a comprehensive summary of the prehistory, traditional culture, and contemporary life ways of peoples living in the northern hemispheres of both the Old and New Worlds—from Maine to Alaska, and from Siberia to Lapland. Special attention will be given to the origins of these peoples; the problems of living in cold, northern environments; the effects of European contact; and the modern problems that they face ranging from the effects of urbanization to land claim disputes. Prerequisites: ANT 101 or 103 or permission of the instructor. Cr 3.

ANT 232 Women in Cross-Cultural Perspective

Anthropologists have long considered a division of labor and status on the basis of sex a universal practice throughout most if not all of civilization's history. There has, however, been a great deal of controversy regarding the nature, origin, and future of sexual stratification. Is the superior status of men cross-culturally "only in the eye of the beholder?" If not, why does it exist? Are its roots biological or cultural; is it inevitable? This course examines these provocative questions by looking at the range of women's roles in a variety of cultures, through readings, films, and slides. No prerequisites. Cr 3.

ANT 301 Victims of Progress: Primitive Peoples in the Modern World

This course examines the disappearance of simpler societies as a result of the expansion of industrial society, and the implications of such a process for the future of humanity, from both a scientific and humanistic point of view. It also discusses the role of anthropology in explaining and promoting culture change, and reviews the various philosophies of development exhibited in modern society. Prerequisite: ANT 101. Cr 3.

ANT 302 Medical Anthropology

This course considers the interface between medicine and anthropology in terms of both human biology and society. The course develops concepts of health as effective adaptation to environmental stresses, including infectious disease, nutritional stress, and psychosomatic illness, among others. It traces the history of health and disease in human society from hunter-gatherers to modern urban, industrial communities, and examines the way in which human populations have attempted to deal with various agents of disease. The course examines the diversity of human theories of disease causation, and explores the role of

modern medicine in effective health care delivery to persons of different cultural and ethnic backgrounds. Prerequisite: ANT 101 or permission of instructor. Cr 3.

ANT 303 Food and Nutrition: An Anthropological Perspective

The purpose of this course is to examine the relationship between human population and their subsistence base, as a part of the larger study of human ecology. Although the fundamental purpose of the course is to understand prehistoric human diets, much attention will be given to examining dietary variation in modern human societies in order to gain insights into past societies. To that end, biological and demographic as well as cultural adaptations to different dietary regimes will be analyzed. Various human subsistence types will be examined (hunting and gathering, horticulture, pastoralism, etc.), and detailed attention will be given to methods for reconstructing prehistoric diets. Although previous anthropological and/or biological background may be useful, neither are required for mastering the concepts developed in this course. Cr 3.

ANT 305 Models in Archaeology

Using archaeological data, archaeological anthropology tests a wide range of hypotheses about human society. The introduction of the hypothesis testing approach into archaeology is the result of recent expansions in theory and methodology. The literature discussing those theoretical and methodological developments will be critically evaluated by the student. Special attention will be given to reconstruction of prehistoric subsistence and settlement, and application of theory to public (conservation) archaeology. Prerequisite: ANT 103. Cr 3.

ANT 306 Archaeological Laboratory Analysis

Students will be introduced to the analysis of materials collected on an archaeological site. Their work will be centered around the results of previous summers' archaeological excavations. Research projects will be associated with the same materials. Lecture material will center around environmental archaeology, with special attention given to topics such as faunal analysis. This course may be repeated up to twice with the permission of the instructor. Prerequisite: ANT 103. Cr 4.

ANT 450 Topics in Anthropology

This course is designed to undertake detailed, in-depth analysis of important topics and issues in such subfields of anthropology as sociocultural anthropology, biological anthropology and archaeology. Topics vary from semester to semester. Research papers are required. Prerequisite: junior standing or permission of instructor. Cr 3.

GEO 101 Principles of Geography

This course applies a problem-solving approach to the learning of basic geographic skills and concepts. Cultural factors are emphasized in presenting man/environment relationships as seen from the geographer's point of view. The course is a prerequisite for most upper-level geography courses and required for all majors concentrating in geography. It also provides models and concepts useful in many other disciplines. Offered each semester. Cr 3.

GEO 102 Physical Geography

This course examines the interrelationships between people and the physical environment. Climate, soil, vegetation, landforms, water and mineral resources are the topics which are covered in this introductory course. This course is required for all majors concentrating in geography. Offered each year. Cr 3.

GEO 102L Physical Geography Laboratory

Laboratory exercises acquaint the student with the materials, methods, and data with which the physical geographer works. Numerical data, climate and topographic maps, and other forms of field data are employed to solve practical problems of human interaction with the physical environment. Co-requisite: GEO 102. Cr 1.

GEO 104 Cartography I

This is an introductory course in cartography focused on developing basic mapping and graphic communication skills essential to a wide variety of disciplines. The course will be flexible and adjusted to individual needs. Familiarization with basic charting technology and cartographic tools will be included. This course is required for all majors concentrating in geography. Offered each year. Cr 3.

GEO 120 Geography of Maine

This course will examine Maine as a geographic region. Physical and cultural attributes of the state will be analyzed. Political, economic and demographic factors will be emphasized in viewing the assets and problems of the Maine environment, and in planning Maine's future. No prerequisites. Offered each semester. Cr 3.

GEO 201 Cultural Geography

This course revolves around such components of culture as religion, art, music, settlement, economy type and their relation to one another. Concepts include spread, integration and landscapes of culture. A problem oriented discussion format is used to relate the ideas of other cultures with our own. Prerequisite: GEO 101. This course is required for all majors concentrating in geography. Offered each year. Cr 3.

GEO 204 Advanced Cartography (Cartography II)

This course is intended to build upon the basic cartographic skills introduced in GEO 104 and to develop new, more advanced skills in cartographic design and communication. The course will be tailored around individual student's needs and interests, and will include fundamental aspects and use of major types of map projections, statistical mapping, landform representation, and mapping point, volume and linear data. Prerequisite: GEO 104 or permission of instructor. Offered each year. Cr 3.

GEO 205 Air Photo Interpretation

This course deals with the earth as perceived from the air and space. Hands-on analysis of various types of imagery includes basic photogrammetry plus air photo and satellite remote sensing interpretation. Applications to land use planning, archaeology, geology and military science are among the topics covered. Recommended as a companion course to Cartography 204. Offered each year. Cr 3.

GEO 206 Field Camp in Geography (also Farmington GEO 206)

This system-wide offering brings students and teachers of several campuses together to participate in a geographic field experience of regional focus. A University of Maine system host campus is selected on a rotating basis and an appropriate theme developed to integrate the field studies in time and space. Various methods of geographic field analysis, mapping and site interpretation are employed. Recommended for all majors concentrating in geography. No prerequisite. Cr 3.

GEO 209 Introduction to Land Use Planning

This course offers an overview of man/land relationships as they influence contemporary patterns of settlement and use of the land. It will discuss the logic of a planning process as a method of decision making, the formulation of goals and evaluation of alternative courses of action, standards and requirements for specific planning objectives (such as land use, energy, recreation, transportation), and the place of the planning function in government and the role of citizens and private groups. Introduction to basic planning tools and techniques including PERT, aerial photography, and methods of land inventory and classification will be presented. No prerequisite. Offered each year. Cr 3.

GEO 210 Planning Maine Communities: Current Issues and Directions

This course will examine the issues facing Maine communities such as providing affordable housing, maintaining and improving the community's physical facilities such as streets,

sewers, playgrounds, etc., disposing of solid and hazardous wastes, stimulating jobs and economic development, providing adequate transportation facilities, and preserving Maine's environment and lifestyle in the face of growth. It will also address how these issues can be addressed through the use of the planning process and sound planning techniques. Offered each year. Cr 3.

GEO 303 Economic Geography

Economic Geography presents an examination of classes of economic activities and explains the reasons for their location. There are two major objectives: to make available to the student the skills which allow him to interpret and understand the present economic landscapes, and to critically evaluate the factors and trends which anticipate the future. Prerequisite: GEO 101 or ANT 101 or permission of instructor. Offered each year. Cr 3.

GEO 401 Food and Hunger

The course will examine agricultural systems in different parts of the world in terms of productivity, trade, economy and ecology. Physical and cultural inputs will be considered for each

system. Trends and problems within the United States will be examined, with special emphasis given to the region of New England and the state of Maine. Prerequisite: GEO 101, ANT 101, or ANT 102 or permission of instructor. Offered every 2 years. Cr 3.

GEO 402 Urban Geography

This course deals with the American city as a type. Urban centers are dealt with at two levels—as whole entities in which location, characteristics, growth, and relations with the countryside are explored, and as complex nodal regions in which the internal variations of the city are examined. Prerequisite: GEO 101 or permission of instructor. Offered every 2 years. Cr 3.

GEO 450 Topics in Geography

This course provides in-depth analysis of relevant topics from the perspective of an economic, political, cultural, regional or other focused approach to geographic study. The topics vary depending upon current issues of significance and the special background of the instructor. Research papers are required. Prerequisite: permission of department. Cr 3.

Geosciences

Chair of the Department: Irwin D. Novak, 112a Bailey Hall, Gorham
Associate Professors: Ayers, Novak, Pendleton, Pollock; *Assistant Professor:* Swanson

Programs and Requirements

Courses offered by the Department of Geosciences are grouped under the following headings: Astronomy; Oceanography; and Geology.

A degree program in geology is offered in the College of Arts and Sciences. A student majoring in geology must achieve a 2.0 grade point average and have no D grades in major courses.

Geology

The geology major is available for those students intending to go to graduate school or to pursue a professional career in geology. Geology majors intending to pursue graduate work are urged to determine graduate school foreign language requirements. Students are also encouraged to consider concentrations in allied areas such as biology, chemistry, physics, computer science, economics, geography, and statistics.

Bachelor of Arts in Geology

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 71.

Chemistry and Physics

CHY 113, 114 Principles of Chemistry I

AND

CHY 115, 116 Principles of Chemistry II

PHY 121, 122 General Physics I

AND

PHY 123, 124 General Physics II

Mathematics

MAT 120 Introduction to Statistics

MAT 152 Calculus A

It is recommended that freshmen in the geology major who lack at least two years of high school algebra and a semester each of geometry and trigonometry, take MAT 140, Precalculus Mathematics.

Geology

GEY 111, 112 Physical Geology

GEY 113, 114 Historical Geology

GEY 202 Geomorphology

GEY 203 Mineralogy

GEY 204 Optical Mineralogy

GEY 206 Paleontology

GEY 301 Structural Geology

GEY 302 Sedimentology

GEY 303 Igneous and Metamorphic Petrology

GEY 491, 492 Senior Thesis in Geology

OR

GEY 498 Independent Study in Geology

GEY 495 Geology Seminar

GEY 496 Special Topics in Geology

Elective Courses: In addition to those courses listed above students are required to take six credit hours from the remaining electives.

GEY 205 Geological Oceanography (also OCN 205)

GEY 304 Sedimentary Rocks

GEY 310 Glacial and Pleistocene Geology

GEY 350 Geological Field Methods

GEY 401 Advanced Petrology

GEY 402 Ore Deposits

GEY 405 Tectonics

Students planning to attend graduate school are strongly recommended to include a course(s) in computer science, languages, and additional courses in mathematics and chemistry.

To be retained in the geology major program, students are required to maintain a minimum grade point average (GPA) of 2.0 in geology courses.

Minor in Geology

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 20.

Required courses: GEY 111/112; GEY 113/114; GEY 203; GEY 301; GEY 202, or GEY 302.

Astronomy

AST 100 Astronomy

A descriptive survey of modern astronomy. Topics include theories about the origin and development of the universe, stellar evolution, the solar system, galaxies, observational methods and recent discoveries. Optional evening observations with telescopes are included. No prerequisites. Offered fall and spring semesters. Cr 3.

AST 103 Activities and Experiments

A one-credit course meeting weekly for two hours. May be taken concurrently with AST 100 to fulfill requirements for a science laboratory experience. Includes a study of the moon's orbit, Earth's orbital motion, rotation of Saturn's rings, the sun, binary stars, the Crab nebula, variable stars, pulsars, Hubble's law

and planetarium sessions. Prerequisite: AST 100. Offered fall and spring semesters. Cr 1.

AST 105 Astronomy in the Planetarium

For non-science majors. Includes apparent stellar movement and planetary motions, star names and constellation study, stellar magnitudes, stellar navigation and celestial coordinate systems. No prerequisites. Offered fall and spring semesters. Cr 3.

AST 210 Observational Astronomy

Star charts, atlases, binoculars, cameras and telescopes are used to make observations of constellations, sun-spot activity, the moon, the planets and their satellites, star clusters, nebulae, double and variable stars. Prerequisite: AST 100 or equivalent. Fall semester only. Cr 3.

Oceanography

OCE 100 Introduction to Oceanography

Origin and extent of the oceans; nature of the sea bottom; causes and effects of currents and tides; chemical and physical properties of sea water; animal and plant life in the sea. Three hours lecture. Each semester. Cr 3.

OCE 101 Oceanographic Laboratory

A laboratory course in which the student is introduced to some of the techniques and technical processes involved in oceanic measurements and data reduction. Prerequisite: OCE 100 which may be taken concurrently. One two-hour laboratory session each week. Cr 1.

Geology

GEY 111 Physical Geology

A study of the ever-changing earth by wind, water, volcanism, plate tectonics, and glaciation. Three hours of lecture. Each fall and spring. GEY 111 may be taken without GEY 112. Cr 3.

GEY 114 Historical Geology Lab

A study of rocks, minerals and fossils to determine the geological conditions at some ancient time. Introduction to paleogeographic and geologic maps. Field trips. To be taken concurrently with GEY 113. Three hours. Each spring. Cr 0.

GEY 112 Physical Geology Lab

Identification of common rocks and minerals, introduction to topographic maps, and development of the processes covered in lecture; field trips when weather permits. Each fall and spring. To be taken concurrently with GEY 111. Lab two hours. Cr 1.

GEY 202 Geomorphology

Description and interpretation of landform development in terms of geologic structure, process, and stage. One, possibly two, weekend field trips. Prerequisite: GEY 113, 114. Two hours lecture. Two hours lab. Fall semester. Cr 4.

GEY 113 Historical Geology

Study of the earth's history in terms of physical, chemical and biological change from its origin to the present time, stressing the methods of determining chronology and conditions through fossils and structural characteristics. Prerequisites: GEY 111, 112. Two hours of lecture. Each spring. Cr 4.

GEY 203 Mineralogy

An introduction to crystallography and a study of the physical properties and chemical structures of common rock-forming minerals. Laboratory analysis is an important part of the course. Three hours lecture. Three hours lab. Prerequisite: GEY 111, 112. CHY 113, 114 (may be taken concurrently). Fall semester. Cr 4.

GEY 204 Optical Mineralogy

The principles of crystallography and crystal optics are presented as the basis of a practical approach to the identification of minerals with a petrographic microscope. The laboratory is an important part of the course, providing practical applications of the theory and methods covered in the lecture. Prerequisite: GEY 203. Lecture three hours. Lab four hours. Spring semester. Cr 4.

GEY 205 Geological Oceanography

The origin and structure of the continental shelves and ocean basins. Coastal and oceanic processes; geomorphic development of the marine environment. Prerequisite: GEY 111, 112 or OCE 100 or permission of the instructor. Three hours lecture. Cr 3.

GEY 206 Paleontology

A description and classification of the important phyla of the fossil invertebrates and a survey of their use in biostratigraphic, evolutionary, and paleoecologic studies. One weekend field trip. Prerequisites: GEY 113, 114. Two one-hour lectures and one two-hour lab per week. Each fall. Cr 3.

GEY 250 Library Research in the Earth Sciences

This course is specifically designed to help earth science students develop skills in recognizing research topics and then developing a strategy to find information pertaining to those topics. This course is applicable to all fields of study but the examples and references focus on the earth sciences. Prerequisite: sophomore standing. One hour each spring for 1 credit.

GEY 301 Structural Geology

An introduction to the mechanics of rock deformation, faulting, jointing, top-bottom criteria, and metamorphic foliations. The lab includes problems in descriptive geometry, stereonets, the Brunton compass, geologic maps and cross sections, and analysis of poly-phase folding. Prerequisites: GEY 111, 112 and GEY 113, 114. Field trips. Three hours lecture, two hours lab. Cr 4.

GEY 302 Sedimentology

Principles of sedimentation, facies, nomenclature, and sedimentary processes and environments. Students will analyze common field problems associated with these areas. Prerequisite: GEY 203. GEY 202 recommended. Some weekend field trips. Two hours lecture, three hours lab. Spring semester. Cr 4.

GEY 303 Igneous and Metamorphic Petrology

The study of the origin of igneous and metamorphic rocks. Topics include operational thermodynamics as applied to igneous and metamorphic rocks, crystallization of silicate systems, mineral equilibria and paragenesis. Laboratory studies include work with hand

specimens and thin sections. One or more day or weekend field trips. Prerequisite: GEY 204. Two hours lecture, four hours laboratory. Fall semester. Cr 4.

GEY 304 Sedimentary Rocks

A study of stratigraphic principles, facies, paleocurrents, and sedimentary basins. The petrology of the sedimentary rocks is considered from burial to the onset of very low grade metamorphism. Prerequisite: GEY 204. (May be taken concurrently). Three hours lecture, two hours laboratory. Offered spring semester. Cr 4.

GEY 310 Glacial and Pleistocene Geology

Glacial processes, deposits, and the stratigraphy of the Pleistocene Epoch. Emphasis on the erosional and depositional features of glacial events in Maine. One, possibly two, weekend field trips. Prerequisite: GEY 202. Two hours lecture, two hours lab. Spring semester. Cr 3.

GEY 340 Geophysics

A study of the principles of seismology, gravity, and magnetism and their applications and significance to our understanding of crustal geology structure and tectonics. Three hours lecture, offered in fall of odd-numbered years. Prerequisites: GEY 301; PHY 123, 124. Cr 3.

GEY 350 Geological Field Methods

A course in geological field methods intended to introduce to the student the tools and practical techniques used in collecting, compiling, and analyzing geological data. Students will have assignments in the igneous/metamorphic and surficial terrain of southern coastal Maine and sedimentary and volcanic terrain in eastern coastal Maine. Summer. Five weeks. Prerequisites: GEY 111, 112 and GEY 113, 114. GEY 203, GEY 301. Recommended: GEY 302, GEY 303, GEY 202. Cr 6.

GEY 402 Ore Deposits

A study of the geologic setting and processes involved in the formation of the major types of epigenetic and syngenetic metalliferous ore deposits. Laboratory examines sulfide-oxide mineralogy, reflected light microscopy of ore samples and map relations of ore districts. Prerequisite: GEY 301, 303. (GEY 303 may be taken concurrently). Afternoon and weekend field trips. Three hours lecture, two hours laboratory. Fall semester. Cr 4.

GEY 405 Tectonics

Major topics include the nature of the earth's crust and interior, continental drift, seafloor spreading and plate tectonics. The evolution of mountain ranges, continents, and ocean basins will be studied on a global scale. Current articles in scientific journals will be discussed. Lab includes graphical and dynamic-clay modeling of plate tectonic processes. Prerequisite: GEY 301 or 303 or permission of instructor. Three hours lecture, two hours laboratory. Cr 4.

GEY 490/491 Senior Thesis

The Senior Thesis is designed for the senior level student to pursue independent research in geology. The thesis is designed to be a scholarly effort in culmination of the student's baccalaureate program. Cr 3.

GEY 495 Geology Seminar

The seminar is meant to provide the geology major with an overall view of the discipline as well as the opportunity to discuss, read and report about specific topics in the field. Current problems, research and philosophy of geology will be included. Prerequisite: senior standing. Each fall. Cr 1.

GEY 496 Special Topics in Geology

A critical and in-depth investigation of one of various topics and issues in different areas of geology (e.g. petrology, paleontology, tectonics, geomorphology). Prerequisite: senior standing. Each spring. Cr 1.

GEY 498 Independent Study in Geology

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a library, laboratory, and/or field project independently. Topic selection to be arranged mutually between student and faculty in the semester preceding planned registration. Prerequisite: junior or senior standing. On demand. Cr 1-3.

*Physical Science/Earth Sciences***PSC 498 Independent Study in the Physical Sciences**

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, selecting a problem and exploring an area of interest in the physical sciences, bringing to it previous experiences and emerging with an intellectually sound, coherent synthesis or technical creation reflecting a high caliber of performance. Cr 1-3.

EAS 300-301, 400-401 Cooperative Education in Earth Sciences

The student has the opportunity to relate academic knowledge to practical experience in a

job situation. The University makes arrangements with certain institutions, businesses, and industries to employ qualified students for specific jobs for a set time period. The student's work is ordinarily in a related field and the work experiences increase in difficulty and responsibility as the student progresses through the sequence of courses. The experiences are approved on a case-by-case basis by the department. Evaluation is done through a written report done by the student together with the employer and a faculty supervisor. Prerequisite: junior class standing and a major in earth science. Each semester students may take each course only once. Cr 1-5.

History

Chair of the Department: Eugene P.A. Schleh, 300 Bailey Hall, Gorham
Professors: Cole, Conforti, Eastman, Hunt, Schleh; *Associate Professors:* Albee, Bibber, Dietrich, Padula, Ventresco, Whitmore; *Assistant Professors:* Barnes, Holden

History remains a venerable and enduring academic discipline because of the nature of time and the human need to gain perspective and direction by recovering a sense of the past. To do this requires the techniques of collecting, evaluating, organizing, and interpreting historical evidence. The history curriculum offers students the opportunity to learn the historian's craft through lectures, discussions, research, and writing.

History is one of the classic liberal arts disciplines that prepares students for a full and satisfying life as well as for careers in business, government, and nonprofit organizations. More particularly, history is widely recommended as preparation for graduate studies in business, law, and library science. Besides teaching, specific careers include service with federal, state, and local governments; archival and library work; social science research; editing of documents; publishing; writing and research for historical presentations on television and radio; and many others.

Programs and Requirements

The Department of History offers a 39 credit-hour major which leads to a bachelor of arts in history and an 18-hour minor for students majoring in other disciplines. In addition, the Department offers an exchange program with King Alfred's College in Winchester, England, and an internship program in cooperation with area historical societies, museums, libraries, and other institutions. Departmental offices have information on all of these programs.

Majors are encouraged to select history electives that focus on a particular country, continent, or era, and to pick courses from other departments which complement this concentration. It is strongly recommended that majors, especially those expecting to undertake graduate study, acquire proficiency in a foreign language.

A history major or minor must achieve at least six credits of B or better grades in history courses. No grade of D will count toward fulfillment of a history major or minor. No required course may be repeated more than once. Unusually well-prepared entering students may, upon passing an examination, gain exemption from any of the required courses. College Level Equivalency Program (CLEP) examinations are available in Western Civilization and United States history, and a department examination has been prepared for HTY 200 Reference, Research and Report Writing. See the Department chair for details. Majors and minors are reminded that, in addition to Department requirements, they must also meet those of the University Core curriculum.

Other courses in the College of Arts and Sciences have historical interest. Although they do not count for history credit, the major may wish to take some of them as supplementary electives.

Bachelor of Arts in History

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 39.

European and American survey courses

HTY	101	Western Civilization I
HTY	102	Western Civilization II
HTY	131	United States History to 1877
HTY	132	United States History Since 1877

Third World survey courses (select two)

HTY	161	African History to Partition
HTY	162	African History Since Partition
HTY	171	Traditional East Asia
HTY	172	Modern East Asia
HTY	181	Latin America I
HTY	182	Latin America II

Research methods course

HTY 200 Reference, Research and Report Writing

Elective advanced history courses

Select six 200-400 level courses in consultation with your major advisor.

Minor in History

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

Students majoring in CAS disciplines who desire a concentration in history may develop an 18 credit-hour minor. The program of study must focus on an area, a chronological period, or methodological approach. The program must be developed in cooperation with a member of the history faculty, include the two-semester survey sequence appropriate to the area, period, or topic, and be approved by the chair of the department.

Requirements: appropriate two-semester survey sequence (approved by the advisor and department chair); and elective advanced history courses (four courses approved by advisor and department chair).

HTY 101 Western Civilization I

A basic survey and introduction to the heritage of Western man from ancient to early-modern times. Particular attention is given to the ancient civilizations of Egypt, Greece and Rome. Medieval civilization is explored with a focus on the institutions it bequeathed to the modern world. The Renaissance and Reformation and the rise of the great nation-states are studied. Throughout the course important individuals are considered such as Alexander the Great, Caesar, Charlemagne, Michelangelo, and Elizabeth I. The course also introduces students to historical method.

Cr 3.

HTY 102 Western Civilization II

A basic survey and introduction to the heritage of Western man from early modern times to the atomic age. Particular attention is given to the Enlightenment, the French Revolution, the rise of the industrial era, the growth of nationalism, and the World Wars. Personalities such as those of Napoleon, Hitler, and Stalin are studied. The course also introduces students to historical method.

Cr 3.

HTY 131 United States History to 1877

A basic survey and introduction to the field of American history, covering the political, social, and economic development of the United States through Reconstruction.

Cr 3.

HTY 132 United States History Since 1877

The course is a continuation of HTY 131. A survey of American political, social, and economic development since about 1877.

Cr 3.

HTY 133 American History I

A survey of United States history which examines institutional development and change in major areas of American society and culture before 1900 by means of lecture case studies, a variety of paperbound readings, films, slides, music, and small-group discussions. (This course may not be used to fulfill requirements for major, minor or concentration as of September, 1976).

Cr 3.

HTY 134 American History II

A continuation of HTY 133 which examines institutional change and development in modern American urban industrial society and culture since 1900. (This course may not be used to fulfill requirements for major, minor or concentration as of September, 1976).

Cr 3.

HTY 161 Introduction to African History to Partition

A survey of African history from early migrations to the beginning of the Colonial era. The approach is both regional, stressing selected countries representative of their regions, and topical, cutting across political boundaries. Topics include the states of the Sudan, city states of East Africa, Islam, the slave trade, exploration, and partition.

Cr 3.

HTY 162 Introduction to African History Since Partition

A survey of the Colonial era, the transformation of African societies, the rise of nationalist movements, wars of liberation, and early years of the new era of independence.

Cr 3.

HTY 171 Traditional East Asia

The history and culture of China and Japan from earliest times to about 1700, with emphasis on the composition of the "traditional" societies.

Cr 3.

HTY 172 Modern East Asia

China and Japan since about 1700, emphasizing contrasting moves toward modernization in two traditional societies.

Cr 3.

HTY 181 Latin America I

This survey outlines the nature of the pre-Columbian Indian civilizations, their conquest by the European powers and the creation of the Hispanic and Portuguese empires in America.

Cr 3.

HTY 182 Latin America II

This survey begins with the shattering of Iberian colonialism, and moves rapidly into the 20th century. Special attention is given to

Mexico, Brazil, Argentina and Cuba, and their varying solutions to the problem of national development. Cr 3.

HTY 200 Reference, Research and Report Writing

An introduction to research and writing, designed to prepare undergraduates for the requirements of upper-level courses in history and the social sciences with emphasis on practical methods of utilizing a library, locating materials, taking and organizing notes, and writing and rewriting research papers and reports. Cr 3.

HTY 231 Ancient History I

The political, social, and economic history of the civilizations of the ancient Mediterranean world, with Egypt, the Near East, and Greece being studied. (Offered occasionally.) Cr 3.

HTY 232 Ancient History II

A continuation of HTY 231 concentrating upon an examination of ancient Rome. (Offered occasionally.) Cr 3.

HTY 235 Medieval Civilization

Europe from late antiquity through the Carolingian Empire, Islamic Empire, Byzantine Empire, Medieval Church and State and the coming of the Renaissance and Reformation. Prerequisite: HTY 101 or permission. Cr 3.

HTY 241 Renaissance and Reformation

A study of the transformation of European society from the world of the Renaissance to the crisis of the Reformation. The course will concentrate on the development of Italian Humanism and its influence on Northern Europe. The rise of the Reformation will be examined through the personalities of Martin Luther and John Calvin and the intense feelings which engendered the religious wars and the Counter Reformation. Prerequisite: HTY 101 or permission. Cr 3.

HTY 242 French Revolution and Napoleon

The course takes the French Revolution as a climax of major intellectual, political, and social trends in eighteenth-century Europe. Thorough coverage is given to the Old Regime, the Enlightenment and the influence of the American Revolution. There is in-depth analysis of the coming, course and outcome of the French Revolution itself, and its impact outside France. The Napoleonic era is handled as the culminating phase of the revolution and as a major influence on nineteenth-century Europe. Prerequisite: HTY 102 or permission. Cr 3.

HTY 243 Europe at the Turn of the Century (1871-1913)

This course concentrates on the culture and politics of *fin de siècle* Europe. The pre-World War I society will be viewed from a variety of perspectives, and will focus on various individuals who helped shape the times. Of parti-

cular interest will be the views and impact of Marx, Darwin and Wagner within the framework of the Industrial Revolution and imperialism. Prerequisite: HTY 102 or permission. Cr 3.

HTY 244 20th-Century Europe

An intensive survey of European developments in the 20th century. The course deals with such intellectual trends as the revolt against positivism, Freudian psychology, expressionism and surrealism in the arts as well as with such phenomena as totalitarianism in its various forms (Nazism, Fascism, Soviet Communism). World Wars I and II and the post-1945 evolution of Europe are thoroughly analyzed. Prerequisite: HTY 102 or permission. Cr 3.

HTY 256 World Wars I and II: European War and Diplomacy

A study of the origins, course, and consequences of the First and Second World Wars. The questions of inevitability and responsibility, the nature of total war, the workings of alliances, the effect of the military upon politics, the wisdom of the peace settlements, and the impact of war upon European society are among the subjects to be considered. Prerequisite: HTY 102, 132 or permission. Cr 3.

HTY 261 History of England

A survey of England from Anglo-Saxon times to the beginning of the 20th century, with emphasis on the nature of English monarchy, the development of political institutions, and evolving constitutionalism. Particular attention is given to broad movements such as the Reformation, the Industrial Revolution, and Imperialism. Prerequisite: HTY 101 or permission. Cr 3.

HTY 263 Britain in the 20th Century

A study including the Victorian and Edwardian Age, Imperialism, the Monarchy, the Depression, appeasement, the English people in two World Wars, the question of Ireland, and the leadership of Lloyd George and Churchill. Prerequisite: HTY 102 or permission. Cr 3.

HTY 265 Italy, Unification to World War I

A political, intellectual, diplomatic, and social history of Italy from the Risorgimento to the eve of World War I. Considerable emphasis will be given to the role of the Papacy in Italian affairs. Major literary figures to be examined will include Foscolo, Leopardi, Manzoni, Verga, and Carducci. Prerequisites: HTY 101 and HTY 102 or permission. Cr 3.

HTY 266 Fascist Italy

This course examines the development, practice and theory of Fascism. Considerable attention will be centered on Benito Mussolini and his relationship to the Fascist Party, the people, the Catholic Church, and foreign affairs. Italian culture in the fascist era will be

explored through literature and the arts. Prerequisite: HTY 102 or permission. Cr 3.

HTY 272 Germany to 1945

A study of the formation of the German Empire, the rise of a powerful industrial state, Weltpolitik and defeat in World War I, the Weimar Republic, Nazism and the Third Reich, Germany in World War II, and the partition of Germany in 1945. The course analyzes nationalism and examines cultural, social, and economic factors which help clarify Germany's role in the modern world. Prerequisite: HTY 102 or permission. Cr 3.

HTY 273 Germany Since Hitler

After intensive analysis of the impact of the Nazi era and World War II on Germans, the course analyzes the two German states in terms of: (a) their emergence, 1945-1949, and effects of the Cold War and occupation on each; (b) their political, economic, and social development since 1949; (c) the role of the Federal Republic of Germany in relation to the West and the role of the German Democratic Republic in the Communist bloc; (d) their relations with each other; (e) intellectual and cultural developments in both. Prerequisites: six hours of European history or international relations. HTY 272 desirable. Cr 3.

HTY 275 Russia to 1861

A survey of political, social, cultural and economic history of the Russian people to the emancipation of the serfs. The course surveys geographic factors, influence of Byzantine civilization, the impact of invasions, and the development of Russia's unique problems. Prerequisite: one history survey or permission. Cr 3.

HTY 276 Russia Since 1861

A survey of political, social, cultural, and economic history from the emancipation of the serfs to today. The course deals with Tsarist autocracy and its weaknesses, pressures for reform, the intelligentsia, revolutionary parties, the Bolshevik Revolution, and Communist Russia since 1917. Prerequisite: one history survey or permission. Cr 3.

HTY 290 China and Cuba Under Communism

This is a course in comparative history, focusing on developments in China and Cuba since the assumption of power by Communist regimes in 1949 and 1959 respectively. The principal topics dealt with include political events, the organization of power, economic and social development, and relations with the outside world. (Offered in 1987-88.) Cr 3.

HTY 300 History Internship

Professional experience in one of a variety of positions in public and private institutions which utilize the knowledge and research skills of historians. Students work one day per week,

keep a journal, write an evaluation, and are visited on the job by a faculty member. Open to selected students; see department chair for details. Graded pass/fail, so does not count for major credit. Can be taken twice. Cr 3.

HTY 301 American Colonial History

The first half of the semester is devoted to the discovery, exploration and colonization of the American colonies. The second half concentrates on the social and political development of these colonies, touching upon various aspects of colonial life and emphasizing the growing maturation of society. Prerequisite: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 302 The American Revolution

A study of the 1763-1789 period, stressing the breakdown of Anglo-American relations; American independence and its ideological underpinnings; the Revolutionary War; the postwar struggle to strike a balance between too much government and too little; and the drafting and ratification of the U.S. Constitution. Prerequisite: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 305 Hamilton and Jefferson

A study of Hamilton and Jefferson including biographical information and the Jefferson-Hamilton political dichotomy and its subsequent influence. Following this, the course will present a general analysis of social, intellectual, political, economic, and diplomatic problems facing the "New Nation" between 1789-1815. Prerequisite: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 306 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: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 307 Civil War and Reconstruction

An examination of the period 1850-1877, dealing with the background and causation of the war; Lincoln and the secession crisis; the military, political, diplomatic, and economic aspects of the Civil War; and the challenges and ultimate failure of reconstruction after 1865. Prerequisite: HTY 131 or permission. Cr 3.

HTY 308 The Gilded Age in America, 1869-1898

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: HTY 132 or permission. Cr 3.

HTY 309 Early 20th-Century America, 1898-1938

The United States in the first four decades of the twentieth century with coverage of the Spanish-American War, the progressive movement, American entry into World War I, the Roaring Twenties, the Great Depression, and the domestic programs of the New Deal. Prerequisite: HTY 132 or permission. Cr 3.

HTY 310 America Since 1938

The United States since the Great Depression with coverage of the foreign policy of the New Deal, the background to Pearl Harbor, World War II, the Fair Deal, the Cold War, the Eisenhower years, the New Frontier, and the Great Society. Prerequisite: HTY 132 or permission. Cr 3.

HTY 321 History of Maine

A survey of Maine's social, economic and political life from exploration and early settlement to the present. Cr 3.

HTY 325 History of the American Frontier

The Turner thesis, historiography, and adaptations to the challenges of the environment are considered. Various frontiers from the Atlantic seaboard to the last frontier on the Great Plains are studied. Prerequisites: HT 131 and 132 or permission. (Offered every other year.) Cr 3.

HTY 331 History of Black Americans

An examination of the interaction of black people with American social, political, cultural, and economic institutions. Major topics include the African heritage, components of slavery, abolitionism, segregation, programs of race advancement, and the modern search for identity. Prerequisites: HTY 131 and 132 or permission. Cr 3.

HTY 333 The American Home

A survey of U.S. domestic architecture, considering the influence of changing tastes, as well as climate and technology, on the buildings in which Americans have lived. Attention will be given to the historical styles as illustrated in the homes of the well-to-do, but attempts also will be made to look carefully at where and how "the people" lived. The approach will include slide-illustrated lectures and on-the-spot observation. Prerequisite: six hours of U.S. history. Cr 3.

HTY 335 American Urban History

A survey of the American city: social, political, intellectual, and cultural components; the changing nature of "community"; the course of urban development; and the emergence of urban life styles. Special attention is focused on the population movement to the city; the development of slums, ghettos, and suburbs;

the growth of municipal institutions and services; the relationship of city dwellers and government; and the emergence of "Megalopolis." Prerequisite: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 337 American Economic and Business History, 1607-1860

Economic and business developments in the United States from the first settlements to the Civil War. The course covers the British mercantile system, the colonial economy, the transportation revolution, the Southern plantation system, and the beginnings of American industrialization. Prerequisite: HTY 131 or permission. (Offered occasionally.) Cr 3.

HTY 338 American Economic and Business History Since 1860

Economic and business developments in the United States from the Civil War to the present. The course covers the growth of a national market and distribution system, the revolution in agriculture, the rise of big business, the organization of labor, and the growing involvement of the federal government in business and the economy. Prerequisites: HTY 132 or permission. (Offered occasionally.) Cr 3.

HTY 341 American Social and Intellectual History I

An analysis of the evolution of American religious, political, economic, social, and scientific thought from the colonial period to 1865. The course examines major principles, assumptions, and values; the relation of American thought to class structure, ethnic and racial associations, mobility, and immigration; and the relation of American thought to contemporary intellectual patterns in the Western world. Prerequisite: HTY 131 or permission. (Offered every other year.) Cr 3.

HTY 342 American Social and Intellectual History II

A continuation of HTY 341 from 1865 to the present. Prerequisite: HTY 132 or permission. (Offered every other year.) Cr 3.

HTY 343 Diplomatic History of the United States I

This course covers the development of key United States foreign policies from the Revolution to the Spanish-American War. Prerequisite: HTY 131 or permission. Cr 3.

HTY 344 Diplomatic History of the United States II

The chief emphasis is placed on the causes and results of World Wars I and II, the nature of the Cold War, and the character of our present commitments. Prerequisite: HTY 132 or permission. Cr 3.

HTY 347 Viewpoints in American History

A seminar involving discussions of selected topics in United States history, with emphasis on varying interpretations of trends and

events. Students will read and analyze both traditional and more recent views, noting changes in frames of reference, methodology, and general approach. Prerequisite: 12 hours of U.S. history. (Offered in 1987-88.) Cr 3.

HTY 348 A History of Religion in America
A history of religion in American society from the colonial era to the present, examining theology, organization, leaders, critics, and the religious contribution to the American heritage. Prerequisites: HTY 131 and 132 or permission. Cr 3.

HTY 350 CIA: U.S. Foreign Intelligence Since Pearl Harbor

This course traces the rise of the U.S. intelligence empire with case studies of its information gathering and covert action activities, as well as a consideration of the moral questions and political dilemmas, short and long term, posed by these operations. In effect, it is an examination of the underside of recent U.S. foreign relations. Prerequisite: six hours of history or social science or permission. Cr 3.

HTY 362 Contemporary Africa

An interdisciplinary seminar on contemporary Africa examining literature and the arts, social change, development and adaptation in African politics, economic development, race relations, and international politics. (Offered every other year.) Cr 3.

HTY 363 Africa Through Its Literature

An examination of how African history has been portrayed through novels. Both historical re-creation novels and books reflective of the societies which produced them are used, with particular emphasis on English-speaking Africa. Prerequisite: HTY 161 or HTY 162 recommended. (Offered every other year.) Cr 3.

HTY 374 History of Modern China

After dealing with the nature of Chinese society and institutions as they existed around 1800, the course will take up problems of modernization, imperialism, revolution, warlordism, Japanese aggression, civil war, and the present communist regime. Prerequisite: HTY 172 recommended. Cr 3.

HTY 376 History of Modern Japan

This course will explore what Japan was like when Perry "opened" it in 1854 and will deal with the rapid social changes which made Japan the outstanding example of modernization among non-Western nations. The problems which this development has created will also be considered. Prerequisite: HTY 172 recommended. (Offered in 1987-88.) Cr 3.

HTY 377 Chinese Thought

Prior to the modern era, the Chinese interpreted their world through traditional idea systems, the most prominent of which were Confucianism, Taoism, and Buddhism. This course will explore these traditions: their assumptions and values, their varieties and internal tensions, and their relationships to the larger social system. Prerequisite: HTY 171 recommended. Cr 3.

HTY 381 Latin America and the United States

A survey of U.S.-Latin American relations with emphasis on the efforts of the U.S. Government and multi-national corporations to adjust to the growth of nationalism, state capitalism, and socialism in Latin America. Cr 3.

HTY 383 The Society and Culture of Latin America

This seminar seeks to examine, through the use of popular novels and films, the principal characteristics of Latin American culture. Such elements as the role of dictators and revolutionaries, of machismo and imperialism, and of great haciendas and folkloric religions will be considered. Cr 3.

HTY 394 Selected Topics in History

An analysis 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 of the instructor. (Offered occasionally.) Cr 3.

HTY 493 Independent Study Semester

This is the course designator for students who participate in the History Department's semester abroad exchange program with King Alfred's College in England. Cr 12-15.

HTY 498 Independent Study in History

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences, and emerging with an intellectually sound, coherent synthesis reflecting a high caliber of performance. Prerequisite: permission. Cr 1-3.

Other courses in the College of Arts and Sciences have historical interest. Although they do not count for history credit, the major may wish to take some of them as supplementary electives. A current list may be obtained from the history chairman.

Mathematics

Chair of the Department: Maurice J. Chabot, 230 Science Building, Portland
Professors: Estes, Guay, Gupta, B., Kratzer, Mainville, Rogers; *Associate Professors:* Brown, Chabot, Foster, Irish, MacDonald; *Assistant Professors:* El-Faha, Flagg, Gupta, S., Kenyon, Narang, Soychak, Viana

The Department of Mathematics offers a four-year program leading to a B.A. in mathematics. The Department also provides the mathematics major courses for a B.S. in education. All students are reminded that, in addition to meeting departmental requirements for a major, they must also meet the requirements of the school or college involved, and the University Core curriculum requirements.

Programs and Requirements

I. Bachelor of Arts in Mathematics

The minimum number of credits (exclusive of the University's Core curriculum) required for a bachelor of arts in mathematics is 42 (24 in foundations and 18 in one of the two concentrations listed below).

A. Foundations

As a mathematics major, a student may select one of the two concentrations described below in section B. For each concentration all majors are required to complete successfully the foundations sequence as described in this section. Each student must have an accumulative grade point average of at least 2.0 in major courses before being considered for a baccalaureate degree in mathematics.

Foundations Sequence (Required of all majors in mathematics)

(24 cr hrs)

MAT	152	Calculus A	4 cr
MAT	153	Calculus B	4 cr
MAT	252	Calculus C	4 cr
MAT	290	Foundations of Mathematics	3 cr
MAT	380	Theory of Probability & Statistics	3 cr
MAT	295	Linear Algebra	3 cr
COS	160	Structured Problem Solving: PASCAL	3 cr

B. Concentrations

Each mathematics major should choose one of the following concentrations. (18 cr hrs)

1. Pure Mathematics Concentration

Mathematics majors intending to pursue graduate work in mathematics should consider this concentration, and they are urged to take Real Analysis I and II, Abstract Algebra, Topology, and one year of French or German. Those intending to teach at the secondary level should choose this concentration or the area major described in Section IV and they should take Abstract Algebra and Non-Euclidean Geometry. To be eligible for student teaching in secondary mathematics, a student must have completed 30 hours of mathematics courses having a second digit 5 or greater, with an accumulative grade point average of at least 2.0 in these courses and have successfully completed MME 345.

a. Successful completion of four of the courses listed below:

MAT	352	Real Analysis I
MAT	355	Complex Analysis
MAT	395	Abstract Algebra
MAT	490	Topology
MAT	370, 371, or 372	Non-Euclidean, College, or Projective Geometry

b. Successful completion of at least two additional mathematics courses with second digit 5 or greater.

2. Applied Mathematics/Operations Research Concentration

Those majors intending to enter industry or other applied fields should seriously consider this concentration. Majors who plan to prepare for the actuarial profession should be certain to include in their pro-

grams Probability Theory, Statistical Inference, Numerical Analysis, and the appropriate courses in the School of Business, Economics and Management. Majors intending to pursue graduate work in applied mathematics are urged to take Real Analysis and Abstract Algebra.

a. Successful completion of four of the courses listed below:

MAT	350	Differential Equations
MAT	354	Topics in Advanced Calculus
MAT	364	Numerical Analysis
MAT	366	Deterministic Models in Operations Research
MAT	460	Mathematical Modeling
MAT	461	Stochastic Models in Operations Research
MAT	492	Graph Theory and Combinatorics

b. Successful completion of at least two additional mathematics courses with second digit 5 or greater.

II. Double Major in Mathematics and Computer Science

The Department of Mathematics in cooperation with the Department of Computer Science offers a double major in mathematics and computer science. Students may receive either a B.S. in computer science with an additional major in mathematics or a B.A. in mathematics with an additional major in computer science.

The minimum number of credits (exclusive of the University's Core curriculum) required for the double major: 63.

Each student must have an accumulative grade point average of at least 2.0 in the major courses before being considered for a baccalaureate degree. Students should see the chair of the Department of Mathematics for advising.

A. Successful completion of the following courses

MAT	152	Calculus A
MAT	153	Calculus B
MAT	252	Calculus C
COS	160	Structured Problem Solving – PASCAL
COS	161	Algorithms in Programming
COS	250	Computer Organization
COS	251	Software Systems
COS	285	Data Structures
COS	360	Programming Languages
COS	480	Introduction to the Theory of Computing
MAT	295	Linear Algebra
MAT	380	Theory of Probability and Statistics
MAT	290	Foundations of Mathematics
OR		
COS	280	Discrete Structures (but not both)

B. Successful completion of two courses from one of the following areas

a) Pure Mathematics Area

MAT	352	Real Analysis I
MAT	355	Complex Analysis
MAT	395	Abstract Algebra
MAT	490	Topology
MAT	370	Non-Euclidean Geometry
MAT	371	College Geometry

OR

MAT	372	Projective Geometry
b) Applied Mathematics/Operations Research Area		
MAT	350	Differential Equations
MAT	354	Topics in Advanced Calculus
MAT	364	Numerical Analysis
MAT	366	Deterministic Models in Operations Research
MAT	460	Mathematical Modeling
MAT	461	Stochastic Models in Operations Research

MAT	492	Graph Theory and Combinatorics
c) Statistics Area		
MAT	381	Probability Theory
MAT	382	Statistical Inference
MAT	384	Non-Parametric Methods
MAT	386	Sampling Techniques
MAT	388	Statistical Quality Control
MAT	481	Stochastic Processes
MAT	482	Introduction to Time Series Analysis
MAT	484	Design and Analysis of Experiments I
MAT	486	Design and Analysis of Experiments II

C. Successful completion of three of the following computer science courses, to include at least one 400-level course.

COS	355	Computer Architecture
COS	357	File Organization
COS	370	Topics in Computer Science
COS	374	Numerical Analysis (not to be taken in addition to MAT 364)
COS	450	Operating Systems
COS	469	Introduction to Compiler Construction
COS	472	Artificial Intelligence

D. Successful completion of six additional hours of electives in mathematics or computer science with second digit 5 or greater.

III. Minor in Mathematics

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 20.

An accumulative grade point average of at least 2.0 in these courses must be maintained, and successful completion of the following courses: MAT 152; MAT 153; MAT 290; COS 160; plus two additional MAT courses with second digit 5 or greater.

IV. Programs in Mathematics Education

Secondary Education Program

Mathematics majors enrolled in the Secondary Education program in the College of Education are required to complete an additional six hours of liberal arts courses to meet accreditation standards. Also, students are required to complete an 18-hour minor in a subject normally taught at the secondary level to meet state certification requirements.

In addition to the 42-hour major in mathematics, the Department of Mathematics, in cooperation with the Department of Computer Science and the College of Education, offers an area major of 51 hours of mathematics and computer science courses for students majoring in secondary education. The program consists of the following courses:

A. Successful completion of the following

MAT	152	Calculus A
MAT	153	Calculus B
MAT	252	Calculus C
MAT	290	Foundations of Mathematics

OR

COS	280	Discrete Structures
MAT	380	Theory of Probability and Statistics
COS	160	Structured Problem Solving – PASCAL
MAT	295	Linear Algebra
MAT	370	Non-Euclidean Geometry
MAT	395	Abstract Algebra

B. Successful completion of one course from each of the following groups

Group 1		
MAT	352	Real Analysis I
MAT	355	Complex Analysis

MAT	490	Topology
Group 2		
MAT	350	Differential Equations
MAT	364	Numerical Analysis
MAT	366	Deterministic Models in Operations Research

C. Successful completion of four of the following computer science courses

COS	161	Algorithms in Programming
COS	250	Introduction to Computer Systems
COS	285	Data Structures
COS	355	Computer Architecture
COS	360	Concepts of Higher Level Programming Languages
COS	370	Topics in Computer Science
COS	374	Numerical Analysis (not to be taken in addition to MAT 364)

D. Successful completion of three additional hours of electives in mathematics or computer science with second digit 5 or greater.

E. The following professional education courses

EDU	100	Exploring Teaching as a Profession
EDU	200	Foundations of Education
HRD	333	Human Growth and Development
MME	345	Teaching Mathematics in the Secondary School
EDU	324	Student Teaching

EDU Electives (6 hours)

To be eligible for student teaching in secondary mathematics, a student must have completed 30 hours of mathematics courses having second digit 5 or greater with a grade point average of at least 2.0 in these courses and have successfully completed MME 345.

It is also recommended that CSE 345 Teaching Computer Science in the Secondary School be taken as an elective in the completion of the overall 120 credits required for graduation.

Elementary Education

The Department of Mathematics, in cooperation with the College of Education, offers two programs for elementary education majors. The first is a major in mathematics and the second is a major in mathematics and computer science. Upon completion of the required course in either program, the student earns either a double major in mathematics and elementary education or a double major in mathematics and computer science and elementary education.

Program Requirements

Elementary Education and Mathematics

Elementary Education (54 hours)	Mathematics (39 hours)
Pre-education 18 hours	Required: (18 hours):
EDU 100	MAT 152
EDU 210	MAT 153
EDU 360	MAT 252
HRD 333J	MAT 290
MAT 131D	COS 160
MAT 232	Algebra area (3 hours)
Pre-Service (6 hours):	Analysis area (3 hours)
EDU 210 waived	Applied mathematics (3 hours)
EDU 303	Geometry area (3 hours)
EDU 336	Mathematics Electives (9 hours)
Internships (30 hours)	
Junior internship	
Senior internship	

Program Requirements:

Elementary Education and Mathematics and Computer Science

Elementary Education (54 hours)	Mathematics (27 hours)
Pre-Education (18 hours)	Required (15 hours):
EDU 100	MAT 120
EDU 210	MAT 131 waived
EDU 360	MAT 231
HRD 333J	MAT 232 waived
MAT 131D	MAT 233
MAT 232	MAT 431
Pre-Service (6 hours):	MME 234
EDU 210 waived	EDU 360 waived
EDU 303	Electives (12 hours) of MAT, COS,
EDU 336	or MME courses with second digit
Internships (30 hours)	of 2 or greater.
Junior Internship	
Senior Internship	

Recommended Courses for Non-majors

Students who desire an introductory course to satisfy the Quantitative Decision Making portion of the Basic Competence requirement of the Core curriculum should consider MAT 104. For students majoring in other disciplines, but wishing to develop competency in using mathematics, the following courses are recommended. Individual course descriptions should be consulted to determine prerequisites: MAT 109; MAT 110 (or MAT 152 and MAT 153 for greater depth in calculus); or MAT 120 (or MAT 211 and MAT 212 for greater depth in probability and statistics).

It is expected that students will possess and be able to operate a calculator with memory and with at least the operation of add, subtract, multiply, divide and square root if they enroll in MAT 120, MAT 211, MAT 362, or MAT 363

MAC 100 Computers and Society

A general course designed for students not majoring in mathematics or computer science. Topics will include: history of data processing technology; study of the tools and methods; the application of computers and their economic and social implications; and an introduction to a programming language. Cr 3

MAC 234 Computer Programming for Elementary Teachers

This course introduces the elementary education major to programming techniques and applications using the BASIC language. No programming skills will be presumed. Prerequisite: MAT 131. Cr 3.

MAC 249 Computer Programming: LOGO

An introduction to the LOGO language for microcomputers. Emphasis will be given to writing computer programs for use in elementary school classrooms beginning with turtle graphics. Cr 3.

MAT 010 Elementary Algebra

The first course of a two-course sequence designed for students who are deficient in high school algebra. Topics covered include number systems, functions, graphs, the solution of equations, and the solution of problems with a business orientation. No prerequisites. Cr 3. *Note:* MAT 010 carries credit only in the associate degree program.

MAT 011 Intermediate Algebra

A continuation of MAT 010. Prerequisite: MAT 010 or one year of high school algebra. Cr 3. *Note:* MAT 011 carries credit only in the associate degree program.

MAT 100 College Algebra

The real number system, algebraic operations, sets, equations, inequalities and their graphs, functions and relations, quadratic functions, exponential and logarithmic functions, theory of equations, systems of equations, permutations, combinations, probability, sequences and series, matrices and determinants, and mathematical induction. Prerequisite: two years high school algebra. Cr 3.

MAT 104 Topics in Mathematics

This course is designed to give students (not majoring in mathematics or computer science) an understanding of some key ideas in contemporary mathematics. The material is chosen to develop an awareness of the utility of mathematics in life and to instill an appreciation of the scope and nature of mathematics. Topics will be selected from: sets, logic, graphs, geometry, counting methods, probability, statistics, game theory, growth and decay laws, matrices, and mathematical programming. Prerequisite: Two years of high school algebra and one year of geometry. Cr 3.

MAT 109 Linear Systems

An introduction to vectors, matrices, and linear systems of algebraic equations and linear programming. Prerequisites: two years of high school algebra and one year of geometry. Cr 3.

MAT 110 Calculus for Business

A unified treatment of the elementary functions of analysis; their analytical properties including derivatives, integrals, and series; introduction to multivariate calculus; applications. Prerequisites: two years of high school algebra and one year of geometry, and a passing grade on an algebra competency test which will be administered at the first class meeting. Cr 3.

MAT 120 Introduction to Statistics

An introductory course including basic probability, random variables, and their distributions; estimation and hypothesis testing; regression and correlation. Prerequisite: two years of high school algebra. Cr 3.

MAT 131 Number Systems for Elementary Teachers

This is the first course in a three-course sequence in mathematics recommended by the Committee on the Undergraduate Mathematics Program of the Mathematical Association of America for prospective primary and elementary teachers. Major emphasis is placed on an intuitive approach to the real number system and its subsystems. Prerequisites: two years of high school algebra and one year of geometry. Cr 3.

MAT 140 Pre-Calculus Mathematics

A brief review of elementary algebra followed by a study of the algebraic, exponential, logarithmic, and trigonometric functions. Prerequisites: two years of high school algebra and one year of geometry, and a passing grade on an algebra competency test which will be administered at the first class meeting. Cr 3.

MAT 152 Calculus A

This is the first of a sequence of three basic calculus courses covering functions of one or more variables, graphs, limits, derivatives, integrals, optimization, infinite series, vectors, and various applications. Calculus A provides an introduction to the differential and integral calculus of functions of one variable. Prerequisites: two years of high school algebra plus geometry and trigonometry, or MAT 140. Cr 4.

MAT 153 Calculus B

A continuation of Calculus A. Calculus B will usually include infinite series and an introduction to vectors. Prerequisite: MAT 152. Cr 4.

MAT 211 Probability

Common probability laws and distributions of discrete and continuous random variables; business applications in probability. Prerequisite: MAT 110 or MAT 152. Cr 3.

MAT 212 Statistics

Sampling distributions; estimation; hypothesis testing; introduction to regression analysis and analysis of variance. Applications primarily in business and economics. Prerequisite: MAT 211. Cr 3.

MAT 220 Intermediate Statistics

An extension of MAT 120, Introduction to Statistics. Topics emphasized: correlation, regression, Chi-square goodness of fit, analysis of categorical data, non-parametric methods, analysis of variance (one- and two-way layouts, random effect and mixed effect models), design of experiments. Students will utilize at least one of the large computer-based statistical packages (BMD, SAS, SPSS, SCSS). Prerequisite: MAT 120 or the equivalent. Cr 3.

MAT 231 Algebra for Elementary Teachers

The second course in a three-course sequence in mathematics recommended by the Committee on the Undergraduate Mathematics Program of the Mathematical Association of America for prospective primary and elementary teachers. Emphasis is upon the properties of operations in several different algebraic systems. Equations are studied in finite systems as well as in conventional algebra. Prerequisite: MAT 131. Cr 3.

MAT 232 Geometry for Elementary Teachers

The third course in a three-course sequence in mathematics recommended by the Committee on the Undergraduate Mathematics Program of the Mathematical Association of America for prospective primary and elementary teachers. Emphasis is upon constructions, congruence, parallelism, and similarity. Direct and indirect methods of proof are studied but the main approach is intuitive. Prerequisite: MAT 131. Cr 3.

MAT 233 Probability for Elementary Teachers

An introductory course in probability designed for the elementary and junior high teacher. The course content includes empirical probability through conditional probability, random variables and their distributions, including binomial and normal distributions. Prerequisite: MAT 131. Cr 3.

MAT 235 History of Mathematics for Elementary Teachers

A history of certain topics in number theory, geometry, and elementary algebra. Prerequisite: MAT 131. Cr 3.

MAT 252 Calculus C

Multivariate calculus and vector calculus. Prerequisite: MAT 153. Cr 4.

MAT 290 Foundations of Mathematics

Selected topics in set theory, symbolic logic, and methods of proofs needed in more advanced mathematics courses. Prerequisite: consent of the department. Cr 3.

MAT 292 Theory of Numbers

Basic course in number theory, including such topics as divisibility properties of integers, prime numbers, congruences, multiplicative number theoretic functions, and continued fractions. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 295 Linear Algebra

An introduction to the theory of vector spaces and linear transformations. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 350 Differential Equations

A study of various methods for solving ordinary differential equations and initial value problems including transform, numerical, and series methods. Prerequisite: MAT 252. Cr 3.

MAT 352 Real Analysis I

Limits, continuity, differentiation and integration of functions of one or more real variables, infinite series, uniform convergence, and other selected topics. Prerequisites: MAT 252, and COS 280 or MAT 290. Cr 3.

MAT 353 Real Analysis II

A continuation of Real Analysis I. Prerequisite: MAT 352. Cr 3.

MAT 354 Topics in Advanced Calculus

Selected topics on multivariate functions, vectors transformations, line integrals, and surface integrals. Prerequisites: MAT 252, and COS 280 or MAT 290. Cr 3.

MAT 355 Complex Analysis

A study of the complex number system and its applications: differentiation and integration of complex-valued functions, the Cauchy integral theorem and formula. Taylor and Laurent series, singularities and residues, conformal mappings. Prerequisite: MAT 252 or permission of instructor. Cr 3.

MAT 364 Numerical Analysis

A study of the theory and application of computational algorithms for interpolation, equation solving, matrix methods, integration; error analysis. Prerequisites: MAT 252, COS 160, and permission of instructor. Cr 3.

MAT 366 Deterministic Models in Operations Research

Formulation and analysis of mathematical models for the optimal solution of decision making problems under certainty. Linear programming; the simplex method, duality and sensitivity analysis. Network analysis: shortest paths, minimal spanning tree, network flows. Introduction to non-linear optimization: convex programming, Kuhn-Tucker conditions. Applications to pricing, allocation, production planning, transportation and scheduling problems. Prerequisites: MAT 153 and MAT 295. Cr 3.

MAT 370 Non-Euclidean Geometry

A development of one or more of the non-Euclidean geometries. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 371 College Geometry

Selected topics from Euclidean geometry. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 372 Projective Geometry

Synthetic and analytic projective geometry, including finite projective planes. Prerequisite:

COS 280 or MAT 290.

Cr 3.

MAT 380 Theory of Probability and Statistics

This course explores concepts and techniques of collecting and analyzing statistical data, examines some discrete and continuous probability models, and introduces statistical inference, specifically, hypothesis testing and confidence interval construction. Prerequisite: MAT 153. Cr 3.

MAT 381 Probability Theory

Basic concepts of probability theory, discrete and continuous random variables and their distributions, moment generating functions, characteristic functions, limit theorems, Markov chains. Prerequisites: MAT 380 and MAT 295. Cr 3.

MAT 382 Statistical Inference

Review of sampling distribution: order statistics, MVU estimation including Rao-Blackwell Theorem, completeness and Fisher's information, method of least squares, method of maximum likelihood, confidence intervals, hypothesis testing and uniformly more powerful tests, linear regression and correlation. Prerequisites: MAT 380, MAT 295. Cr 3.

MAT 384 Non Parametric Methods

Tests of goodness of fit, Pearson's Chi-square, test for multinomial populations, contingency tables, sign tests based on ranks, media test, Mann-Whitney Test, Wilcoxon Test, Spearman's Rank Correlation Coefficient, order statistics. Prerequisite: MAT 380. Cr 3.

MAT 386 Sampling Techniques

Sample random sampling, stratified random sampling, sampling for proportions, estimation of sample size, systematic sampling, multistage sampling, regression and ratio estimates, non-sampling error. Prerequisite: MAT 380. Cr 3.

MAT 388 Statistical Quality Control

Some aspects of quality specifications and tolerances, control charts for attributes and variables, certain inspection plans, plans by attributes and by variables, simple, double, and sequential sampling plans. Prerequisite: MAT 380. Cr 3.

MAT 390 History of Mathematics

The development of mathematics from ancient to modern times. Prerequisites: MAT 152 and COS 280 or MAT 290. Cr 3.

MAT 395 Abstract Algebra

Algebraic structures, such as groups, rings, integral domains, and fields. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 431 Selected Topics in Mathematics for Elementary Teachers

A course designed to provide enrichment topics for the elementary teacher. The course will include such topics as number theory, motion geometry, topology, projective geometry, graphs, and sets and logic. Prerequisites:

junior elementary education major and permission of the instructor. Cr 3.

MAT 432 Selected Topics in Mathematics for Elementary Teachers

A course designed to provide enrichment topics for the elementary teacher. The course will include such topics as awareness geometry, transformational geometry, analysis of shapes, number theory, and measurement. Prerequisites: junior elementary education major and permission of the instructor. Cr 3.

MAT 460 Mathematical Modeling

An introduction to the process of formulating problems in mathematical terms, solving the resulting mathematical model and interpreting the results and evaluating the solutions. Examples will be chosen from the behavioral, biological, and physical sciences. This course and MAT 461 complement each other. Prerequisites: junior or senior standing, some elementary calculus including differentiation and integration, elementary probability, and some computer programming experience. Cr 3.

MAT 461 Stochastic Models in Operations Research

Applications of probabilistic analysis to models involving uncertainty: queueing models, inventory control models, and reliability models. Additional topics include: elements of dynamic programming, simulation, and Markov decision analysis. Prerequisites: junior or senior standing, some elementary calculus including differentiation and integration, elementary probability and computer programming. Cr 3.

MAT 481 Stochastic Processes

Introduction to the basic stochastic processes, simple random walk, discrete Markov chains; transition matrices, classification of states, long run behavior, the Poisson processes and related distributions, limiting behavior of birth and death processes, finite state continuous time Markov chains, elements of renewal theory. Prerequisites: MAT 381 and MAT 295. Cr 3.

MAT 482 Introduction to Time Series Analysis

Objectives and simple descriptive techniques of time series analysis, probability models for time series, estimation in the time domain,

forecasting, Box-Jenkins methodology, spectral analysis. Prerequisite: MAT 380. Cr 3.

MAT 484 Design and Analysis of Experiments I

Certain notions of planning of experiments, quadratic forms and their distributions, least square estimate, generalized linear hypothesis, estimable functions, construction of confidence ellipsoids and related tests, completely randomized and randomized block designs, two-way layouts, three-way and higher-way layouts, Latin square and orthogonal Latin square designs. Prerequisites: MAT 380 and MAT 295. Cr 3.

MAT 486 Design and Analysis of Experiments II

Random effects and mixed effects models, BRB designs, nested designs, split plot designs, Youdeen Square designs, 2^m , 3^n and $2^m \times 3^n$ factorial designs, response surface methodology. Prerequisite: MAT 484. Cr 3.

MAT 490 Topology

An introduction to fundamental concepts in topology, including topological spaces, mappings, convergence, separation and countability, compactness, connectedness, metrization, and other selected topics. Prerequisites: MAT 252 and COS 280 or MAT 290. Cr 3.

MAT 492 Graph Theory and Combinatorics

This course is designed to acquaint students with some fundamental concepts and results of graph theory and combinatorial mathematics. Applications will be made to the behavioral, managerial, and social sciences. Prerequisite: COS 280 or MAT 290. Cr 3.

MAT 497 Independent Study in Mathematics

An opportunity for juniors and seniors who have demonstrated critical and analytical capability to pursue a project independently, charting a course and exploring an area of interest within their major field. Prerequisites: junior or senior standing, permission of the instructor, and permission of the department chairman. Cr 1-3.

MAT 498 Topics

Selected topics in advanced mathematics. Prerequisite: permission of instructor. Cr 3.

Mathematics Education

MEO 200-201, 300-301, 400-401

Cooperative Education in Mathematics

The student has the opportunity to relate academic knowledge to practical experience in a job situation. The University makes arrangements with certain institutions, businesses, and industries to employ qualified students for specific jobs for a set time period. The student's work is ordinarily in a related field, and the work experiences increase in difficulty and responsibility as the student progresses through the sequence of courses. The experi-

ences are approved on a case-by-case basis by the department. Evaluation is done with the employer and a faculty supervisor. Prerequisite: open to qualified students, subject to availability of suitable jobs. Cr 1-5.

MME 345 Teaching Mathematics in the Secondary School

Critical study of programs and techniques for teaching and learning mathematics in grades 7-12 for the slow, average, and advanced pupil, with the use of instructional media. Prerequisite: junior or senior standing. Cr 3.

Music

Chair of the Department: Jerry L. Bowder, 100 Corthell Hall, Gorham
Professors: Bowder, Cole; *Associate Professors:* Boden, Martin, Russell; *Assistant Professors:* Atterbury, Fithian, Klibonoff, Parchman; *Lecturer:* Freeman; *Portland String Quartet in residence:* Kecskemethy, Lantz, Adams, Ross.

Applied Music Faculty Piano: Michael Braz, Thomas Bucci, Ronald Cole, Robert Glover, Jon Klibonoff; *Voice:* Bruce Fithian, Linda Freeman, Sue Ellen Kuzma; *Violin:* Stephen Kecskemethy, Ronal Lantz; *Viola:* Julia Adams; *Cello:* Katherine Graffam, Paul Ross; *Bass:* Katherine Graffam; *Flute:* Alison Hale, Susan Thomas; *Oboe:* Neil Boyer; *Clarinet:* Thomas Parchman; *Saxophone:* Bill Street; *Bassoon:* Ardith Freeman; *Trumpet:* John Schnell; *French Horn:* John Boden; *Trombone:* Mark Manduca; *Euphonium:* David Winer; *Tuba:* David Winer; *Percussion:* Nancy Smith; *Harp:* Jara Goodrich; *Classical Guitar:* Michael Katz, Thomas Tessitore

The Department of Music offers a number of music ensembles open to all students, a number of courses primarily for non-majors, and concentrated study in the areas of music history, music theory, performance, and music education. Students majoring in music may earn a baccalaureate degree in education (bachelor of science in music education), in arts and sciences (bachelor of arts in music), or in music (bachelor of music in performance). In addition, a minor in music and a cognate in music are offered for students majoring in elementary education, and a minor in music is offered for students in the College of Arts and Sciences.

Music Fees

An applied music fee of \$48.00 per semester for hour lessons, or \$24.00 per semester for half-hour lessons will be charged all music majors in addition to the University tuition fee. Applied lessons for music majors, beyond those required for the degree, will be subject to a fee of \$135.00 for half-hour lessons and \$270.00 for hour lessons in addition to the University tuition fee.

For a music minor the University will subsidize the applied music fee, to a maximum of eight credit hours, if the student demonstrates adequate proficiency. The University will subsidize the applied music fee for a cognate to a maximum of nine credit hours. The student will pay \$48.00 per semester for hour lessons and \$24.00 per semester for half-hour lessons in addition to the University tuition fee.

Students other than music majors, cognates, and minors will be accommodated for applied music lessons if a teacher's time is available, but will be subject to a fee of \$135.00 for half-hour lessons or \$270.00 for hour lessons in addition to the University tuition fee.

Students registering for applied music must report to the chair of the Department for assignment to an applied music teacher and scheduling of lessons. All fees must be paid before lessons commence.

Admission Requirements

Admission to degree programs in music—major, cognate, and minor—will be based on the following criteria: a) the applicant's high school record, including recommendations, and SAT achievement scores; b) an audition, which includes performance on the applicant's major instrument, and tests in aural comprehension, rhythmic recitation, and sight singing which are administered to each applicant individually by a member of the staff; and c) a written standardized musical achievement test.

Students who desire to apply for advanced standing in music curricula should apply to the chair of the Department for a special examination.

Department Standards

Each student enrolled in the music education degree program will play a jury exam on his or her major instrument at the end of each academic year. Each student enrolled in the performance degree program will play a jury exam on his or her major instrument at the end of each semester. The jury

panel will determine a level of performance and submit a written evaluation which will be included in the student's file. Students are required to perform at the appropriate level of competence as established by the music faculty.

Each student must earn grades of C or better in all courses which count toward fulfillment of major requirements. D and F grades do not fulfill prerequisite requirements. However, an exception will be made for the following sequence courses: Theory I, II, III, IV; Solfeggio I, II, III, IV; Basic Conducting; Instrumental Conducting; and Vocal Conducting. In these courses a grade of D will allow the student to progress to the next semester in the sequence. If a grade of C or better is earned in this next semester, the preceding semester need not be repeated. If a grade of D or F is earned in this next semester, both semesters must be satisfactorily repeated in proper sequence. No course may be repeated more than once. If a student fails in the second attempt to pass a course with a grade of C- or better, he or she will not be allowed to continue as a music major, cognate, or minor.

Each student must attain a 2.25 minimum grade point average before being admitted to junior or senior level music major courses. Students who fall below academic or applied music standards will be placed on probation and will be suspended if they do not meet these standards by the end of the following semester.

Programs and Requirements

Music Core Requirements

Each student enrolled as a major in a music degree program will take the following courses during his or her first and second years:

- MUS 120, 121, 220, 221 History of Music
- MUS 130, 131, 230, 231 Music Theory
- MUS 132, 133, 232, 233 Sight Singing and Ear Training

Bachelor of Science in Music Education (MUED)

The degree of bachelor of science in music education prepares students for careers in music teaching. Students completing this course of study receive public school music certification for kindergarten through high school. Since a person must first be a good musician in order to be a good music educator, the program includes substantial work in music theory, ear training, music history, applied music, ensembles, and conducting, in addition to music education methods courses and field experiences. Students elect (1) instrumental concentration, (2) vocal concentration, or (3) a general program which includes major portions of both the instrumental and vocal concentrations.

The minimum number of credits (exclusive of the University's Core curriculum) required for the major, instrumental concentration: 99; vocal concentration: 98; or general concentration: 101. These totals include 6 credits to be elected from the offerings of the College of Arts and Sciences, but not from music.

All students are reminded that, in addition to meeting departmental requirements for a major leading to a baccalaureate degree, they must also meet the requirements of the school or college involved, as well as the University's Core curriculum requirements.

All music education majors are required to take the following 20 hours of professional education courses: MUE 100 Introduction to Music Education; MUE 220 Studies in Historical Foundations and Learning Theories of Education; EDU 324 Student Teaching; HRD 333 Human Growth and Development; and MUE 422 Music for Exceptional Children.

Additionally, all music education majors will meet the following requirements:

1. Fulfillment of minimum requirements in both voice and piano, regardless of major instrument.
2. Beginning with the first semester of enrollment, participation in at least one major instrumental and one major vocal organization each semester. Students who are unable to meet the audition requirements of either Concert Band or Chamber Orchestra will be assigned to Percussion Ensemble. Pianists will satisfy one credit of this requirement through accompaniment of singers or instrumentalists.
3. Successful completion of seven semesters of major applied music lessons.

4. Successful completion of recital class in each semester when registered for major applied lessons.
5. Presentation of a solo recital in the senior year (or junior year with special permission).

Piano Proficiency Requirement Each student must successfully complete the piano proficiency requirement by the end of the third week of the semester before student teaching. The student must enroll in applied piano each semester until the requirement is met. If the piano proficiency has not been met at the end of four credits of study, the student will continue applied piano at his or her own expense.

New students who feel prepared to meet the requirement may schedule an exam during the orientation period. Thereafter, exams will be offered at the end of each semester and may be taken whenever the student and the applied music teacher feel the student is qualified.

Requirements for the exam are as follows: a) play all major and minor scales (two octaves, hands together); b) play a prepared piece of the student's choice of at least the difficulty of a sonatina by Clementi or Kuhlau; c) offer evidence of study of a representative selection of piano literature; and d) sight read a melody with chord symbols and a hymn style composition.

Vocal Proficiency Requirement All students in the music education program must complete at least one year of vocal study before student teaching. They must also pass the following requirements in a vocal proficiency examination before graduation:

1. Demonstrate and explain the principles of singing, including posture, breathing, tone production, and articulation.
2. Submit a list of 12 songs, including songs in English and at least one foreign language.
3. Perform from memory six songs, at least one of which is in a foreign language.

If the proficiency is not met after four credits of study, the student will continue to study for no credit at his or her own expense until this standard is met.

Student Teaching Student teaching is the culmination of a comprehensive, preprofessional, required sequence of activities that includes the following:

Freshman year: All first-year music education majors enroll in MUE 100 Introduction to Music Education.

Sophomore year: the equivalent of two days of assisting classroom teachers in music, serving in a capacity similar to teacher aides.

Junior year: elementary and secondary methods courses wherein students observe, plan, and teach using actual classroom situations.

Senior year: student teaching that encompasses both elementary and secondary as well as instrumental and vocal areas.

Professional Education: Music Education Courses

Courses marked with an asterisk (*) are offered on a rotating basis. Students should work closely with their advisors in planning their courses of study in the music education program.

All music education majors must complete the following courses:

*MUE	221	Brass Class
*MUE	222	Percussion Class
*MUE	224	Woodwinds I
*MUE	320	String Class-Violin
MUE	322	Elementary General Music Methods

For instrumental concentration, these additional courses must be completed:

*MUE	225	Woodwinds II
*MUE	321	String Class-Viola, Cello and Bass
*MUE	324	Instrumental Methods
*MUE	420	Marching Band Techniques

For vocal concentration, this additional course must be completed:

*MUE	323	Secondary Choral Methods.
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For general concentration, these additional courses must be completed:

*MUE	225	Woodwinds II
*MUE	324	Instrumental Methods
*MUE	323	Secondary Choral Methods

Musicianship: Music Courses

Courses marked with an asterisk(*) are offered on a rotating basis. Students should work closely with their advisors in planning their courses of study in the music education program.

All music education majors must take the following courses:

Music Core Requirements, 28 credits

MUP	202	Applied Music Major; 14 credits
MUP	201	Applied Music Minor; 5 credits
MUS	244	Basic Conducting
MUS	420	Orchestration
MUS	442	Recital Class (seven semesters)
MUS	401	University Chorale (seven semesters)
MUS	402	Concert Band (seven semesters)

OR

MUS	400	Orchestra (seven semesters)
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The following courses apply to each specialized music education curriculum.

Instrumental concentration:

MUP	201	Voice Lessons (2 semesters)
*MUS	344	Instrumental Conducting
*MUS	240, 340	Instrumental Conducting Lab

Vocal concentration:

MUP	201	Voice Lessons (not additionally required of voice majors) (2 semesters)
		Guitar
*MUS	255	Choral Conducting
*MUS	345	Choral Conducting Lab
*MUS	241, 341	Choral Conducting Lab
*MUS	355	Vocal Pedagogy
MUS	453	Workshop in Music Drama
THE	290	Oral Interpretation of Literature (not required, but strongly recommended)

General concentration:

MUP	201	Voice Lessons (not additionally required of voice majors) (2 semesters)
		Guitar
*MUS	255	Guitar
*MUS	344, 340	Instrumental Conducting & Lab

OR

*MUS	345, 341	Choral Conducting & Lab
MUS	453	Workshop in Music Drama

Bachelor of Arts in Music (MUSA)

This degree program is designed to provide the opportunity for a scholarly study of music to meet the needs of those who wish to obtain a liberal education with an emphasis on music, and those who plan to do graduate work in music. The program aims to instill a thorough understanding of music and its relationship to contemporary society. The study of music history and theory as it relates to the repertoire is central in this curriculum. Sufficient flexibility is built into the program to allow the individual student to establish areas of emphasis both in music and in the arts and sciences.

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 97.

Courses marked with an asterisk (*) are offered on a rotating basis. Students should work closely with their advisors in planning their courses of study in this degree program.

Music Core Requirements, 28 credits

*MUS	320	Seminar in Music History
MUS	330, 331	Form and Analysis I, II
MUS	332	Counterpoint

- Applied Music (4 credits)
- Performance Ensembles (4 credits)
- Music Electives (9 credits)
- Electives including language proficiency, but not music electives (40 credits)

Language proficiency means completion of a second year of a language. This may be bypassed by examination for no academic credit.

The University will subsidize up to a total of 16 credit hours of applied music lessons for B.A. music students.

Bachelor of Music in Performance (MUSM)

This degree program is designed to meet the needs of those who wish to prepare for a career in music performance and/or applied music teaching, and those who plan to do graduate work in applied music. The program aims to instill a thorough understanding of music and its relationship to contemporary society. Private lessons; solo, chamber and large ensemble performance; and the study of literature and pedagogy of the major instrument are emphasized. Basic understanding of the standards and opportunities for professional performance leads the student to realistic expectations for a career as a performer or teacher.

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 96.

Courses marked with an asterisk (*) are offered on a rotating basis. Students should work closely with their advisor in planning their course of study in this degree program.

- Music Core Requirements, 28 credits
- MUS 244 Basic Conducting
- MUS 321 Literature of the Major Instrument
- MUS 330, 331 Form and Analysis I, II
- MUS 332 Counterpoint
- MUS 442 Recital Class (eight semesters)
- *MUS 356 Diction for Singers (voice majors only)
- MUP 203 Applied Music, Major Instrument (eight semesters)
- MUS 372 Pedagogy of the Major Instrument
- Music Electives (9 credits)
- Performance Ensembles (6 credits)
- Electives in any college (15 credits)

Diction for Singers (MUS 356) is required of voice majors only and may be taken in lieu of three credits of music electives. Voice majors must meet a minimum proficiency in two foreign languages either by exam or through completion of the second semester of the basic course in the Department of Foreign Languages and Classics.

Performance majors must have a minimum of four credit hours of their ensemble requirements in the appropriate major ensemble. A student is expected to be enrolled in the appropriate major ensemble whenever registered as a full-time student. A minimum of two credit hours must be in Chamber Music.

All performance majors are required to pass a piano proficiency examination or to complete successfully two years of piano as a minor instrument. The content of the exam is appropriate to the student's major. In addition, performance majors must complete satisfactorily a short recital in the junior year and a full recital in the senior year.

Music Cognate for B.S. Degree in Elementary Education

The music cognate for B.S. degree candidates in elementary education consists of 36 credits of music courses as follows:

- MUS 100 Music History and Appreciation
- MUS 120, 121, 220, 221 Music History (choose two)
- MUS 130, 131 Music Theory
- MUS 132, 133 Sight Singing & Ear Training
- MUP 201 Applied Music Piano (2 credits)
- or 202

MUP	201	Applied Music Voice
*MUS	255	Guitar
MUS	400, 401 402, 403 405, 407 and/or 408	Ensembles (four semesters' participation)
*MUS	355	Vocal Pedagogy
*MUE	322	Elementary Music Methods
Music Electives		9 credits (excluding MUS 110 and MUE courses with a limit of six additional credits in applied music)

Courses marked with an asterisk (*) rotate on a two year schedule; students are advised to plan ahead.

Up to three credit hours may also be counted towards the fulfillment of USM Core curriculum area F or G (but not both).

Minor in Music Education

The minor program is designed to provide an opportunity for candidates for the degree of bachelor of science in elementary education who demonstrate interest and ability to continue music studies beyond the high school level and to equip them to implement successfully in their classrooms the planned programs recommended by music supervisors.

The number of credits (exclusive of the University's Core curriculum) required for the minor: 21.

MUS 100; MUS 130, 131; MUS 132, 133; MUE 322; and MUP 201 (2 semesters) comprise the minor. Additionally, students must take an elective in music history and other music electives for two credits.

Minor in Music (Bachelor of Arts)

This minor program is designed to provide an opportunity for candidates for the degree of bachelor of arts who demonstrate interest and ability to continue music studies at the undergraduate level.

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 20.

The minor consists of elective courses in music and ensembles. However, MUS 100, MUS 110, and all MUE courses are not acceptable for the minor.

Applied music fees, to a maximum of eight credit hours, will be subsidized by the University only when the student demonstrates adequate proficiency.

Courses Primarily for Non-Majors

MUP 101 Applied Music

An opportunity to continue at the college level the private study of piano, voice, organ, guitar, or any orchestra or band instrument to fulfill one credit of Core requirements in a performance-centered art. One half-hour lesson per week for twelve weeks. Restricted to non-majors and certain music students. May be repeated for credit. Special fee assessed. Cr 1.

MUP 102 Applied Music

An opportunity to continue at the college level the private study of piano, voice, organ, guitar, or any orchestra or band instrument to fulfill two credits of Core requirements in a performance-centered art. One hour lesson per week for twelve weeks. Restricted to non-majors and certain music students. May be repeated for credit. Special fee assessed. Cr 2.

MUS 100 Music Appreciation and History

A survey of music from the Gregorian chant to the modern times, covering musical practices of the renaissance, baroque, classical, romantic, and contemporary periods. Representative works by the outstanding composers of each period. Open to all students. Cr 3.

MUS 102 Music of the Portland Symphony

A course designed to increase the student's understanding and appreciation of the music scheduled for the Portland Symphony Orchestra's regular concerts of the semester. Attendance is required at the concerts in addition to regularly scheduled classes. Historical background, biography of composer, musical analysis, rehearsal and performance techniques, and music criticism. Open to all students. Cr 3.

MUS 103 Introduction to Jazz

A survey of jazz from its inception to the present day. Involves a study of the origins and stylistic development of jazz. Open to all students. Cr 3.

MUS 110 Fundamentals of Music

A background study of concepts and skills essential to an intelligent reading of music. The development of natural music abilities through participating in singing, rhythmic activities, and instrumental work. An appreciation of music through awareness of basic structures. Open to all students. Cr 3.

MUS 202 Music in America

A survey of the important trends in music from colonial days to the present. Emphasis will be placed on the role of the native American composer in the development of sacred music, concert music, jazz, musical comedy, and pop music. Open to all students. Cr 3.

MUS 203 Music in the Twentieth Century

A study of trends in European and American music from the beginning of the century to the present with emphasis on the literature of the major composers. Open to all students. Cr 3.

Music Performance Groups
Major Ensembles

MUS 400 Chamber Orchestra

Cr 0.5.

MUS 401 The University Chorale

A choral ensemble of students from all departments. Performances of large works with instrumental accompaniment, and a capella works, including representative repertoire from all periods. Local performances and a spring tour. Cr 0.5.

MUS 402 University Concert Band

A wind and percussion ensemble open to all University students through audition. The ensemble focuses on the fundamentals of

MUS 204 Symphonic Literature

A survey of music for the symphony orchestra from the pre-classical period of C.P.E. Bach to the present. Open to all students. Cr 3.

MUS 205 Chamber Music Literature: Portland String Quartet

A historical survey of the literature for chamber ensembles from the classical period to the present. Recorded and live performances will be studied in class. Open to all students. Cr 3.

MUS 211 Class Piano

Practical class piano for the elementary teacher with little or no piano background. Course covers note reading, scales, accompaniment of simple songs, transposition, and sight reading. Open to all students. Cr 2.

MUS 334 Electronic Music I

Lectures, discussions, and exercises in sound generation and processing, with emphasis on voltage-controlled systems. The student's time will be divided between class sessions and actual work in the electronic studio. Open to all students. Cr 3.

ensemble performance dealing with a variety of literature. The University Concert Band performs at least one major concert per semester and is active in presenting school assembly programs. Cr 0.5.

MUS 405 The Chamber Singers

A select group of twenty-five singers specializing in music from the renaissance to the contemporary. Extensive touring throughout the state. Cr 0.5.

MUS 408 Wind Ensemble

Cr 0.5.

Small Ensembles

MUS 403 Percussion Ensemble

A percussion ensemble open to all University students through audition. Cr 0.5.

MUS 406 Chamber Music

A performance course open to all qualified students interested in forming chamber groups: duets, trios, quartets, quintets, etc., under faculty supervision. Cr 0.5.

MUS 407 Jazz Ensemble

An instrumental ensemble specializing in the study and performance of jazz for large and small groups from Dixieland to present. Open to all students by audition. Cr 0.5.

Courses for Majors

Music History and Theory

MUS 120 History of Music I

Medieval and renaissance periods: historical development and music practices from the Gregorian chant and early polyphony thrigal in England. Musical examples of outstanding composers are played, analyzed, and discussed.

Music majors only or permission of the instructor. Cr 3.

MUS 121 History of Music II

Baroque period; continuation of MUS 120, from the establishment of opera in Italy and the rise of instrumental music, to the culmina-

tion of polyphony in the works of J.S. Bach. Music majors only or permission of the instructor. Cr 3.

MUS 130 Music Theory I

Major and minor scales; intervals, triad, and chord connections; cadences; harmonization of soprano and bass lines utilizing primary triads. Music majors only or permission of the department. Cr 3.

MUS 130 Music Theory Lab I

A laboratory course in music theory required of those students needing additional assistance in first semester theory, as determined by the student's score on the entrance testing. To be taken concurrently with MUS 130 Music Theory I LEC. Does not count for music elective credit. Cr 2.

MUS 131 Music Theory II

Triads in first and second inversion; modulation; non-harmonic tones (passing, auxiliary, appoggiature, suspension, and anticipation); dominant seventh chord (root position inversion, regular and irregular resolutions). Prerequisite: MUS 130. Cr 3.

MUS 131 Music Theory Lab II

Laboratory course in music theory available to those students needing additional assistance in second semester theory. To be taken concurrently with MUS 131 Music Theory II LEC. Does not count for music elective credit. Cr 2.

MUS 132 Sight Singing and Ear Training I

A course in sight singing and ear training. Music majors and minors only. Cr 1.

MUS 133 Sight Singing and Ear Training II

A continuation of MUS 132. Prerequisite: MUS 132. Cr 1.

MUS 220 History of Music III

Classical and romantic periods; historical development and musical practices from the establishment of the sonata, string quartet, and symphony, through program music, music-drama, and the rise of nationalism in music. Representative of outstanding composers are played, analyzed, and discussed. Music majors only or permission of the instructor. Cr 3.

MUS 221 History of Music IV

Contemporary period; continuation of MUS 220, from Impressionism to recent tendencies. Melodic, harmonic, rhythmic, and structural features of twentieth-century American and European music and their relationship to tradition. Music majors only or permission of the instructor. Cr 3.

MUS 230 Music Theory III

Diatonic seventh chords; modulation; expansion of nonharmonic tones; altered chords; Neapolitan sixth; augmented sixth chords; chromatic alterations; chorales and their harmonizations; composition in simple forms of the 18th and the 19th centuries. Prerequisite: MUS 131. Cr 3.

MUS 231 Music Theory IV

Contemporary techniques of composition; 20th century harmony, theory, and related studies. Prerequisite: MUS 230. Cr 3.

MUS 232 Sight Singing and Ear Training III

An advanced course in sight singing and ear training. Prerequisite: MUS 133. Cr 1.

MUS 233 Sight Singing and Ear Training IV

A continuation of MUS 232. Prerequisite: MUS 232. Cr 1.

MUS 320 Seminar in Music History

A concentrated study of selected topics in music history based on individual research. Prerequisites: History of Music I, II, III, and IV. For music majors or minors. Others only with permission of instructor. Cr 3.

MUS 321 Literature of the Major Instrument

A survey of the literature for voice or a specific instrument. Except for piano or voice, which are offered in class sessions when the number of registrants warrants it, this will be scheduled as private study. Normally the piano and voice sessions will be offered in alternate years. For performance majors. Other music majors only with permission of the department. Cr 2.

MUS 330 Form and Analysis I

Study and analysis of music of the classical, romantic, and contemporary periods with emphasis on homophonic forms and styles. Prerequisite: Theory II. Cr 3.

MUS 331 Form and Analysis II

Study and analysis of music of the baroque and contemporary periods with emphasis on contrapuntal forms and styles. Prerequisite: Theory II. Cr 2.

MUS 332 Counterpoint

Tonal counterpoint. The process of invention and fugue as exemplified in the music of the baroque era. Prerequisite: Theory III. Cr 3.

MUS 420 Orchestration

A study of the nature of the various instruments. Practice in scoring for instrumental combinations, orchestra, and band. Prerequisite: MUS 231. Cr 3.

MUS 497 Directed Study in Composition

To provide juniors and seniors who have demonstrated creative capability an opportunity to compose utilizing twentieth-century techniques. Prerequisites: MUS 231 and permission of instructor. Variable Cr 1-3.

MUS 498 Independent Study in Music

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field. Music majors only. Departmental permission required. Cr 1-3.

MUP 201 Applied Music

May be taken in piano, voice, organ, guitar, or any orchestra or band instrument. One half-hour lesson per week for twelve weeks in the minor performance area in fulfillment of applied music requirements. Restricted to music majors, cognates, and minors. May be repeated for credit. Special fee assessed. Cr 1.

MUP 202 Applied Music

May be taken in piano, voice, organ, guitar, or any orchestra or band instrument. One hour lesson per week for twelve weeks in the major performance area in fulfillment of applied music requirements. Restricted to music majors, cognates, and minors. May be repeated for credit. Special fee assessed. Cr 2.

MUP 203 Applied Music

May be taken in piano, voice, organ, guitar, or any orchestra or band instrument. One hour lesson per week for twelve weeks in the major performance area in fulfillment of applied music requirements. Restricted to B.M. performance majors. May be repeated for credit. Special fee assessed. Cr 3.

MUS 240 Instrumental Conducting Lab

Performance techniques on instruments of primary and/or secondary interest to each student. Principles of ensemble training are exemplified. Cr 0.5.

MUS 241 Choral Conducting Lab

Emphasizing singing technique and interpretation and an exploration of choral literature of various periods and styles. Principles of choral training are exemplified. The repertoire is varied from year to year so that the course covers a considerable range during a given student's attendance. Cr 0.5.

MUS 244 Basic Conducting

Practical conducting experiences; score reading, basic beat patterns, gestures, and interpretation. Prerequisite: MUS 230. Cr 2.

MUS 255 Guitar

An introduction to basic guitar skills. Emphasis is placed upon those skills which lead to playing effective accompaniments. Cr 1.

MUS 280 Jazz Improvisation I

A course designed to teach the student to improvise in the jazz idiom. Studies include jazz theory and standard jazz literature. Recommended for instrumental music majors. Prerequisite: MUS 131 or permission of the instructor. Cr 2.

MUS 281 Jazz Improvisation II

A performance course designed to expand upon the improvisation principles presented in Jazz Improvisation I. Students will learn advanced jazz theory and use that knowledge to perform in the jazz language both in class and in lab situations. Prerequisite: MUS 280 or the equivalent. Cr 2.

MUS 340 Instrumental Conducting Lab

Performance techniques on instruments of primary and/or secondary interest to each student. Principles of ensemble training are exemplified. The repertoire consists of selections from various periods and styles and is varied from year to year in order to cover a considerable range during the student's attendance. Cr 0.5.

MUS 341 Choral Conducting Lab

Emphasizing singing technique and interpretation and an exploration of choral literature of various periods and styles. Principles of choral training are exemplified. The repertoire is varied from year to year so that the course covers a considerable range during a given student's attendance. Cr 0.5.

MUS 344 Instrumental Conducting

Advanced development of non-verbal gestures through the art of instrumental conducting. Score reading analysis, rehearsal techniques and performance preparation. Prerequisite: MUS 244. Cr 2.

MUS 345 Choral Conducting

Organization, training, and directing of choruses and glee clubs in high schools and junior high schools. Study and practice in rehearsal techniques, problems of diction, and emphasis on repertoire and musical style. Prerequisite: MUS 244. Cr 2.

MUS 355 Vocal Pedagogy

A study of basic principles of vocal production—breathing, phonation, registration, and resonance—and a discussion of the techniques used to teach voice. Cr 1.

MUS 356 Diction for Singers

A study of the principles of English, Italian, German, and French diction through use of the International Phonetic Alphabet (IPA). An application of these basic principles to art songs in the four languages. Students shall perform songs in all four languages. This course is required of voice performance majors. Prerequisite: 3 semesters of voice study. Cr 3.

MUS 372 Pedagogy of the Major Instrument

A study of the teaching methods and materials for voice or instruments. Except for piano and voice, which are offered in class sessions when the number of registrants warrants it, this will be scheduled as additional applied music time with an instrumental specialist. Normally the piano and voice sessions will be offered in alternate years. For performance majors. Other music majors only with permission of the department. Cr 2.

MUS 442 Recital Class

Performance in major field, stage department, and evaluation of performances. May be repeated for credit. Cr 0.

MUS 452 Accompanying

A workshop course in applied accompanying under faculty supervision. One-half credit is awarded for each twenty hours of University-supervised accompanying, with a maximum of two credits in any academic year. Cr 0.5-2.

MUS 453 Workshop in Music Drama

This course will focus on the union of musical ideas with dramatic situations and will explore

the ways in which singers must convey the essence of a dramatic situation. The course will culminate either in the performance of a full-length opera, operetta, or musical comedy (in conjunction with the Theatre Department) or in an evening performance of opera arias, ensembles, or scenes. May be repeated for credit. A vocal performance major may take this course in lieu of one credit of chamber music. Cr 1.

*Music Education***MUE 100 Introduction to Music Education**

This course will provide an introduction to varied music programs found in schools, K-12. Students will explore the value of music education. An overview of effective teaching techniques will be presented and students will participate in structured observations. Restricted to music majors, cognates, and minors. Prerequisite: None. Cr 1.

MUE 220 Historical Foundations and Learning Theories

This course will provide an overview of the historical role of schools in American society and an introduction to contemporary learning theory upon which music instruction in kindergarten through grade 12 is predicated. Restricted to majors, cognates, and minors. Prerequisite: None. Cr 3.

MUE 221 Brass Class

Methods of teaching brass instruments including practical experience on the various instruments; elements of transposition. Prerequisites: MUS 131 and 133. Cr 1.

MUE 222 Percussion Class

Practical experience on and methods of teaching percussion instruments. Prerequisite: MUS 131 and 133. Cr 1.

MUE 224 Woodwinds I

Methods of teaching flute and clarinet. Practical experience on these instruments; elements of transposition. Prerequisite: MUS 131 and 133. Cr 1.

MUE 225 Woodwinds II

Methods of teaching saxophone, oboe, and bassoon. Practical experience on these instruments; elements of transposition. Prerequisite: MUE 224. Cr 1.

MUE 320 String Class Violin

Class methods and materials in teaching violin. Fundamentals of violin, including bowing, tone production, intonation, and fingering techniques extended into the third position. Prerequisite: MUS 131 and 133. Cr 1.

MUE 321 String Class Viola, Cello and Bass

String methods and materials for beginning strings. Fundamentals of viola, cello and string bass. Rudiments of fingering, bowing, and tone production. Prerequisite: MUE 320. Cr 1.

MUE 322 Elementary General Music Methods

Study of methods and materials in present elementary school music education, including those of Kodaly and Orff. Restricted to junior and senior music majors and minors. Cr 3.

MUE 323 Secondary Choral Methods

Techniques and procedures for teaching choral music in junior and senior high schools. Restricted to junior and senior music majors. Cr 3.

MUE 324 Instrumental Methods

The course will acquaint the instrumental music major with methods and procedures of teaching instrumental music in the public schools. Administering and organizing the program, recruiting, budgets, public relations, ensemble literature, scheduling and performance are issues addressed in the course. Discussions will focus on developing an effective instrumental music program in the public schools. Restricted to junior and senior music majors. Cr 3.

MUE 420 Marching Band Techniques

The course is designed to prepare the music educator to organize and effectively teach Marching Band in the public school. A statement of philosophy is stressed. Marching styles, execution, music developing marching percussion, role of the drum major and effective instrument placement are emphasized in the course. Restricted to junior and senior music majors. Cr 2.

MUE 422 Music for Exceptional Children

A survey of learning styles of exceptional children. Practicum in instructional adaptations for mainstreamed children. The content and implications for music educators of P.L. 94-142. To be taken concurrently with EDU 324, Student Teaching. Prerequisite: MUE 322 or equivalent and HRD 333. Cr 1.

Philosophy

Chair of the Department: Jeremiah Conway, 47 Exeter St., Portland

Professors: Gavin, Grange, F Schwanauer; *Associate Professor:* Conway; *Assistant*

Professors: Caffentzis, Loudon, Murphy, Watts

"Philosophy unties knots in our thinking; hence its results must be simple, but philosophizing has to be as complicated as the knots it unties."

Ludwig Wittgenstein, *Zettel* #452

The place of philosophy at the center of any educational endeavor is as true today as it ever was. The perennial questions that philosophy addresses, such as "Who am I as a human being?, How should I act?, What can I know?, What are my obligations to others?, How should society be organized?"; are fundamental issues with which education must wrestle and into which it must provide insight. Philosophy is a reasoned pursuit of fundamental truths. It is a systematic investigation of the key assumptions which underlie our thinking and which ordinarily are taken for granted. Much of what is learned in philosophy can be applied in virtually any endeavor. This is both because philosophy touches upon so many subjects and, especially, because many of its methods and analyses are usable in any field. The study of philosophy is beneficial in terms of achieving the following:

General Problem-Solving Ability. The study of philosophy enhances in a way no other activity does one's problem-solving capacities. It helps one to analyze concepts, definitions, arguments, and problems. It contributes to one's capacity to organize ideas and issues, to deal with questions of value, and to extract what is essential from masses of information.

Communication Skills. Philosophy provides some of the basic tools of self-expression, namely: skills in presenting ideas through well-constructed, systematic arguments. One learns to build and defend one's own views, to appreciate competing positions.

Writing Skills. Writing is an important part of most philosophy courses. Philosophy teaches interpretive writing through its examination of challenging texts, comparative writing through emphasis on fairness to alternative positions, argumentative writing through developing students' ability to establish their own views, and descriptive writing through detailed portrayal of concrete examples: the anchors to which generalizations must be tied.

The Understanding of Other Disciplines. Many important questions about a discipline, such as the nature of its concepts and its relation to other disciplines, do not belong to that discipline, are not usually pursued within a discipline, and are philosophical in nature. Philosophy of science, for instance, is needed to supplement the understanding of the natural and social sciences which one derives from scientific work itself. Philosophy of art, social and political philosophy, the philosophy of religion are of similar value in understanding the respective fields of art, sociology, politics, and religion.

Career Applications

Philosophers know, of course, that the important question is not what you can do with a field of study but rather what a field of study does with you. Nevertheless, it has been a welcome surprise within recent years to witness how many professions—business, law, nursing, for example, want and reward many of the capacities which the study of philosophy develops: the ability to solve problems, to communicate, to organize ideas and issues, to assess pros and cons, and to reduce complex data. These capacities represent transferable skills. For this reason, people trained in philosophy are not only prepared to do many kinds of tasks, they can also cope with change, or even move into new careers, more readily than others.

Programs and Requirements

Bachelor of Arts in Philosophy

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Each major in philosophy will arrange a program of courses in conference with the chair or a member of the department assigned by him. The program will be designed in terms of the student's interests, needs, vocational plans, and the year in which the student declares a major. The major will require 36 hours of courses beyond a PHI 100-level course.

All philosophy majors must take four history of philosophy courses. The first two of these, to be taken in sequence, must be PHI 310 (Ancient Philosophy) and PHI 330 (Early Modern Philosophy). Thereafter, any two additional courses in the history of philosophy may be taken. These courses are PHI 320 (Medieval Philosophy), PHI 340 (Late Modern Philosophy), PHI 350 (American Philosophy), PHI 360 (Existentialism), PHI 370 (Analytic Philosophy).

In the last year a senior tutorial is **optional**. This tutorial consists of a major paper (minimum length: 50 pages) on a topic selected by the student and directed by one member of the department. The student will meet with the mentor on a regular basis during the semester of the senior tutorial. Upon completion of the paper, an oral examination will be conducted by the full department. Upon successful completion of the senior tutorial, honors status is granted if a student's GPA in philosophy is at least 3.33.

If the tutorial option is not taken, students must complete either a Senior Seminar (PHI 400, 401, 402) or an Independent Study (PHI 398).

Every major intending to pursue graduate study and teach in philosophy will be expected to take German or French through the intermediate level. German is preferred to French, although ideally both sets of courses should be taken.

Any introductory philosophy course is a prerequisite to all other courses in philosophy.

Minor in Philosophy

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 15.

Students who wish to pursue a minor in philosophy are required to take five courses beyond the introductory level, that is, any PHI 100 course.

These should include two courses in the history of philosophy: PHI 310; PHI 320; PHI 330; PHI 340; PHI 350; PHI 360; PHI 370.

One course which examines the foundations of philosophical inquiry: PHI 150; PHI 200; PHI 210; PHI 270.

Two courses which relate philosophical theories to contemporary problems: PHI 211; PHI 220; PHI 230; PHI 240; PHI 250; PHI 260; PHI 275; PHI 290; PHI 291.

PHI 101 Introduction to Philosophy: Man and His Will

Is there a human will at all? This course will concentrate on the issue of freedom vs. determinism. The importance of the human will insofar as it influences views of experience, politics, society, etc., will also be considered.

Cr 3.

PHI 102 Introduction to Philosophy: The Quest for Certainty

Philosophy has often been defined as the attempt to become aware of the hidden assumptions we make in our everyday outlooks on life. The present course will deal with one of the most pervasive of these assumptions—the thesis that human beings should pursue certainty and objectivity at any price. The history of philosophy will be utilized to trace and to criticize the identification of all true knowledge with certainty. Questions will be raised as to whether the quest for certainty is either

feasible or beneficial to the human person. An analysis of some 20th-century alternatives, including existentialism and pragmatism, will be undertaken.

Cr 3.

PHI 103 Introduction to Philosophy: Human Alienation

Why does modern man picture himself as alienated from nature and his fellow man? How did the problem of alienation come about? What possibilities exist for overcoming it? This course will deal with these issues and attempt to suggest viable alternatives.

Cr 3.

PHI 104 Introduction to Philosophy: Ways of Knowing

How much can we really know? Consideration will be given to some theories of knowledge and how they may be applied to science and human relations. Classic philosophical texts will be critically examined by way of illustration.

Cr 3.

**PHI 105 Introduction to Philosophy:
Theories of Human Nature**

A study of some influential theories of human nature in Western culture. Among issues to be studied are: the question of method; freedom and determinism; materialism and dualism; and the nature of moral values. Cr 3.

**PHI 106 Introduction to Philosophy:
Why Philosophize?**

The course centers about the exploration of a single question: what it means to think philosophically. In the context of this question, we will examine what are the sources of philosophical thought and whether philosophy can justify its claim to be the foundation of all reflective endeavor. Cr 3.

**PHI 107 Introduction to Philosophy: The
Search for Identity**

What is it all about? Where do I fit in? Who am I? This course will explore these and other questions of human orientation and self-awareness as they evolve through the history of Western philosophy. Selections from representative philosophical sources will be read and discussed. Cr 3.

**PHI 108 Introduction to Philosophy: In
Defense of Conscience**

How does one develop the strongest rational arguments in defense of a political, ethical or idealistic position? What sorts of data are relevant? How does one construct a logically consistent argument? Beginning with an inquiry into the question of God's existence, the course probes the answers to the above questions through ancient, modern and contemporary thinkers. Principles and methodologies are developed to be able to apply philosophical criteria to historical and contemporary questions of an unpopular or unorthodox nature, such as universal vegetarianism and animal rights, ethical egoism, and problems of medical ethics like abortion and the right to addiction. Cr 3.

**PHI 109 Introduction to Philosophy: Law,
Politics and Society**

This course considers the place of law in political theory. After addressing the philosophical implications of Plato's and Aristotle's conceptions of law, the emphasis of the course will be on the origins and contemporary role of law in liberal political philosophy. After studying the development of liberal theory in the writings of Locke and Mill, the course concentrates on contemporary legal theory as it bears on the overall question of the role of law in liberal political theory. Cr 3.

**PHI 110 Introduction to Philosophy: Self
and Society**

To what extent does society shape our view of ourselves? The course will introduce the student to philosophical thinking as a mode of

reflection on the meaning of our daily lives. We will analyze the individual consciousness, the court and the state, and current mythologies in terms of their influence on the discourse of social life and institutions. Emphasis will be given to the role of the philosopher in society and the task of philosophy in determining our possibilities for freedom. Students will gain skill in philosophical thinking: the formulation of philosophical questions, identification and analysis of philosophical theories, and in-depth criticism and evaluation of philosophical perspectives. Cr 3.

PHI 150 Symbolic Logic

Techniques of modern deductive logic; properties of formal systems; logical implications and paradoxes of language. Cr 3.

PHI 200 Metaphysics

An analysis of various theories of reality, together with a critical examination of their conceptual constructs, principles and methodologies. Issues to be discussed include change, time, freedom and necessity, immortality and God, good and evil. Thinkers to be studied include Plato and Aristotle, Spinoza, Kant, Hegel, Whitehead and Heidegger. Prerequisite: any PHI 100-level course. Cr 3.

PHI 210 Ethical Theories

Critical evaluation of major ethical theories and systems. Extensive reading in original texts. Analysis of contemporary ethical issues. Prerequisite: any PHI 100-level course. Cr 3.

PHI 211 Ethics in Business

This course will be an investigation of the wide range of ethical issues confronting business. It will study these issues primarily through an examination of specific case studies of business practices. It will also present various philosophical concepts of what constitutes right conduct and will attempt to see whether these concepts can assist the business person in resolving the ethical problems with which business is faced. Cr 3.

PHI 220 Philosophy of Art

Inquiry into the question of whether aesthetic experience is intelligible, or emotional, or both; examination of various theories and interpretations, classic and contemporary. Prerequisite: any PHI 100-level course. Cr 3.

PHI 225 Philosophical Psychology

An analysis of the major philosophical issues facing the science of psychology: language and the unconscious, body-mind interaction, freedom and determinism. Major figures to be studied include Plato, Aristotle, Spinoza, Freud, Merleau-Ponty, Lacan and Skinner. Thematic emphasis will be on the historic interaction between psychology and philosophy in the development of Western thought. Prerequisite: any PHI 100-level course. Cr 3.

PHI 230 Philosophy of Religion

Analysis of the nature of religious experience, knowledge, and language. Special attention given to problems, classical and contemporary, exhibited in religious experience, and relevant to areas of common concern in the sciences, humanities, and philosophy. Prerequisite: any PHI 100-level course. Cr 3.

PHI 240 Political Philosophy

Critical evaluation of political philosophies, classical and contemporary; extensive reading in original texts; analysis of contemporary political issues. Prerequisite: any PHI 100-level course. Cr 3.

PHI 250 Philosophy of Science

An examination of two different models generally used in approaching scientific activity philosophically: the logical model and the historical model. Questions to be raised include whether these two approaches are mutually exclusive or whether one can subsume the other, and at what cost. Issues to be covered include description vs. explanation; scientific vs. non-scientific explanation; the issue of whether to include pragmatic and psychological dimensions of meaning in scientific explanations; the question of whether all facts are "theory-laden"; and the relationship between facts, laws and theories in science. Prerequisite: any PHI 100-level course. Cr 3.

PHI 260 Philosophy of Law

Critical evaluation of select issues in the philosophy of law. Possible topics include: the nature of law (positivism, natural law, legal realism); judicial decision making; constitutional adjudication; the justification of punishment; the legal enforcement of morality; legal responsibility; the judicial system. Readings are drawn from the disciplines of both philosophy and law, and include contemporary as well as historical selections. Prerequisite: any PHI 100-level course. Cr 3.

PHI 265 Feminist Philosophy

The course explores the contributions of feminist philosophers to gender analysis, and the philosophical assumptions inherent in theories of gender difference, including theories from sociobiology, biological determinism, physiology and social construction theory. Examination of gender assumptions may be studied in any of the following applied areas: women's work, women and sports, legal sexual inequality, pornography, and reproductive rights. Prerequisite: any PHI 100-level course. Cr 3.

PHI 270 Epistemology

An analysis of various theories of knowledge in reference to their methodologies and consequences. Texts to be read include Berkeley, Hume, Descartes, Kant, and Hegel. Prerequisite: any PHI 100-level course. Cr 3.

PHI 275 Theories of Language

This course examines the nature of language from an interdisciplinary perspective. Philosophy, linguistics, and psycholinguistics will be employed to inquire into the structure and function of language, and its relation to perception and the human mind. Prerequisite: any PHI 100-level course. This course is also offered as COM 275. Cr 3.

PHI 290 Problems in Philosophy

Consideration of selected problems or systems of philosophical significance, including general problems of metaphysics, epistemology, axiology, specialized areas, etc. Prerequisite: any PHI 100-level course. Cr 3.

PHI 291 Death and Dying

Recent success in life-prolonging techniques has resulted in the creation of new disagreements over the proper definition of death. Which definition of death is the most adequate? Some have argued that dying, not death is the vitally important topic. Has the term death changed its meaning from time to time and place to place in human history? This course will deal with these and similar epistemological issues. Prerequisite: any PHI 100-level course. Cr 3.

PHI 310 History of Ancient Philosophy

Philosophic thought from the pre-Socrates to the late Hellenistic period, with major emphasis on Plato and Aristotle. Prerequisite: any PHI 100-level course. Cr 3.

PHI 320 History of Medieval Philosophy

The merger of the philosophic with the religious stream; ideas of Augustine, Thomas Aquinas, Bonaventure, and others critically examined; determining cultural factors explored. Prerequisite: any PHI 100 level course. Cr 3.

PHI 330 History of Early Modern Philosophy

Main currents of rationalism and empiricism are explored, as developed in major writings from Descartes to Hume. Prerequisite: any PHI 100-level course. Cr 3.

PHI 340 History of Late Modern Philosophy

Development of German idealism; emergence of social and scientific philosophies; contributions of Kant, Hegel, Marx, Schopenhauer, Nietzsche, Feuerbach, and others. Prerequisite: any PHI 100-level course. Cr 3.

PHI 350 American Philosophy

History and background of the origin of philosophical ideas in America; particular emphasis given to Peirce, James, Royce, Dewey. Prerequisite: any PHI 100-level course. Cr 3.

PHI 360 Existentialism

An examination of the historical development and basic themes of existentialism as found in the writings of its major representatives: Kierkegaard, Nietzsche, Heidegger, Sartre, Buber,

Marcel, and others. Prerequisite: any PHI 100-level course. Cr 3.

PHI 370 Analytic Philosophy

A historical approach to twentieth-century linguistic philosophy. This course will begin with logical atomism, continue through the era of logical positivism, and end with ordinary language analysis. Extensive reading of primary sources and major commentators. Prerequisite: any PHI 100-level course. Cr 3.

PHI 380 Contemporary Continental Philosophy

The course presents a survey of central movements within continental philosophy in the 20th century: phenomenology, structuralism, hermeneutics, and deconstruction. Possible figures of study are: Husserl, Heidegger, Merleau-Ponty, Sartre, Foucault, Gadamer, Barthes, and Derrida. Prerequisite: any PHI 100-level course. Cr 3.

PHI 398 Independent Study

Independent study undertaken under the mentorship of a professor in the department. Prerequisite: a minimum of two (2) 300-level philosophy courses plus written permission of the instructor involved. Cr 3.

PHI 400, 401, 402 Seminar in Philosophy

These numbers are used to indicate seminar courses dealing with a specific topic or person in philosophy. Topics or individual philosophers will change from year to year and may or may not be repeated. The prerequisite for any 400-level seminar course is two (2) 300-level courses in philosophy, or permission of the instructor. Cr 3.

PHI 409 Senior Seminar

A research seminar designed to provide senior level students an opportunity to participate in the research efforts of individual faculty and collaborate with each other in the design, methodology and completion of their tutorials. Prerequisite: advanced standing as a philosophy major, and permission of the department. Cr 3.

PHI 410 Senior Tutorial

Designed to furnish senior philosophy majors with extensive training, under tutorial supervision, in analysis of a philosophical problem or system or philosopher; with a view to producing and presenting a senior paper for oral defense. Prerequisites: advanced standing as a philosophy major, and permission of the department. Cr 3.

Physics

Chair of the Department: Robert Coakley, 254 Science Building, Portland
Associate Professors: Armentrout, Coakley, Walkling; *Assistant Professor:* LaSala

The field of physics is concerned with the study of matter, energy, motion, and the interaction of material particles. It is a cornerstone science that attempts to explain at a fundamental level the concepts underlying phenomena important to the other physical sciences, to the biological sciences, and to engineering. The Physics Department provides elementary courses to introduce students to the field, general and topical courses which support the other science departments and engineering, and a four-year program leading to a B.A. degree in physics. The physics major covers the traditional areas of modern and classical physics, and is intended to prepare graduates for careers in physics and related technical areas or for graduate school. The B.A. program in physics will be offered for the first time in 1987-88.

In addition to the B.A. program, the USM Physics Department provides the first two years of the courses required for the engineering physics B.S. major at the University of Maine. Students planning to transfer to the Orono campus should contact the USM Physics Department as early as possible to plan courses.

Programs and Requirements

Bachelor of Arts in Physics

A minimum of 35 credits of physics courses including PHY 121 & 122 (or 111); 123 & 124 (or 112); 211 & 212; 221 & 222; 223 & 224; Intermediate Laboratory; and at least 14 credits of intermediate and advanced level electives. In addition, the following mathematics, chemistry, and computer science courses are required: MAT 152, 153, 252, 350; CHY 113 & 114, 115 & 116; and either COS 140 or COS 160. To graduate as a physics major, a student must maintain a minimum GPA of 2.0 in all courses which satisfy the major requirement, and a minimum overall GPA of 2.0

PHY 101 Introduction to Physics

An elementary approach to the study of mechanics, heat, electricity, and light, intended for the student who desires a one-semester introduction to physics. Students in the industrial arts program must register concurrently in PHY 102. Students majoring in any of the natural sciences are not directed to this course but rather to a more advanced introductory course. Prerequisite: high school algebra. Cr 3.

PHY 102 Introduction to Physics Laboratory

Laboratory experiments and additional material designed to supplement the topics considered in PHY 101. Prerequisite: concurrent registration in PHY 101 or permission of the instructor. Cr 1.

PHY 105 Acoustics and Noise

A semi-descriptive course on sound, with emphasis on applications of interest to the scientist and non-scientist alike. Discussion will cover the questions: what is sound, how is it perceived, how is it measured, what are its benefits and liabilities? Particular topics may include: the ear and hearing, sound waves, musical acoustics, building acoustics, noise and the environment, legal aspects of noise, underwater sound, biological aspects of sound, and ultrasonics. Consideration will be given to the interests of the members of the class. Three hours of lecture and demonstration. Occasional field experience may be provided. Prerequisite: a course in high school algebra. Cr 3.

PHY 109 Radiation: Problems and Effects

An introduction to several current topics of vital importance such as the use of nuclear fission and fusion in power generation, radioactive materials and x-rays in medical diagnosis and treatment, measurement of radiation, safety considerations, and biological effects. Intended to aid the understanding of the non-scientific citizen. Student participation and discussion will be encouraged. Lecture with demonstration and occasional student use of radiation-related equipment, and maximum use of external resources. Text: Offprints, articles, pamphlets, references, government documents. Prerequisites: None; high school physics and chemistry helpful. One two and one-half hour session per week. Cr 3.

PHY 111 Elements of Physics I

An introduction to the fundamental concepts of mechanics, sound and heat. Lectures, problem solving, demonstrations, laboratory exercises and visual aids will be used to develop an understanding of physical phenomena. Prerequisites: high school algebra. Lecture three hours, lab two hours, recitation one hour. Cr 4.5.

PHY 112 Elements of Physics II

A continuation of Physics I considering the topics: optics, electricity and modern physics. Lecture three hours, lab two hours, recitation one hour. Cr 4.5.

PHY 121 General Physics I

An introduction to the fundamental concepts of mechanics, sound and heat, using calculus where necessary at a level appropriate to the background of the student. This course is recommended for students who plan further study in science, mathematics, or engineering. It should be taken with PHY 122. Prerequisite: prior or concurrent registration in MAT 152 or equivalent experience. Three hours of lecture and two hours of recitation per week. Cr 4.

PHY 122 General Physics Laboratory I

Experiments designed to illustrate the concepts studied in PHY 121. Prerequisite: concurrent registration in PHY 121 or permission of the instructor. Two hours per week. Cr 1.

PHY 123 General Physics II

A continuation of PHY 121, introducing the concepts of electricity, magnetism, light, and atomic physics, using calculus where necessary at a level appropriate to the background of the student. This course is intended for students who plan further study in science, mathematics, or engineering. It should be taken with PHY 124. Prerequisite: PHY 121 or equivalent and one semester of calculus. Three hours of lecture and two hours of recitation per week. Cr 4.

PHY 124 General Physics Laboratory II

Experiments designed to illustrate the concepts studied in PHY 123. Prerequisite: concurrent registration in PHY 123 or permission of the instructor. Two hours per week. Cr 1.

PHY 211 Introductory Modern Physics

A discussion of the more important topics which show the departure of physics from its classical roots, namely, the nature of atomic particles, methods of determining particle properties, the concept of quantization, atomic and nuclear structure, and radioactivity. Prerequisite: PHY 123, 124, and MAT 152. Cr 3.

PHY 212 Modern Physics Laboratory

A laboratory course designed to accompany PHY 211. The experiments will illustrate the determination of particle properties, spectroscopy, fundamental constants, radioactive decay, and safe methods of handling radioactive materials. Concurrent registration in PHY 211 is required. Cr 1.

PHY 221 Intermediate Mechanics

An intermediate treatment of classical mechanics and wave motion. Prerequisite: PHY 121, 122, and MAT 153. Cr 3.

PHY 222 Mechanics Laboratory

A laboratory course designed to accompany PHY 221. The experiments will illustrate linear and rotational accelerated motion, conservation of energy and momentum, oscillations, and evaluation of the gravitational constant. Concurrent registration in PHY 221 is required. Cr 1.

PHY 223 Intermediate Electricity and Magnetism

An intermediate treatment of static and current electricity and magnetism, leading to Maxwell's Equations and their applications. Prerequisites: PHY 123, 124, and MAT 153. Cr 3.

PHY 224 Electricity and Magnetism Laboratory

A laboratory course designed to accompany PHY 223. The experiments will illustrate the fundamental concepts of electrostatics, circuits, instruments, and electromagnetism, and will establish the values of the fundamental constants. Concurrent registration in PHY 223 is required. Cr 1.

PHY 251 Principles of Electronics

An introduction to electronics including DC and AC circuits, transistors, operational amplifiers, and combinatorial and sequential

logic devices. The laboratory will cover the use of electronic instrumentation as well as illustrate principles. Prerequisites: MAT 152 or equivalent, or permission of instructor. Cr 3.

PHY 253 Microprocessor Electronics and Applications

A study of microprocessors and microprocessor interfacing. Programming of a representative 8-bit microprocessor will be covered. Laboratory experience will cover both machine language programming and interfacing of the microprocessor. Prerequisites: PHY 251 and any COS programming course. Cr 3.

PHY 390 Independent Study in Physics

A laboratory research investigation of an approved topic in physics, using the facilities of the University laboratories and/or those of industrial and professional laboratories. Prerequisite: consent of the instructor. Cr 3.

Political Science

Chair of the Department: Oliver H. Woshinsky, 38 Chamberlain, Portland
Professors: Fisher, Maiman, Woshinsky; *Associate Professors:* Coogan, Roberts;
Assistant Professors: Erickson, Faksh, Hamilton

Political science is the systematic study of politics and government and is widely recognized as one of the core disciplines within the liberal arts curriculum. The study of political science does not prepare students directly for any specific career, but it does provide substantive and analytic background which can lead to a variety of professions. Most obviously it serves those with an interest in entering politics and government. Political science majors go on to become town managers, city planners, budget specialists, foreign service officers, policy researchers, and hold a variety of management positions in local, state, national, and international organizations. Beyond government, a political science degree leads naturally to law school or other graduate training. Many journalists and broadcasters were political science majors. Business has recognized the analytic and management skills obtained through training in political science. Indeed, some studies have estimated that perhaps one-third of undergraduate majors undertake careers in business. Political science training is also useful in other rapidly developing fields such as polling, communications, campaign management, consulting, private and public interest group activity, and data analysis. College teaching has also been a traditional career for the political scientists. Demographics now suggest that entering freshmen can look forward to good job prospects by the time they have completed their graduate educations.

Programs and Requirements

Bachelor of Arts in Political Science

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 36.

Each major must complete POS 101, 102, and 103. A grade of C minus or better is required to receive major credit in the department. Each major must select the balance of required courses from the following, taking at least one course from each of the following five areas of the department:

American Political System: POS 120; POS 201; POS 233; POS 257; POS 258; POS 265; POS 283; POS 284; POS 357; POS 358.

Comparative Political Systems: POS 235; POS 236; POS 237; POS 238; POS 240; POS 245; POS 247; POS 259; POS 332.

International Politics: POS 104; POS 239; POS 249; POS 275; POS 385; POS 386; POS 389.

Political Theory: POS 289; POS 290; POS 292.

Public Administration and Public Policy: POS 210; POS 251; POS 252; POS 253; POS 286.

Upper-level political science courses *all* require either POS 101 or POS 102 or the permission of the instructor. Note that POS 101 is *not* a prerequisite for POS 102.

In special cases the requirement of POS 101 may be waived if the student successfully completes an examination administered by the Department. In rare cases the Department may also grant credit for other political science courses. Students who wish to obtain the POS 101 waiver or receive credit for other departmental courses should petition the Department through its chair.

Students interested in a self-designed major in international studies should contact Professor Erickson.

The Department administers an elaborate, carefully structured internship program, open to majors and non-majors alike. Political science majors are especially encouraged to take advantage of the variety of internship opportunities as part of their undergraduate program.

The Political Science Department strongly urges its majors to take courses in economics, history, sociology, and computer science. For a number of majors, courses in geography-anthropology, psychology, philosophy, and communication would also be useful. All political science majors are encouraged to undertake at least one year of university level, foreign language study. Additional language study is recommended for those majors with an interest in comparative or international politics and for those considering graduate school.

All students are reminded that, in addition to their meeting departmental requirements for a major leading to a baccalaureate degree, they must also meet the requirements of the school or college involved, as well as the Core curriculum requirements.

Political science courses are normally offered on the following schedule:

Every semester: POS 101, 102 and internships.

Yearly: (Fall) POS 104, 233, 283, 289. (Spring) POS 284, 290. (Either semester) POS 103, 235, 236, 237, 249, 251, 253, 265, 307, 357, 358, 385, 386.

Approximately once every two years: POS 120, 201, 210, 238, 239, 240, 245, 247, 257, 258, 259, 275, 286, 292, 332, 389.

Note: POS 307 Statistical Methods for Social Research may be substituted for POS 103.

Minor in Political Science

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

Students who wish to complete a political science minor should take the following courses: POS 101 and POS 102; three additional courses, to be selected so that three of the five fields within the discipline are represented (see above for the listing of courses within each field); and one additional course in political science. A grade of C- or better in POS required courses is necessary to receive credit toward the minor.

POS 101 Introduction to American Government

This course focuses on the political institutions, processes, behavior, and problems of government in the United States. The national government is emphasized. Key topics include: the Constitution, Supreme Court, Congress, Presidency, political parties, public opinion, and interest groups.

Cr 3.

POS 102 People and Politics

This course introduces the student to modern political analysis. It centers on basic questions in the study of political behavior: how people learn about politics, what kind of political system they adopt and support, who does and who does not participate in politics, how political conflict is expressed and resolved in

various societies. The course aims at familiarizing the student with major approaches or methods which political scientists have found helpful for understanding real political behavior. Note: POS 101 is not a prerequisite for POS 102. Cr 3.

POS 103 Political Science Research Methods

An introduction to the way political scientists conceive and carry out research projects. Students will learn the scientific method: how to formulate theories, gather data, and test hypotheses. They will be taught how to find political science sources in the library; how to document sources in footnotes and bibliography, and how to conduct legal research in a law library. Students will eventually complete a major research project. This course is required for all political science majors; they are strongly urged to take it during their first or second semester after entering the Department. Cr 3.

POS 104 Introduction to International Relations

Examination of the relationships of nations in their efforts to deal with each other from differing political, economic, and cultural bases. Cr 3.

POS 120 Government and Politics of Maine

This course concerns Maine State Government, including legislative, executive and judicial programs and powers as exercised within the system of Maine values, political parties, and interest groups. Open to political science majors and as an elective or special interest to the student who has an interest in the programs and politics of the state of Maine. Cr 3.

POS 201 Women and Politics

An introduction to the way gender affects political behavior. Special attention will be given to the social, psychological, and legal factors which, over the years, have inhibited women from engaging in full-scale political activity. Special consideration will also be given to the way the women's movement and the ideas of feminism have encouraged growing rates of political participation by women. The course will include a thorough review of the different behavior patterns of women and men in politics. Cr 3.

POS 210 Inter-governmental Relations

This course examines attempts to bring about social and economic changes through governmental action. Functional and dysfunctional aspects of the political, economic, and social systems are considered. Attempts at intervention are examined through selected case studies in inter-governmental relations. Cr 3.

POS 233 The American City

The city in American political life; types of municipal governments; developments in inter-governmental relations; metropolitan area problems; the future of the city. Students

will participate in a task force on a selected urban program. Cr 3.

POS 235 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.

POS 236 Communist Governments

This course offers a survey of existing communist social systems. The following topics will be considered: variation in political parties and state systems, the problem of nationalism, economic management, and cultural policy. Special attention will be given to a comparative survey of current communist ideology and the question of the "socialist commonwealth." Cr 3.

POS 237 The Politics of the Soviet Union

An introduction to the USSR: Russian and Soviet political history; Marxism-Leninism; the party and state structures; the socialist economy; the impact of the regime on the individual. Cr 3.

POS 238 Canadian Government and Politics

An introduction to political life in Canada. Primary topics to be covered in the course: Canadian political culture, voting behavior, the parliamentary system, federalism, political parties, and interest groups. The place of Quebec and French-speaking Canadians within the Canadian political system will be given special emphasis. Cr 3.

POS 239 Soviet Foreign Policy

A survey of Soviet foreign policy as a continuation of Tsarist policies and as a world movement. Major topics include: the Comintern and the Popular Front: impact of World War II; the emergence of the USSR as a superpower; and post-Stalin modifications. Case studies in contemporary foreign problems, including relations with the Communist world. Cr 3.

POS 240 The Politics of Developing Nations

An examination of the thrust towards modernization in the Third World. Economic development, relationships with the world community, the role of the military, and various theories about the nature of the relationship between the Third World and the Communist and non-Communist industrial worlds are considered. POS 101, 102 or 104 are recommended. Cr 3.

POS 245 British Politics

A survey of the contemporary Constitution of Great Britain. The workings of Parliament, the government, and the parties. Principal stress is on the main issues current in British politics. Cr 3.

POS 247 The Politics of China

An introduction to the government of the People's Republic of China, 1949-present. Principal topics include: historical and cultural antecedents, Maoism, party and state institutions, socialization and communications, political participation, policy formation and implementation, and change over time. Cr 3.

POS 249 The Middle East in International Politics

The crucial issues of international politics—war, revolution, superpower intervention, economic development and terrorism—converge in the Middle East on a regional basis. This course will examine the nature of Mideast regional politics and the foreign policies of the major constituents of the area. The purpose will be to secure an understanding of the conflict between Arab and Israeli worlds, the foundations of tension among the Arab states themselves, and the role played by the superpowers in stabilizing or disrupting the uneasy relationships of the region. Cr 3.

POS 251 Public Administration

An examination of national, state, and local bureaucracies, including their processes of decision making, communications, leadership, internal and external political relationships. A continuing question will be, "How can those institutions be made responsive to the public?" Cr 3.

POS 252 Budgets and Politics

A comparative examination of the budgetary processes of municipalities, states, and nations. The budget is the critical point at which goals intersect with resources. Students who complete the course will have a working understanding of various budgeting techniques (such as PPBS, zero-based budgeting, and incremental budgeting) as well as an appreciation of their effectiveness, their impact on expenditures, and their political consequences. Prerequisite: POS 251 or permission of the instructor. Cr 3.

POS 253 Politics of American Policy-Making

An introduction to political analysis of public policy formation and implementation. Policy processes will be examined to see what their study can tell us about American politics, institutions, and political behavior. Particular attention will be paid to "who gets what, when and how" from the United States political system, especially *how* they get it and *why* it works that way. Alternative methods of policy analysis will be applied to selected areas of current interest, and critically evaluated. Cr 3.

POS 257 Political Parties

Development and present organization and operation of the American party system. Nature and function of major and minor parties, sectionalism, nominating system, presidential and congressional elections, the electorate, finance, interest groups. Cr 3.

POS 258 Public Opinion and Electoral Behavior

The role of public opinion in the American political system; definition and measurement; sociological and psychological influences; mass media; linkages to government; the role of public opinion in other nations; voting and presidential elections. A major segment of the course will be devoted to the construction, implementation, and analysis of a public opinion poll. Cr 3.

POS 259 Psychology and Politics

This course is an introduction to the political behavior. It will examine various theories of personality and motivation which explain why people act as they do in politics. It will focus on such questions as: Can "national character" explain political differentiations? What are the psychological causes of political extremism and mass movements? Are there "authoritarian" and "democratic" personalities? What are the needs or drives which lead people into full-time political activity? The bulk of the course will focus on elite, rather than mass, behavior. Prerequisite: POS 102. Cr 3.

POS 265 Environmental Politics

An analysis of the political issue of environmental quality. The role of public opinion, Congress, the courts, interest groups, the presidency and bureaucracy in environmental policy formulation and implementation will be examined in historical perspective. Specific issue areas in environmental policy at national, state, and local levels of government will be surveyed with discussion of intergovernmental relations and jurisdictional questions. Alternative approaches for dealing with ecological problems will be discussed. Cr 3.

POS 275 United States Foreign Policy

A detailed evaluation of U.S. foreign policy focusing on such topics as: identification of U.S. policy; governmental agencies and personalities in the formulation and implementation of policy; the role of non-governmental influences. The course is designed to evaluate current policy goals and practices within the context of long-range goals. Cr 3.

POS 283 The American Judicial System

The role of the judiciary in American politics, with emphasis on the United States Supreme Court. A series of case studies will cover such topics as economic regulation, civil rights, reapportionment, and war powers. Attention will also be given to the impact of judicial philosophies on decision-making. Cr 3.

POS 284 American Civil Liberties

An analysis of judicial interpretations of Bill of Rights guarantees and their effects on political processes in the United States. Topics include church and state, freedom of speech and press, the rights of the accused and the convicted. Prerequisite: POS 283. Cr 3.

POS 286 Administrative Law

The law made by and for administrative agencies. Topics include delegation, standing, judicial review, and the merits and demerits of "discretionary justice." Cr 3.

POS 289 Political and Social Thought I

An intensive study of ancient political and social philosophies. A textual criticism of the works of Plato and Aristotle is emphasized. Prerequisite: junior or senior standing. Cr 3.

POS 290 Political and Social Thought II

A study of selected political theories from Machiavelli to modern political philosophers. The basic approach is historical, but an attempt is made to relate theories of politics to the environments in which they developed. Prerequisite: junior or senior standing. Cr 3.

POS 292 American Political Thought

An examination of American historical and contemporary thinking on a variety of political topics including equality, revolution, liberty, property, war, and individualism. Prerequisite: consent of the instructor. Cr 3.

POS 307 Statistical Methods for Social Research

Emphasis on uses of statistics in the organization, interpretation, and presentation of research data. Measures of association and correlation; testing of hypotheses, probability, and sampling. Includes one hour per week of laboratory exercises. Also listed as SOC 307. Prerequisite: POS 102 or SOC 100. Cr 4.

POS 332 Comparative Political Behavior

This course will introduce students to major approaches and concepts in comparative politics. Emphasis will be placed on using theoretical concepts to understand practical politics in a variety of nations (primarily those modern industrial states of Western Europe and North America). Major topics for study; public opinion, political parties, legislative behavior, bureaucracy. Prerequisite: POS 235 or 236, or permission of the instructor. Cr 3.

POS 351 Federal Executive Internship

Provision may be made to gain professional experience in a department or agency of the federal government located outside of Washington, D.C. The course is open only to selected students. Participation in a seminar is required. Cr 6.

POS 352 Internship in Private and Semi-Public Organizations

Provision may be made to gain professional experience in administration and research. The course is open only to selected students; see department chairman for details. Students will meet for a series of internship seminars, for which readings and reports will be required. Cr 6.

POS 353 Municipal Administration Internship

Provision may be made to gain professional experience in a local government. The course is open only to selected students; see department chairman for details. Students will meet for a series of internship seminars. Readings and research reports are required, focusing on the management, financial control and administration of modern American cities, with emphasis on administration of personnel and finance, the city plan and line functions; public safety, transportation, health, welfare and housing. Cr 6.

POS 354 State Internship

Provision may be made to gain professional experience in a department or agency of state government. The course is open only to selected students; see department chairman for details. Students will meet for a series of internship seminars, for which readings and research reports are required. The state government internship is available under the Maine State Government Internship Program. Cr 6.

POS 355 Congressional Internship

Provision may be made to gain professional experience in the local offices of Maine's U.S. Congressmen and Senators. The course is open only to selected students; see department chairman for details. Students will meet for a series of internship seminars, for which readings and research reports are required. Cr 6.

POS 356 Internship in Washington, D.C.

Provision may be made to gain professional experience in a congressional office, an agency of the national government, or with a private or semi-public organization in Washington, D.C. The course is open only to selected students; see department chairman for details. Readings and research reports are required. Cr 9.

POS 357 The American Presidency

This course examines the development of the modern presidency; the scope and exercise of presidential decision-making in domestic and foreign policy; and standards for assessing presidential performance. Cr 3.

POS 358 The American Congress

The role of the national legislature in American politics is considered. The course undertakes a study of the men and women who reach Congress, the internal norms and procedures on national decision-making. Among topics covered are the committee system, leadership patterns in the Senate and the House, the public's influence on Congress, Congress and the Presidency, and Congressional policy-making in selected areas. Cr 3.

POS 385 Peace and National Security

An analysis of the requirements for a reduction of global tensions in relation to national security needs. The politics of war and conflict, as well as peace and stability, will be considered. How might we maximize the means of international stability and minimize the risks to national protection? The course will discuss methods of achieving order in a nuclear era, and develop relevant tools of analysis for assessing national security policies.

Cr 3.

POS 386 Arms and Negotiation

The proliferation of arms, especially the increase and diversification of nuclear capabilities, makes us hostage to the probability of global destruction. Yet, arms control, super-power detente, and peace movements do not appear to be effective avenues of minimizing the preparations for war. This course will examine arms capabilities both in relation to the growth of tensions and the creation of stability in the world arena. The management of arms will be considered in the light of political processes attendant to war, peace, and the indeterminate condition of neither war nor peace.

Cr 3.

POS 389 International Law and Organization

Law and order in the international system present a range of problems both similar to and different from law and order in domestic society. Public international law and international organization are attempts to control the violence and anarchy of international society. While these approaches are open to criticism for being ineffective, they cannot be ignored as integral to the international political process. This course will study the history, theoretical significance and practical implications of attempts to control international political interaction through law and organization.

Cr 3.

POS 395 Independent Study I

A concentrated program of research or study on a particular subject of the student's selection. The topic will be chosen with the advice and under the direction of a faculty member. Admission by permission of the political science faculty.

Cr 3.

POS 396 Independent Study II

A concentrated program of research or study on a particular subject of the student's selection. The topic will be chosen with the advice and under the direction of a faculty member. Admission by permission of the political science faculty.

Cr 3.

Psychology

Chair of the Department: William F. Gayton, 512 Science Building, Portland
Professors: Bishop, Gayton, Paradise; *Associate Professors:* Hearn, Sanborn, Sytma; *Assistant Professors:* Broida, Brown, Hamilton

The Department 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, psychological research, 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.

Programs and Requirements

Bachelor of Arts in Psychology

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 40.

Required Courses:

PSY 101 and 102	General Psychology (3 credits each semester) to be taken as a two-semester sequence
PSY 201	Statistics in Psychology
PSY 205	Experimental Methodology
PSY 223	Child Development
PSY 330	Social Psychology
PSY 333	Psychopathology
PSY 350	Psychology of Learning
PSY 351	Learning Laboratory
PSY 361	Sensation and Perception
PSY 365	Physiological Psychology
PSY 371	History and Systems

Other courses offered by the Department can be taken as electives to complete the 40-hour minimum. PSY 101 and 102 are prerequisites for all additional psychology courses.

In addition, successful completion of the following three non-psychology courses is required for certification as a psychology major. These courses should be completed by the end of the sophomore year:

MAT 100	College Algebra (Prerequisite for PSY 201)
BIO 105	Biological Principles
BIO 211	Human Anatomy and Physiology (Prerequisite for PSY 365)

Psychology 101 and 102 should be elected no later than the sophomore year by students who plan to major in psychology. All majors are required to elect PSY 201 and PSY 205 no later than their junior year. PSY 201 may be taken concurrently with PSY 102. No grade of D in any psychology course will count toward fulfillment of the major requirement.

All students are reminded that, in addition to meeting departmental requirements for a major leading to a baccalaureate degree, they must also meet the requirements of the school or college involved, as well as the Core curriculum requirements.

The Department recommends that students who wish to take a more extensive program or who plan to enter graduate school elect, in consultation with their major advisor, further courses in psychology and also include in their programs study in related fields, such as mathematics, biology, philosophy, sociology, anthropology, and computer programming.

Psychology majors who plan to attend graduate school should keep in mind that Graduate Record Examinations must be taken no later than December of their senior year. Students should plan to complete as many psychology courses as possible by the end of the fall semester of their senior year.

PSY 101 General Psychology I

An introduction to the study of behavior as a natural science. Among the topics covered are: method of inquiry, physiological foundations of behavior, sensation and perception, motivation and emotion, learning and thinking. This course is a prerequisite for all courses in the department. Cr 3.

PSY 102 General Psychology II

A continuation of Psychology 101. It deals with complex psychological processes such as ability testing, personality, conflict, behavior disorders and therapy, and social and industrial behavior. Prerequisite: PSY 101. Cr 3.

PSY 201 Statistics in Psychology

A general introduction to the techniques of descriptive, predictive, and inferential statistics. Emphasis is placed on measures of central tendency and variability, correlation, hypothesis testing, and simple analysis of variance. Prerequisites: PSY 101 and MAT 100 or permission of the instructor. Cr 3.

PSY 205 Experimental Methodology

Emphasis on the principles, methods, and techniques of experimental psychology. Applications of general methodology and specific techniques to the design of experiments in behavioral research. Prerequisite: PSY 201. Cr 3.

PSY 220 Developmental Psychology

A study of the factors in human psychological growth traced from genetic predisposition through the prenatal and postnatal periods, childhood, adolescence, adulthood and aging to death. The major theorists relevant to each developmental period are considered. Prerequisites: PSY 101 and 102. NOTE: This course does not count toward major credit. Cr 3.

PSY 223 Child Development

A systematic study of the behavior and psychological development of children during infancy, preschool and school-age periods. Analysis of the genetic, prenatal, and postnatal influences on physical, cognitive, and personality development. Prerequisites: PSY 101 and 102. Cr 3.

PSY 224 Adolescent Development

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. Prerequisites: PSY 101 and 102. Cr 3.

PSY 232 Psychology of Adjustment

A study of the development of personality patterns, modes of behavior, life styles, and coping mechanisms considered normal in this society. Consideration of their value to individual functioning. Prerequisites: PSY 101 and 102. NOTE: This course does not count toward major credit. Cr 3.

PSY 235 Psychology of Women

Psychology of women and psychological literature relevant to men and women. Some topics include physiological and personality differences between the sexes, sex-role development, role conflict, women and traditional therapy. NOTE: This course does not count toward major credit. Prerequisites: PSY 101 and 102. Cr 3.

PSY 311 Industrial Psychology

Critical treatment of research methods in personnel selection and evaluation and current theories of individual behavior in complex organizations such as government and business. Prerequisites: PSY 101 and 102. Cr 3.

PSY 320 Psychology of Personality

Consideration of current issues and findings in personality. Current research in such areas as locus of control, anxiety, field dependence, interpersonal trust, repression-sensitization, sensation-seeking, authoritarianism, need for achievement, and extroversion. A group research project is required. Prerequisites: PSY 101 and 102. Fall semester only. Cr 3.

PSY 330 Social Psychology

The psychological principles which enter into the social behavior of the individual. Areas of consideration include perception, communication, attitude formation, interpersonal attraction, and group behavior. Prerequisites: PSY 101 and 102. Cr 3.

PSY 333 Psychopathology

The etiology, development, and manifestation of the major forms of mental illness with particular emphasis upon the neuroses and psychoses. Psychological, social, and biological factors which contribute to maladjustment are examined. Prerequisite: PSY 101 and 102. Cr 3.

PSY 335 Deviations of Childhood

Intensive readings and discussion of the etiology and manifestation of deviant patterns of behavior and functioning in children. Problems relating to the identification and management of such deviations are considered. Prerequisites: PSY 101 and 102 or permission of the instructor. Spring semester only. Cr 3.

PSY 338 Theories of Personality

A survey of the major contemporary approaches to the study of personality. Different theories are compared, their impact upon current thinking evaluated, and their research contributions assessed. Prerequisites: PSY 101, 102, and 320, or permission of the instructor. Cr 3.

PSY 340 Behavior Modification

An introduction to the principles of operant conditioning with emphasis on the application of operant techniques in educational, correctional, and therapeutic situations. Prerequisites: PSY 101 and 102. Cr 3.

PSY 343 Psychological Test Theory

The theoretical and statistical concepts underlying the development of various psychological tests. Individual and group tests of intelligence, personality, aptitude, and interest are examined and evaluated in terms of these concepts. Uses and abuses of psychological tests are considered. Prerequisite: PSY 201 or instructor's permission. Fall semester only. Cr 3.

PSY 350 Psychology of Learning

Experimental findings on the fundamental principles that underlie the acquisition and retention of new behavior. Emphasis is placed on operant and respondent conditioning and the experimental analysis of behavior. Prerequisites: PSY 101 and 102. Cr 3.

PSY 351 Learning Laboratory

An introduction to laboratory experiences designed specifically to demonstrate the basic principles of behavior conveyed in PSY 350. Topics include positive reinforcement, extinction, shaping, discrimination, schedules of reinforcement, generalization, and others. Prerequisites: PSY 101 and 102. PSY 350 must be taken either prior to or concurrently with PSY 351. Cr 1.

PSY 352 Psychology of Motivation

A survey of theory, research methods, and experimental findings related to the search for the determinants of human and animal behavior. The course requires a research paper on a topic of interest to the student, and the planning of an experiment growing out of that interest. Laboratory. Prerequisites: PSY 101 and 102. Cr 3.

PSY 355 Research in Personality

Examination of current research in personality. Intensive experience in designing, executing, reporting, and evaluating research in personality. This will include a research project. Prerequisite: PSY 320 or permission of instructor. Spring semester only. Cr 3.

PSY 360 Cognitive Processes

Experimental findings and theoretical analyses of the acquisition, retention, and transfer of verbal behavior and a critical survey of theories and research on such topics as problem solving, creative thinking, reasoning, concept formation, decision making, thought and language, and related topics. Prerequisites: PSY 101 and 102. Cr 3.

PSY 361 Sensation and Perception

An examination of perceptual processes in selected sensory systems. Emphasis on experimental methodology, research findings, and

theoretical interpretations. Prerequisites: PSY 201 and 205. Cr 3.

PSY 365 Physiological Psychology

Basic neuroanatomy, neurophysiology, and endocrinology, and the relationships between nervous system functioning and behavior. Physiological analysis of sensory function, motivation, and learning. Prerequisites: BIO 101 and 111; PSY 101, 102. Cr 3.

PSY 371 History and Systems of Psychology

A survey of the history of psychological thought from its beginnings in Greek philosophy to modern times. Special attention will be given to the influence of philosophy and natural science on the development of contemporary psychology. The course concludes with a survey of the major systems. Prerequisite: 15 hours in psychology and/or instructor's permission. Cr 3.

PSY 380 Psychology and the Law

This course represents an intensive study of the role of psychology in the legal process with particular emphasis upon the insanity defense, competency to stand trial, and involuntary commitments. Also considered are those psychological factors which relate to such topics as jury selection and deliberation, eyewitness testimony and credibility, and courtroom strategy. A term paper is required of all students. Prerequisites: PSY 101, 102, 333 and/or permission of the instructor. Spring semester only. Cr 3.

PSY 385 Contemporary Psychotherapies

A survey of contemporary psychotherapies including Gestalt therapy, logotherapy, bioenergetics, reality therapy, transactional analysis, and rational-emotive therapy. Seminar format. This course is designed for advanced psychology majors planning to go on to graduate school in clinical or counseling psychology. Prerequisite: permission of the instructor. Fall semester only. Cr 3.

PSY 390 Selected Topics in Psychology

A critical in-depth investigation of one of various topics and issues in different areas of psychology (e.g., experimental, social, clinical, child-developmental, etc.) Each student is expected to complete a research project on the topic for the semester. Consult the Psychology Department for topics offered. Prerequisite: permission of the instructor. Cr 3.

PSY 400 Research in Psychology I

This course is open to qualified majors in psychology who wish to conduct research projects. With permission of departmental chairman. Cr 3.

Social Work

Chair of the Department: Joseph D. Kreisler, 7 Chamberlain Ave., Portland
Professor: Steinman; *Associate Professors:* Deprez, Kreisler, Lazar, Rich; *Assistant Professor:* Lieberman; *Field Work Coordinator:* Asen

The program in social work prepares the student for the professional practice of social work at the entry level.

The social work curriculum of the Department is accredited by the Council on Social Work Education at the baccalaurete level. Students who receive a degree from an accredited undergraduate program in social work may apply to selected graduate schools of social work for advanced standing. If accepted the student may complete an M.S.W. degree program in one year instead of two.

Admission to the Social Work Department is initially on a provisional basis. Formal admission occurs after the student has completed the Department's admission application and has had an admission conference with his other faculty advisor. This normally takes place in the second semester of the sophomore year. Transfer students, who select social work as their major, should meet with their faculty advisor as soon as possible after they are admitted to the University.

Included in the social work course requirements are two semesters of field work. During these two semesters the student puts in 480 hours in his or her field assignment, which takes place in a community agency. A large number of social and community agencies in the Greater Portland area and in cities and towns of southern Maine have been most generous in their cooperation with the Department and in making available field instruction resources including supervision for students of the Department.

In planning their program, provisional and admitted students must regularly consult with their faculty advisor. Such consultation is designed to help the student explore career objectives, review Departmental requirements, design the best possible combination of required courses and electives, and to facilitate a productive relationship between the student and the Department.

The students of the Department have organized a Social Work Majors Association. The organization seeks to facilitate communication between students and faculty, ensure student involvement in departmental deliberations, provide for professional growth, and act on issues and problems in the community. Student representatives attend faculty meetings and serve as full members on the Department's personnel and curriculum committees.

Programs and Requirements

Bachelor of Arts in Social Work

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 40.

The major in social work consists of 40 credits in required social work courses. In addition, 40 credits of foundation courses must be completed in other departments. Some of these foundation courses may also be used to satisfy the Core curriculum requirements as appropriate.

Required Social Work Courses

SWO	101	Introduction to Social Welfare
SWO	102	Introduction to Social Work
SWO	352 and 353	Methods of Social Work Practice I and II
SWO	354 and 355	Field Work I and II
SWO	361	Dynamics of Organizations, Professions and Consumers
SWO	370	Human Behavior in the Social Environment
SWO	433	Social Welfare Research
SWO	450	Social Problems and Social Welfare Policy
SWO	456	Issues in Social Welfare and Social Work

Required Foundation Courses in Other Departments

Substitutions for, or waivers of any of these courses, require the written approval of a student's advisor.

ENG	100	College Writing
ECO	201	Principles of Economics I
BIO	101	Biological Foundation
BIO	102	Biological Experiences
POS	101	Introduction to Government

OR

POS	102	People and Politics
PHI		(Any introductory philosophy course)
PSY	101 and 102	General Psychology I and II
SOC	100	Introduction to Sociology
SOC	371	Sociology of Minorities

Four other advanced level sociology and/or psychology courses
These four other courses are selected with the advice and approval
of the student's advisor.

Students are expected to achieve a grade of C- or better in all
Department of Social Work and required foundation knowledge
courses.

SWO 101 Introduction to Social Welfare

Seeks to define a perspective within which to understand the needs, problems, and potential of humans as individuals and in groups. Describes and analyzes social welfare systems and social work practices as they currently respond to social needs, and as they might better facilitate the development of human potential.

Cr 3.

SWO 102 Introduction to Social Work

An introduction to the practice of social work focusing on the nature of intervention, the roles and functions of social workers in the delivery of services in various settings and beginning practice skills. The course enables a student to make a more informed decision about his/her entry into the field. Field observation by student required. Prerequisite: SWO 101.

Cr 3.

SWO 265 Women—Social Change

Examines the ways our culture affects and is affected by women in the areas of physical and mental health throughout their lifespan. Emphasis will be placed on an assessment of the problems women face in today's world as well as personal and political approaches to these problems.

Cr 3.

SWO 266 Concept of Self and the Handicapped Person

To enhance effective interaction and communication with handicapped persons, issues are examined from the perspectives of society and of the individual (handicapped and non-handicapped). Topics include basic human needs and self-image, independence-dependence, anger-frustration, failure, the power of guilt and shame. All students participate in sensory exercises.

Cr 3.

SWO 267 Relating Professionally to Homosexuality

Provides an understanding of varying concepts of homosexuality. Employs recent theoretical, empirical and clinical literature to assess

attitudes toward homosexuality. Examines motivation and skills to achieve constructive interaction between the professional and the homosexual.

Cr 3.

SWO 274 Aging and Social Policy: A Cross-Cultural View

Examines similarities and differences between simple and complex societies in their treatment of processes of aging. Against this background the position of older Americans is considered in relation to various social institutions, together with the origin and implementation of social policies affecting them.

Cr 3.

SWO 275 Developmental Services to the Aging

Policy, administration, and implementation of human services to older people are studied from a developmental standpoint. Examines implications of age bias (and its modification) for the nature of service. SWO 274 recommended but not required.

Cr 3.

SWO 278 Professional Practice with Older People

Enhances skills in human service practice with older people. Analyzes the sources and manifestations of both healthy and problematic aging. Applies concepts drawn from the behavioral and social sciences, and from clinical and community practice. Translates a developmental rather than a custodial view into everyday direct service.

Cr 3.

SWO 279 Skills for Serving the Frail Elderly

Enhances values and skills for guiding families to plan with (rather than for) older relatives; for performing periodic, differential functional assessments of clients' remaining strengths as well as their limitations; for utilizing the network of community supports; for discerning appropriate institutionalization and for discharge planning; and for advocacy and assertiveness with and on behalf of the frail elderly.

Cr 3.

SWO 288 Substance Use and Abuse: Alcohol and Other Drugs

Examines the use and abuse of psychoactive substances: street drugs, prescription drugs, alcohol, caffeine, and nicotine. Consideration of the history, pharmacology, and physical and psychological affects of each substance. Exploration of prevention and treatment models, with special reference to those in use locally. Cr 3.

SWO 352 Methods of Social Work Practice I

An introduction to basic concepts and skills in social work interviewing and in the problem-solving approach within the framework of systems theory. Study of the values and knowledge base of social work skills. Class discussion and assignments based on community lab experience (SWO 354) which must be taken concurrently. Prerequisite: SWO 101. Cr 3.

SWO 353 Methods of Social Work Practice II

A continuation of SWO 252 covering application of basic social work skills to areas of practice such as community organization, crisis intervention, group work. Class discussions and assignment based on community lab experience (SWO 355) which must be taken concurrently. Cr 3.

SWO 354 Field Work I

For social welfare majors: a required internship of 16 hours per week in approved agency settings, designed to relate social work theory to practice under professional supervision. Fall semester only. Prerequisites: SWO 101; 102; 352 (concurrent). Cr 6.

SWO 355 Field Work II

A continuation of SWO 354. Spring term only. Prerequisites: SWO 352 and 354; SWO 353 concurrent. Cr 6.

SWO 361 Dynamics of Organizations, Professions and Consumers

Provides a series of concepts for the study and critical evaluation of the bureaucracies, professions, and consumers of social work and other services. Examines a range of approaches to rendering human services more responsive to client needs. This course is offered one semester each academic year. Prerequisite: SWO 352, SWO 354 or permission of instructor. Cr 3.

SWO 364 Comparative Social Welfare Systems

A study of social welfare programs in advanced industrial and in developing societies, in market and non-market economies and in democratic and authoritarian political systems. Prerequisite: SWO 450 or permission of instructor. Cr 3.

SWO 370 Human Behavior in the Social Environment

A study of the implications of theory and research related to human development for social welfare policy and social work practice.

Prerequisites: 12 credits of upper level social or behavioral science in addition to SWO 101, 102; PSY 101, 102 and introductory course in biology. Cr 3.

SWO 380 Child Welfare

A study of the process of growing under handicapping social conditions and the implications for social services and institutional change. Prerequisite: SWO 101 or permission of the instructor. Cr 3.

SWO 397 Department Projects

Individual or group projects, requiring independent study or field work in some aspect of social welfare, to be selected by students in consultation with faculty. Prerequisite: department permission. Cr 3.

SWO 433 Social Welfare Research

A study of the implications of social welfare research for social policy and social work practice. Students practice applications of concepts and methodology by means of projects. Prerequisites: SWO 101 plus senior standing or permission of instructor. Students must also have satisfied quantitative decision making requirement with one of the approved statistics courses. Cr 4.

SWO 450 Social Problems and Social Welfare Policy

A critical examination of social welfare institutions, the social problems and social needs to which they are addressed, and the policy decisions which determine the organization and direction of social welfare programs. Prerequisite: SWO 352, SWO 354, ECO 201, POS 101 or 102, or permission of instructor. Cr 3.

SWO 452 Methods of Social Work Practice III

Provides further exploration of the theoretical knowledge and practice skills involved in utilization of particular interventive methods (e.g., child advocacy, organizational change and/or the more focused knowledge, methods, and skills needed for effective intervention with a particular population at risk: adolescents, the frail elderly, substance abusers). Prerequisite: permission of instructor. Cr 3.

SWO 453 Methods of Social Work Practice IV

A continuation of SWO 452. Cr 3.

SWO 454 Field Work III

An advanced field experience in social work practice. Fall term only. Prerequisites: SWO 354 or permission of the instructor. Cr var.

SWO 455 Field Work IV

A continuation of SWO 454. Spring term only. Cr var.

SWO 456 Issues in Social Welfare and Social Work

Senior seminar for social welfare majors that seeks to integrate class and field experience. Open to others by permission only. Must be taken in student's final semester. Cr 3.

Sociology

Chair of the Department: S. Henry Monsen, 120 Bedford St., Portland
Professors: Giguere, Lacognata, Monsen, Beirne; *Associate Professors:* Anspach, Fullam, Grzelkowski, Lehman; *Assistant Professors:* Messerschmidt, Preston

Sociology is the study of social life and the social causes and consequences of human behavior. Sociology's subject matter ranges from the intimate family to the hostile mob, from crime to religion, from the divisions of race and social class to the shared beliefs of a common culture, from the sociology of work to the sociology of sport. Although teaching remains the dominant activity among the more than 15,000 sociologists today, other forms of employment are growing. An undergraduate major in sociology offers valuable preparation for careers in social work, social research, politics, public administration, law, business and education.

Degree Programs

The Department offers degree programs in both sociology and criminology.

Students majoring in sociology may choose between two areas of concentration offered by the Department: general sociology and social policy.

General Sociology The general sociology curriculum provides students with a broad background and exposure to a range of substantive areas in the discipline. This curriculum affords the greatest degree of flexibility in the selection of courses within the major.

Social Policy Concentration Students majoring in sociology may elect to concentrate in social policy. The department offers a sequence of social policy courses: Introduction to Social Policy, Theoretical Perspectives on Social Policy, and Seminar in Social Policy Research as well as clusters of courses in substantive policy areas. Students are required to take all three social policy courses and to choose a substantive policy area, such as health care policy, employment policy, poverty policy, etc. The choice of area will be determined by student interest in consultation with the coordinator.

The requirements of the concentration are shaped by its three objectives: (1) to provide the conceptual and analytic skills needed to plan and to evaluate contemporary social policies; (2) to reveal the theoretical bases of important social policies; (3) to provide an in-depth understanding of a substantive policy area. The curriculum of the concentration offers the student a basic understanding of social policy while allowing maximum flexibility to focus on a specific substantive policy area. Requirements for each concentration are listed below.

Minor in Sociology The minor is intended for those students with a major other than sociology but who wish to broaden their educational experience in a formally designated program of study. The minor program may be of particular interest to students in the schools of Nursing and Business, the College of Education, and non-social science disciplines in the College of Arts and Sciences.

Criminology Degree

The Department of Sociology also offers a bachelor of arts degree in criminology. This program provides an integrated and coherent academic program focusing on the structures, institutions, and activities that define certain social behavior as criminal in modern society. For more information please see the catalog entry for Criminology or contact the Department.

Alpha Kappa Delta

Juniors and seniors who have demonstrated an interest and involvement in sociology, who have completed at least four sociology courses and who have accumulated at least a 3.0 grade point average in sociology courses at the University are eligible for nomination to Alpha Kappa Delta, the national sociology scholarship and honor society.

Student Involvement

Student involvement is a high priority for the Sociology Department. Students are involved in the research projects of the Department as well as the everyday administrative and advising life of the Department. Representatives of the Sociology Students' Association and the Criminology Students' Association are involved in all departmental activities and decisions as full voting members of the Department. These student representatives are elected by members of the Student Associations each April, although vacancies sometimes occur during the year. Students who are interested in this kind of involvement are encouraged to talk to departmental faculty.

Internships

The Department of Sociology offers a strong and on-going internship and work experience program. The expanded program helps place students in community agencies and organizations, including neighborhood organizations and a variety of agencies dealing with youth services. Credit internships actively seek to bring together student academic work and community involvement. Students interested in an internship placement are encouraged to meet with Professor Fullam, internship coordinator.

Colloquia

The Department of Sociology sponsors a colloquium series which seeks to bring together faculty and students in active discussion around a variety of topics. Several colloquia are scheduled each semester with faculty, students, or visiting scholars making presentations which serve as the focus of discussion. A schedule of current colloquia is available from the departmental office.

Programs and Requirements

Requirements for the Baccalaureate Degree

All students are reminded that, in addition to meeting departmental requirements for a major leading to a baccalaureate degree, they must also meet the requirements of the College of Arts and Sciences, and the University's Core curriculum.

Bachelor of Arts in Sociology

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 44.

All students must complete 38 hours of coursework in sociology, and must also satisfy a cognate requirement consisting of 6 hours above the introductory level in a related discipline. All concentrations share a common core of 20 hours of required coursework.

Majors are encouraged to complete their courses in Methods of Social Research (SOC 205), Sociological Theory I (SOC 300) and Sociological Theory II (SOC 301) and Statistical Methods (SOC 307) relatively early in their academic careers.

General Sociology Concentration

Common Requirements

SOC	100	Introduction to Sociology
SOC	205	Methods of Social Research
SOC	300	Sociological Theory I
SOC	301	Sociological Theory II
SOC	307	Statistical Methods for Social Research

Concentration Requirements (three hours from each of the following areas)

SOC	310-319	Social Processes
SOC	330-339	Social Institutions
SOC	350-369	Units of Social Life
SOC	370-379 or SOC 215 or SOC 200	Social Problems

Electives in Sociology (9 hours)

Students in general sociology may satisfy their cognate requirement with any six hours above the introductory level in any of the following

areas: anthropology; biology; criminology; economics; geography; history; mathematics; philosophy; political science; psychology; social work; computer science.

Social Policy Concentration

Required Courses (Common)

SOC	100	Introduction to Sociology	3
OR			
SOC	200	Social Problems	3
SOC	205	Methods of Social Research	4
SOC	307	Statistical Methods for Social Research	4
SOC	300	Sociological Theory I	3

Required Courses (Concentration)

SOC	202	Social Issues and Social Policy	3
SOC	304	Theoretical Perspectives on Social Policy	3
SOC	312	Class and Inequality	3
SOC	352	Demography	3
SOC	406	Seminar in Social Policy Analysis	3
SOC	395	Internship	3

(SOC 406 and SOC 395 must be taken in the same semester)

32 hours

Sociology Electives (9 hours)

To be selected in consultation with the student's advisor and the Coordinator of the Social Policy Concentration.

Cognate Electives (3 hours)

To be selected in consultation with the student's advisor and the Coordinator of the Social Policy Concentration.

Minor in Sociology

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 19.

Ten credit hours are required courses; the remainder are electives. Required Courses: SOC 100; SOC 205; SOC 300 or SOC 356; sociology electives**

**Each student minoring in sociology elects a minimum of three upper-division courses from those offered by the Department. These courses, chosen in consultation with the minor advisor, reflect the preprofessional or other interests of the student.

Note: Advisor to sociology minors: Professor David Fullam.

Major Credit and Grade Policy

There are prerequisites for most major credit courses. See the departmental course listings for particulars. Courses to be taken for major credit at other institutions must be approved in advance. Grades of C- or better must be achieved in all courses for major or minor credit. Courses taken pass/fail are not acceptable.

Introducing the Discipline

SOC 100 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. Offered each semester. Cr 3.

SOC 200 Social Problems

Application of a sociological frame of reference to selected contemporary problems. Guides the student toward an understanding of why and how problems develop, how par-

ticular social groups are affected by them, and what is involved in dealing with them. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 202 Social Policy and Social Issues

This course serves as an introduction to the field of social policy. It examines social policies which address contemporary social issues. Students acquire a conceptual knowledge of social policies, their historical development and ideological foundations, and the techniques of social policy analysis. Cr 3.

SOC 205 Methods of Social Research

Conceptualization and research design, data collection and analysis, logic of inquiry and research techniques. Includes one hour per week of laboratory exercises. Prerequisites: SOC 100 or permission of instructor. Offered each semester. Cr 4.

SOC 206 Computers and Social Science

An introduction to the problems, processes, and techniques of computer use in the analysis of social science data. The course will acquaint students with general computer use and processing; with some of the basic concerns and problems of social science data management and analysis; and with the actual use of some of the most common programs and statistical packages in social science. Emphasis will be on use of the Statistical Package for Social Sciences (SPSS). This course assumes little or no prior computer knowledge. Prerequisite: SOC 100 or permission of instructor. Not open to freshmen. Cr 1.

SOC 300 Sociological Theory I

Critical evaluation of selected classical models of the social world. Includes consideration of the foundations of sociological thought, the content of major classical theories and theory groups, and the socio-cultural settings within which they developed. Prerequisite: SOC 100 and two other SOC courses, or permission of instructor. Offered fall semesters. Cr 3.

SOC 301 Sociological Theory II

An investigation of contemporary sociological theory. Traces descent of the classical statements through to the present, and identifies both linkages and discontinuities in sociological analysis. Attention is also given to the socio-cultural settings within which various schools of sociological theorizing presently flourish. Prerequisites: SOC 300 and two additional SOC courses, or permission of the instructor. Offered spring semesters. Cr 3.

SOC 304 Theoretical Perspectives in Social Policy

This course investigates the relation between sociological theory and social policy. It critically examines the political and ideological underpinnings of various schools of social policy. In addition, the course identifies linkages and discontinuities between theory and policy. Prerequisites: SOC 100 or SOC 200 and SOC 202 or permission of instructor. Cr 3.

SOC 307 Statistical Methods for Social Research

Emphasis on the uses of statistics in the organization, interpretation, and presentation of research data. Measures of association and correlation; testing of hypotheses, probability and sampling. Includes one hour per week of laboratory exercises. Prerequisites: SOC 205 or permission of instructor for SOC majors. Non-Sociology majors have no required prerequisite for this course. Offered spring semesters. Cr 4.

Social Processes

SOC 310 Social Change

Analysis of sociocultural factors related to social change and the dynamics of the change process. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 312 Class and Inequality

A systematic assessment of structured social inequalities in wealth, power, and status in industrialized societies. Emphasis is placed on assessing social policies employed to reduce, ameliorate, or sustain such inequalities. Prerequisite: SOC 100 or permission of instructor. Offered spring semesters. Cr 3.

SOC 315 Self and Society

A sociological examination of theory and research in major areas relating personality and social systems; attitudes and behavior; socialization; social perception; bureaucratic

structure and personality; etc. Emphasis on issues involved in relating two theoretical levels of analysis. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 316 Sociology of Gender

An examination of sex roles in a socio-political and cultural context focusing on the sexual division of labor in American society. Prerequisite: SOC 100 or permission of instructor. Offered fall semesters. Cr 3.

CRM/SOC 317 Gender and Crime

This course provides a feminist analysis of gender as related to the criminality of both males and females. The course focuses specifically on how liberal, Marxist, radical, and socialist feminists have analyzed gender as related to crime. Prerequisite: SOC 100 and CRM/SOC 215. Cr 3.

Social Institutions

SOC 330 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: SOC 100 or permission of instructor. Cr 3.

SOC 331 Sociology of Education

An examination of the historical and socio-political development and structure of public and private education in contemporary American society. Topics include education as a bureaucratic enterprise, as a vehicle of social control, as a vehicle of social change and systems as a reflection of social consensus, dissension and conflict. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 332 Industrial Sociology

Social factors involved in the development of industry; social consequences of technological change; social organization within industry; problems encountered within the social structure(s) of industry. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 333 Sociology of Medicine

A consideration of the socio-cultural dimensions of disease, responses to disease, and social mechanisms which are developed to prevent, treat, and otherwise deal with disease. Particular attention is paid to the historical development of understandings of health, disease, and care. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 334 Sociology of Religion

Review and critique of classical and contemporary sociological interpretations of religion, with emphasis on the changing character of

religious expression in the twentieth century. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 335 Sociology of Sport

A critical examination and analysis of the sports culture in American society. Particular emphasis will focus on the manifest and latent functions of sport-related human social behavior as it relates to the promotion of particular social values, processes, and institutions. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 336 Law and Society

An examination of the interrelationships between law and society, focusing on law, custom, and morality as well as law in relation to social goals. Specific examples of how law functions in the context of the social structure will be used to highlight the major theoretical models used traditionally in this area. Prerequisite: SOC 100 or permission of instructor. Offered fall semesters. Cr 3.

SOC 337 Juvenile Justice

Examination and analysis of juvenile justice philosophies, processing, and treatment with an emphasis on historical and comparative materials. Prerequisite: SOC 100 or permission of instructor. Cr 3.

*Units of Social Life***SOC 350 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 maladjustment. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 352 Demography

Fertility, mortality, and migration as they impact on every aspect of life whether political, economic, or social and the reciprocal impact of these on the population variables. Specific applications include: the relationship of population growth and aging; population growth and the status of women; population growth and urbanization; food and population policy; population growth and economic development; population characteristics and life changes; population characteristics in marketing; crime and the age structure; fertility changes and the labor market and the impact of immigration. Offered fall semesters. Cr 3.

SOC 353 Social Movements

The rise and developments of social movements emphasizing structuring and institutionalization. Social movements and socio-political change. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 355 Politics and Society

Possibilities and limitations of political democracy in industrial, bureaucratic society. Capitalism and socialism, their underlying ideologies, and the resulting political structures will be contrasted. Emphasis on current American politics with comparative perspective when relevant. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 357 Bureaucracy in Modern Society

Examination of the nature and types of formal organizations, the relationships between them and the larger social context of which they are a part, and their internal structure. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 358 Sociology of Women's Work

This course will introduce the student to the most recent theoretical and empirical research on women's work in the family and in the paid labor force. Sociological definitions of work, theories of discrimination, and the role of ideology will be examined. Students will evaluate contemporary strategies to equalize pay and employment opportunities. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 361 Sociology of Franco-Americans

Description and analysis of the development and present state of the culture, institutions and social structure of Americans of French-

Canadian descent in the United States. Comparisons with Quebec and Acadia will be made when pertinent. Prerequisite: SOC 100 or permission of instructor. Cr 3.

Social Problems

SOC 215 Criminology

This course focuses on the difficult question "What is crime?" and on problems concerning the measurement and distribution of crime. The criminology course examines some of the popular misconceptions and myths about crime, the creation and utility of official and unofficial crime statistics popular presumptions about the causes of crime, and the institutional responses to crime in our society. This course is also listed as CRM 215. This course is one of the two basis courses in the Criminology Program, along with Law and Society (SOC 336). Prerequisite: SOC 100 or permission of instructor. Offered each semester. Cr 3.

CRM/SOC 216 White-Collar Crime

This course provides an analysis of the different sociological perspectives on white-collar crime as well as focusing on some specific types of white-collar crime: organized crime, occupational crime, corporate crime, political crime, and state terrorism. The course also discusses what can be done to curb these types of white-collar crime. Prerequisite: CRM/SOC 215. Cr 3.

SOC 371 Minority Groups

Considers the factors which produce and maintain structured social inequality based on minority status, and the social consequences of such inequality. Includes analysis of selected

minorities both in the U.S. and cross-culturally. Prerequisite: SOC 100 or permission of instructor. Offered fall semesters. Cr 3.

CRM/SOC 373 Pornography and Violence

The course provides a sociological analysis of pornography. Its focus is the feminist debate on pornography. Emphasis is placed on such issues as the definition of pornography, its possible harms and benefits, the relationship between pornography and violence, and what should be done about pornography. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 374 Mental Health and Mental Illness

An examination of theories of the "causes" of "madness" and the treatment of the mentally ill. Particular attention on the influence of culture on the definition of illnesses, the relationship between social factors and illness, and the social context of treatment. Prerequisite: SOC 100 or permission of instructor. Offered spring semesters. Cr 3.

SOC 375 Sociological Perspectives on Deviance

The origin and nature of socially disapproved behavior. Analysis of societal interpretations of and responses to the deviant. Prerequisite: SOC 100 or permission of instructor. Offered spring semesters. Cr 3.

Topics in Sociology

SOC 380 Topics in Sociology

Specially developed occasional courses exploring a variety of theoretical and substantive areas within the field. Offered as resources permit. These courses may be counted as electives toward completion of the major. Prerequisite: SOC 100 or permission of instructor. Cr 3.

1917 and 1936. Against the background of both classical Marxism and the Russian revolutionary tradition, the course focuses on the reception of such concepts as class domination, the dictatorship of the proletariat, socialism, the withering away of the state, and communism. Prerequisite: SOC 100 or permission of instructor. Cr 3.

SOC 385 The Sociology of Soviet Marxism

This course provides analysis of the key theoretical texts of Bolshevism produced between

Individualized Instruction and Internships

SOC 390 Individualized Instruction I

Independent reading and/or research for juniors and seniors. Apply to department chair. Prerequisite: 15 hours in sociology. Cr var.

SOC 391 Individualized Instruction II

Continuation of independent reading and/or research for juniors and seniors. Apply to department chair. Prerequisite: SOC 390. Cr var.

SOC 395 Internship

The course is designed to provide work/action experience and insight into professional roles in a variety of community agencies and organizations. The primary objective of the internship is the application of the perspectives, substantive knowledge, and methods of social science to a particular organizational setting. Thus, the internship can be understood as a participant observation experience

within the context of social science research. It is primarily designed as a field experience/ reflection opportunity for upper-level social science majors with substantive background/ coursework in the area of internship placement. In addition to field placement, students

are expected to meet for a series of internship seminars, for which readings and reports will be required. Offered each semester. Contact departmental internship coordinator for details. Cr 4 to 6.

Advanced Seminars

SOC 400 Seminar in Sociology of Sociology

Focusing on synthesis, the seminar is meant to provide the sociology major with an overall view of the discipline and its perspective as well as an opportunity to consider current issues and the future of sociology. Prerequisite: senior standing in sociology. Cr 3.

SOC 401 Seminar in Sociological Classics

An in-depth study of selected seminal works in sociology. Aimed at the identification of major concepts and propositions. Prerequisites: SOC 300 or permission of instructor. Cr 3.

SOC 402 Seminar in Contemporary Marxism

A survey of issues and debates within Marxist political, social, and economic theory. Specific topics examined include: law and the modern state; power and political process; the crisis of hegemony in late capitalism. Prerequisites: SOC 300 or permission of instructor. Cr 3.

SOC 403 Seminar in Social Thought

Analyses of contemporary social issues, ideas, and attitudes characterizing American society. Independent library research projects to be emphasized in concert with seminar dialogues. Prerequisites: juniors and seniors only and permission of instructor. Cr 3.

SOC 404 Seminar in Theory Construction

The vocabulary and logic of theory construction; from assumptions and isolated propositions to systematized theory. The course aims at enabling the student to understand the utility of theory and its relevance for empirical research. Prerequisite: senior standing in sociology. Cr 3.

SOC 405 Research Seminar

Focus on the actual conduct of sociological research. Students will formulate a research problem, develop a research design, collect and analyze data and report their findings. Prerequisites: SOC 205, SOC 307 and senior standing. Cr 3.

SOC 406 Seminar in Social Policy Analysis

The goal of this course is to develop an understanding of the application of social science research methods to the evaluation of social programs. Students acquire a knowledge of the formal methods of policy analysis, learn to interpret the results of analytic studies and master the most commonly encountered specific techniques. The course must be taken concurrently with SOC 395. Students apply analytic techniques to an evaluation of their internship. Prerequisite: SOC 304 or permission of instructor. Cr 3.

Theatre

Chair of the Department: Minor R. Rootes, Russell Hall, Gorham
Professors: Stump, Rootes; *Associate Professors:* Duclos, Power, Steele, Kading

The Theatre Department offers a four-year program leading to a B.A. degree in theatre. Students may choose to emphasize a particular area such as acting or directing or a more general curriculum. An undergraduate degree in theatre offers valuable preparation for careers in the theatrical activities on an educational or professional level, as well as other nonrelated disciplines.

All students are reminded that, in addition to meeting departmental requirements for a major; they must also meet the requirements of the College of Arts and Sciences as well as the Core curriculum requirements.

Programs and Requirements

Bachelor of Arts in Theatre

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 43.

Incoming freshmen may declare their intent to major in theatre but must apply for major status after completing the following courses:

THE	120	Fundamentals of Acting: Movement and Improvisation
THE	130	Theatre Workshop
THE	135	Stagecraft and THE 136 Stagecraft Lab

Students who have declared an intent to become a major are identified as candidates for matriculation into the Department of Theatre. When the request for major status is submitted, the Department will review the student's past record in terms of academic and practical potential for success. Notification of admittance or rejection will be issued. The student may appeal any rejection if desired.

A total of 35 credits in theatre, not to include those hours selected for major preparation, is required for graduation.

The following courses are required:

THE	121	Fundamentals of Acting: Scene Work
THE	131	Theatre Workshop
THE	132	Theatre Workshop
TRE	133	Theatre Workshop
THE	137	Stagecraft II and THE 138 Stagecraft II Lab
THE	210	Play Analysis
THE	220	Acting III: Voice for the Actor
THE	290	Oral Interpretation
THE	221	Advanced Scene Work

OR

THE	320	Acting V: Contemporary Acting Methods
THE	340	History of the Theatre I

OR

THE	341	History of the Theatre II
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Any two courses:

THE	330	Stage Lighting
THE	331	Scene Design
THE	240	Costuming I and THE 241 Costuming I Lab

Any one course:

THE	361	Late 19th Century Drama of the Western World
THE	362	20th Century Drama of the Western World
THE	363	Contemporary Avant-Garde Drama
THE	460	American Drama

In addition to the above, the following elective courses are recommended but not required. Selections may fulfill both department allied areas and Core curriculum requirements where applicable.

Art

ARH	273	Film as Image and Idea
ART	141	Fundamental Design I

ART	151	Fundamental Drawing I
English		
ENG	162	Drama
ENG	201	Creative Writing
ENG	202	Fiction Writing
ENG	260	Shakespeare I
ENG	261	Shakespeare II
ENG	357	British Drama to 1642
ENG	366	Restoration and 18th Century Drama
ENG	352	Medieval Drama
Foreign Languages and Classics		
CIA	284	The Tragic Hero in Ancient Literature
FRE	264	Avant-Garde Theatre in France
FRE	363	French Theatre in the 20th Century
Music		
MUS	110	Fundamentals of Music
MUS	401	Gorham Chorale
MUS	403	A Cappella Choir
MUS	405	The Chamber Singers
Industrial Arts		
ITT	210	Electronics Technology
ITT	241	Graphic Arts Technology
ITT	444	Photographic Reproduction

Other courses may be accepted pending approval.

Theatre Department Production Requirements

A. All theatre majors must participate in a minimum of five Theatre Department productions according to the following guidelines: (1) work performed on a minimum of two of these productions must be in the areas of tech/design;* (2) work performed on a minimum of two of these productions must be in the areas of acting/performing;* (3) these productions must be "in-house" Theatre Department productions; (4) these productions may be part of the requirements of a formal Theatre Department course; (5) students may receive work-study or unrestricted funds for this production work if Theatre Workshop credit is not received (THE 130, 131, 132, 133); (6) students may enroll in Theatre Workshop (THE 130, 131, 132, 133) for these productions if they are not receiving work-study or unrestricted funds as compensation for their production work.

*In the event that a student repeatedly auditions or requests tech positions for Department productions but is not given a role or a crew position, this effort will be considered a good faith effort on the part of the student and may fulfill the acting or tech/design minimum production requirements.

B. The program is designed to ready a student for graduation in four academic years. During this period, the student will find the theatre program both demanding and time consuming. It is expected that the major will have an obligation to the productions scheduled, while at the same time maintaining a 2.5 grade point average in theatre department major courses.

All prospective theatre majors and theatre majors will be responsible for fulfilling the obligations and responsibilities which are described in the Theatre Student Handbook.

Minor in Theatre

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

The courses required are THE 120 or THE 121, THE 101, THE 290, THE 135, and two courses from the following: THE 220, THE 221, THE 320, THE 330, THE 340, THE 210, THE 361, THE 362, THE 363, THE 460.

THE 101 Introduction to Drama

A lecture-discussion course designed to provide students with a conception of the development of the theatre and its literature. The

course consists of a survey of Greek medieval, Elizabethan, French neo-classic, and 18th, 19th and 20th century theatre and drama. Cr 3.

THE 120 Acting I—Fundamentals of Acting: Movement and Improvisation

This is a practical course designed to introduce the student to basic procedures necessary to experience the creative process in acting. The course is designed to cultivate the student's sense of both physical and mental self by increasing his imagination, creative, and technical abilities. Course utilizes movement, sensitivity, mime, and improvisational exercises. (Taught spring and fall semesters.) Cr 3.

THE 121 Acting II—Fundamentals of Acting: Scene Work

This is a practical course designed to introduce the student to basic skills of acting through stage movement, projection, characterization and scene work. Emphasis made on internal preparation by developing a role and on external techniques for projecting that role. (Taught spring and fall semesters.) Cr 3.

THE 122 Contemporary Dance I

Contemporary Dance I is designed for beginning dancers with no formal dance training or no dance training in recent years. This class introduces basic contemporary dance skills and vocabulary. The class is divided equally into two areas of study. Physical and technical development are learned through strengthening and stretching exercises and body isolations. Proper body alignment is stressed for the most energy-efficient and injury-free movement both in and out of class. Dance phrases are designed to teach rhythmic and locomotor skills. Equal time will be devoted to studying choreographic techniques wherein students will learn how dances are created by creating their own. *The Art of Making Dances* by Doris Humphrey, plus selected writings by more contemporary choreographers, will be used in the class. The class will be expected to attend several local dance performances during the semester. Prerequisite: THE 120 or THE 121 or permission of the instructor. Cr 3.

THE 124 Intercollegiate Forensics

A course designed to acquaint students with intercollegiate competition. Students will compete at various forensic tournaments throughout the East. Permission of instructor is required. Cr 1.

THE 125 Intercollegiate Forensics

A continuation of THE 124. Cr 1.

THE 126 Intercollegiate Forensics

A continuation of THE 125. Cr 1.

THE 127 Intercollegiate Forensics

A continuation of THE 126. Cr 1.

THE 130 Theatre Workshop I

A course designed to give students practical application of theatre practices in the fields of acting, design, scene construction, costuming, properties, lighting, management, and directing. A laboratory course. Cr 1.

THE 131 Theatre Workshop II

A continuation of THE 130. Prerequisite: THE 130. Cr 1.

THE 132 Theatre Workshop III

A continuation of THE 131. Prerequisite: THE 131. Cr 1.

THE 133 Theatre Workshop IV

A continuation of THE 132. Prerequisite: THE 132. Cr 1.

THE 135 Stagecraft I

A lecture/discussion/lab course in technical theatre and related topics relevant to technical direction. Specific areas of emphasis will include: theatre/stage terminology and organization; scene shop practices and use of shop tools; basic methods of construction, rigging, and moving scenery for the stage. The lecture portion of the course will be supplemented by actual construction, painting and mounting of a major University theatre production. (Concurrent enrollment in THE 136 Stagecraft Lab required.) Cr 3.

THE 136 Stagecraft Lab

A lab course allowing practical application of theory discussed in THE 135. (Concurrent enrollment in THE 135 required.) Cr 1.

THE 137 Stagecraft II

A lecture/discussion/lab course in basic theatrical drafting/graphic practices relating to theatrical construction and design techniques. The primary emphasis of the course will be the execution of various types of theatrical design and construction, painting and mounting of a major University theatre production. (Concurrent enrollment in THE 138 Stagecraft Lab required.) Prerequisite: THE 135 or instructor consent. Cr 3.

THE 138 Stagecraft II Lab

A lab course allowing practical application of theory discussed in THE 137. (Concurrent enrollment in THE 137 required.) Cr 1.

THE 139 Make-up

The course will emphasize the fundamentals of design and application of theatrical make-up. Specific areas of study will include the use of painted highlight and shadow to alter facial features and the actual application of make-up, giving the student the opportunity to practice realistic and abstract make-up techniques. An additional 30 hours of production work will be required of each student providing the opportunity to apply classroom techniques to the actual performance experience. Cr 3.

THE 170 Public Speaking

An introductory course in the art of public discourse. Primarily a lecture-performance course, students will learn the basics of informative, persuasive, and argumentative speaking, as well as the processes of problem-solving and informative discussion. Cr 3.

THE 210 Play Analysis

Representative dramas for the stage are read, discussed and criticized using the Aristotelian elements of plot, character, thought, diction, music, and spectacle as analytical tools. Cr 3.

THE 220 Acting III—Voice for the Actor

This is a practical course designed to develop the actor's speaking voice through emphasis on breath control, articulation, and enunciation. Prerequisites: THE 120, 121. (Fall semester only) Cr 3.

THE 221 Acting IV—Advanced Scene Work

This is a practical course designed to develop advanced characterization techniques through the use of scene work. Emphasis will be placed on both serious/comic acting and on methods for preparing auditions. Prerequisite: THE 120, 121, or 220 or permission of instructor. (Spring semester only) Cr 3.

THE 222 Contemporary Dance II

Contemporary Dance II is for a more experienced dance student. Expertise in executing basic dance skills (proper alignment, parallel and turned out positions, slides, triplets) and knowledge of dance vocabulary are assumed. Through practicing more complicated movement exercises and dance patterns students will increase their technical dance skills and understanding of kinesiology. Entire dances or portions of contemporary choreography will be taught in this class. Choreographic work will consist of movement character development using the effort-shape system of movement analysis. This study of movement qualities will be taken from Cecily Dell's work in *A Primer for Movement Description*. Students will be expected to attend several dance performances during the semester. Prerequisite: THE 122 or permission of instructor. Cr 3.

THE 223 Mime

Class instruction emphasizes mime technique, basic illusions, body graphics, and silent character studies. Solo and group work integrates elements of these four (4) major areas of students gain an understanding of the historical perspective of classical mime and its influence on contemporary approaches to the art form. Prerequisites: Fundamentals of Acting (THE 120 or THE 121) or permission of the instructor. Fall semester only. Cr 3.

THE 230 Creative Dramatics

Study of problems in introducing young people to theatre as a total art form. Course to include the development of children's plays through improvisation as well as traditional children's literature. Work with children in various community settings will provide practical experience for the student. Cr 3.

THE 234 Directing I

A basic course providing background and experience in play direction. This course is particularly valuable for the classroom teacher.

Practicum required. Prerequisites: 210 or permission. Cr 3.

THE 240 Costuming I

The course will consist of an introduction to costuming; the techniques and basic materials used in design and construction of an effective production. Costume design will be studied in terms of defining basic elements of line, color and texture; fulfilling script requirements and analyzing characters; and coordinating with other designers. Sewing skills and rendering techniques will be introduced. The lecture portion of the course will be supplemented by actual construction and mounting of a University theatre production. (Concurrent enrollment in THE 241 Lab required.) Cr 3.

THE 241 Costuming I Lab

The course is a laboratory session which allows practical application of theory discussed in THE 240. (Concurrent enrollment required in THE 240). Cr 1.

THE 274 Journalistic Drama Criticism

This course will provide the student with a comprehensive analysis of the role of the writing critic in professional, community, educational, and amateur theatre. Stress will be placed upon development of a workable writing style. A minimum of five plays will be seen from which reviews will be generated. Prerequisite: THE 234 or by permission. Cr 3.

THE 290 Oral Interpretation

A course in the assimilation and analysis of literary material (poetry, prose, drama) with emphasis on the techniques used in reading written material aloud to an audience. Designed to stimulate an understanding and responsiveness to literature and to develop the ability to convey to others, through oral reading, an appreciation of that literature. Cr 3.

THE 320 Acting V—Contemporary Acting Methods

This is a practical course designed to broaden the basic skills of the actor through the use of new contemporary acting techniques and approaches. The course will include a continuation of audition preparation. Prerequisites: THE 120, 121, 220, 221, or permission of instructor. (Fall semester only) Cr 3.

THE 321 Acting VI—Acting Styles

This course deals with specific problems in interpretation of Shakespeare and classical and neo-classical tragic and comic styles. Emphasis will be placed on language and characterization, and on audition work. Prerequisites: THE 120, 121, 220, 221 or permission of the instructor. (Spring semester only.) Cr 3.

THE 330 Stage Lighting

Introduction to stage lighting design, elements of electricity, color, light sources, instrumentation, and control systems. Student will participate in lighting projects in practicum. Prerequisites: THE 135, THE 137. Cr 3.

THE 331 Scene Design

Lecture and practicum in stage scenic design. Emphasis on the visual art and drafting of designs. Prerequisites: THE 135 and THE 137 or permission of instructor. Cr 3.

THE 334 Directing II

Designed to train directors in theatrical organization and rehearsal techniques. Encompasses composition, picturization, movement and rhythm. Course involves both contemporary theory and practical application. Prerequisites: THE 234, 135. Senior or junior with permission. Cr 3.

THE 335 Playwriting

A lecture-practicum course designed to acquaint the student with playwriting principles. Emphasis is placed on the one-act play form. Students will be required to complete a series of creative exercises culminating with writing of a one-act play. Prerequisite: THE 210. Cr 3.

THE 340 History of the Theatre I

A study of the development of the drama, the physical theatre, and the modes of production from the ancient Greek period through to 1640. Cr 3.

THE 341 History of the Theatre II

A study of the development of the drama, the physical theatre, and the modes of production from the Restoration to the present. Cr 3.

THE 350 Theatre Management

Investigation of educational and professional theatre management roles, including: managing director; business manager; box office manager; publicity director; house manager. Practicum required. Cr 3.

THE 360 American Drama

A study of drama in the United States. A brief history of early American playwrights followed by a close study of major figures, with O'Neill as the center. Others: Maxwell Anderson, Robert Sherwood, Tennessee Williams, Arthur Miller, and Edward Albee. Cr 3.

THE 361 Late 19th-Century Drama of the Western World

This course is designed to acquaint the theatre major and non-major with a broad range of dramatic literature of the early 19th century. Representative plays of Ibsen, Strindberg, Chekhov, Shaw, and others which exemplify the literary, social, political, and philosophical aspects of the age will be studied. Cr 3.

THE 362 20th-Century Drama of the Western World

This course is designed to acquaint the theatre major and non-major with a broad range of dramatic literature of the 20th century. Representative plays of O'Neill, Odets, Anouilh, Brecht, Sartre, Wilder, Miller, Beckett, Osborne, and others which exemplify the literary, social,

political, and philosophical aspects of the age will be studied. Cr 3.

THE 363 Contemporary Avant-Garde Drama

This course is designed to acquaint the student of theatre with the new voices in contemporary dramatic literature. Representative plays from American and foreign playwrights will be covered. Cr 3.

THE 390 Advanced Oral Interpretation

A continuation of THE 290. Cr 3.

THE 391 Reader's Theatre

A study of principles and techniques utilized in the performance of a literary work in the Reader's Theatre style. Emphasis is on providing new insights into the material through oral performance. Cr 3.

THE 398 Theatre Internship

Students will assume a full one-semester internship with a professional theatre or Reader's Theatre Company. Students will be involved in management, acting, directing, or technical theatre as a member of the company. Each student will be assigned a faculty advisor who will make a biweekly evaluation of ongoing work. Participants will be required to keep a diary and/or portfolio to be reviewed by the faculty of the Theatre Department at the conclusion of the internship. All creative work done by the student will be evaluated by the advisor and at least one other or if possible all members of the department. Prerequisite: permission of the Theatre Department. Cr 3-15.

THE 399 Independent Study

The student will submit a written proposal defining the scope and the limitations of his/her study, and must submit the project for independent study to the faculty one month prior to the completion of the semester preceding study. This deadline should be published at least one month prior to the student's deadline. The faculty must approve and determine the credits given to the independent study. If the faculty does not meet before the semester is concluded, the student will not be eligible to do the study until the coming semester. The student will choose a supervisor. It will be the duty of this instructor to closely supervise, advise, and recommend to the student and assure all faculty that each will receive a copy of the proposal before the meeting at which the student's proposal will be presented to the entire faculty. At the completion of the independent study the student will take an oral examination conducted by the entire faculty and chaired by the advisor (Review Board). At the completion of the oral examination the faculty will advise the student's advisor as to their determination of a grade. The advisor will then determine the grade and submit the grade to the Registrar's Office. A student, generally, should not embark

on a study until he/she has taken and completed all of the available coursework that is necessary to do the study in depth. Each theatre student is entitled to take six units in either Independent Study or Theatre Projects, or a combination of both not to exceed six units unless the specific proposal is unanimously approved by the theatre faculty. Cr 3.

THE 433 Project I

Investigation of special topics, or execution of special projects which fall within the purview of theatre. Students may select an inter- or intra-departmental committee of three professors to approve, assist, and oversee the project. Prerequisites: juniors and seniors only; precise definition of project and unanimous permission of committee. Students must obtain rules for this course from the department chairman. Credit hours arranged.

College of Education

Dean: Dorothy D. Moore, 119 Bailey Hall, Gorham
Chair, Department of Professional Education-Undergraduate Division: Melissa Costello; *Chair, Department of Human Resource Development:* Willard Callendar; *Chair, Department of Professional Education-Graduate Division:* Charles F. Smith; *Director, Center for Professional Development:* George Lyons; *Director, Office of Clinical Experiences:* Melissa Costello

Department of Professional Education— Undergraduate Division

Professors: Hodgdon, Neuberger; *Associate Professors:* Allen, Bouchard, Colucci, M. Costello, Milbury, Morrill, Wood; *Assistant Professors:* Austin, Davis, Foster, Turlo; *Instructor:* Drew

Department of Professional Education— Graduate Division

Professors: O'Donnell; *Associate Professors:* Amoroso, Cohen, Curry, Deady, Heckman, Lyons, Silvernail, Smith; *Assistant Professors:* Broyles, Goldsberry, Miller, Rees, Spruill

Department of Human Resource Development

Professors: Callender, Southworth; *Associate Professors:* Brady, D. Moore, Sutton; *Assistant Professors:* Davis, Stevens, Vanzandt

The College of Education is organized into three departments. The Professional Education Department-Undergraduate Division offers an undergraduate degree in elementary education. The Professional Education Department-Graduate Division offers degrees in reading, instructional leadership, educational administration, and exceptionality. The Department of Human Resource Development offers graduate degrees in counselor education, adult education, and community agency/rehabilitation counseling, and school psychology. Additionally, undergraduate degree programs are offered with the College of Arts and Sciences in art education, music education, and secondary mathematics; and undergraduate degrees are offered with the School of Applied Science in industrial arts education and vocational occupational education.

The undergraduate department is supported by the Office for Clinical Experiences, which coordinates field experiences such as practica, internships, and student teaching. The Educational Placement Office provides professional assistance in preparing students for employment opportunities.

The Professional Development Center serves undergraduate students, graduate students, and community educators. Services include maintenance of a resource laboratory which houses commercial education materials for examination and loan, specialized teaching resources, and a workshop area for teacher production of classroom materials; sponsorship of conferences and workshops responsive to the needs of educators; support of curriculum reviews by local schools through consultation and material provision; assistance in planning and implementation of field-based noncredit, recertification credit, and in-service graduate credit experiences; and assistance in securing other University, regional, and statewide staff development resources.

The Office of Graduate Education administers graduate programs in the College of Education. Information about these programs is available in that office (408 Bailey Hall) and the University's graduate catalog.

General Information

Admission to an undergraduate program in the College of Education is initiated through the Admissions Office. Candidates for admission must be graduates of approved secondary schools or hold the high school equivalency diploma. A detailed description of the admissions procedure may be found in the section of this catalog, Undergraduate Admissions.

Education majors are assigned an advisor during the first semester they are enrolled in the College. *Responsibility for successfully completing the requirements of a program resides with the student.* It is, therefore, necessary that students carefully read the catalog section which describes program requirements, and confer at least once each semester with their advisor for approval of their programs.

Grade Point Average Students must earn an accumulative grade point average (GPA) of 2.5 for their complete baccalaureate program. Students must achieve a GPA of 2.5 for their liberal arts sequence or Core curriculum. No more than one D grade will count toward fulfillment of the liberal arts sequence.

Students majoring in the elementary education program must achieve a grade point average of at least 2.5 in their professional education requirements (EDU courses) prior to student teaching. No grades of D will count toward the fulfillment of the professional requirements.

Pass/Fail Option Elementary education majors may register for a total of 6 hours of pass/fail credits in their liberal arts specialty. The pass/fail option applies only to courses numbered 200 or above. Required courses in the Core curriculum and the professional sequence may not be taken pass/fail.

Independent Study Junior and senior students may elect independent study in their major for one to six credits. Normally, no more than three credits may be earned in a semester. The student submits to a faculty sponsor an independent study application which includes a detailed description of the proposed program of study. Approval by the appropriate department chair is required. No University credit may be earned through independent study for courses described in this catalog. The approved independent study form is filed with the Registrar during the registration period.

Graduate Course Enrollment for Undergraduate Students An undergraduate student may be permitted to enroll in graduate courses if the following conditions are met:

1. The student is a junior or senior in an approved undergraduate program.
2. The student has an earned cumulative GPA of 3.0.
3. The student has met all course prerequisites.
4. The student has received prior approval to enroll in the course from his/her advisor, course instructor, and the appropriate department chair.
5. The student is not displacing a graduate student in the course; that is, an undergraduate student may enroll in a course only after all qualified graduate students have had an opportunity to enroll in the course.
6. The student may not enroll in courses that are restricted to matriculated graduate students only.

Intern Programs A teaching internship is a cooperative teacher education program for elementary majors that the College of Education shares with participating school districts. In addition to being assigned to classroom teachers who help interns integrate theory and practice, the interns receive instruction on-site by University and public school personnel. Internship programs generally are designed as two-semester programs where the interns may earn up to 30 academic credits.

Exchange programs with King Alfred's College, Winchester, England are also available. Students may elect to complete a semester of study, including student teaching, through this option.

Undergraduate Program Description

Elementary Education Program

The elementary education curriculum prepares graduates to teach in grades K-8. Details are provided in the following pages of this catalog.

Secondary Education Mathematics Program

The secondary education program offers a major in mathematics. Graduates of this program are certified to teach mathematics in grades 7 through 12. Students enrolled in this secondary education program are also required to complete an 18-semester hour minor of a subject commonly taught in the secondary schools. For details of this program please refer to the Mathematics Department in the College of Arts and Sciences section of this catalog.

Art Education Program

Completion of a bachelor of science degree in art education certifies the graduate to teach or supervise art programs in all grades, K-12, of the public schools in the state of Maine. Admission to this program is through the Admissions Office of USM.

The program is made up of three components: (1) the University's Core curriculum, (2) the art major, and (3) the professional sequence which is listed on the following pages of this catalog.

Music Education Program

The aim of the music education program is to develop individual potential in the areas of musicianship and scholarship, as well as to present the most recent trends in the fields of music education. Upon satisfactory completion of the four-year program, graduates receive a bachelor of science degree with a major in music education and are certified by the state of Maine to teach music in grades one through twelve. The program qualifies graduates to teach or supervise all phases of vocal and instrumental music. For details of this program please refer to the Music Department in the College of Arts and Sciences section of this catalog.

Industrial Arts Education Program

The industrial arts curriculum prepares students for the teaching of industrial arts in elementary and secondary schools. It is the only college program in the state of Maine in this specialized field. Details of this program may be found in the section on the School of Applied Science.

Vocational Occupational Education Program

This is a part-time evening and summer program leading to a bachelor of science degree with a major in vocational occupational education. Details of this program may be found in the section on the School of Applied Science.

Graduate Programs

The College of Education also offers a master of science degree in education, with a variety of major concentrations. Please refer to the graduate programs page in this catalog, and to the Graduate Catalog.

Department of Professional Education— Undergraduate Division

The Department of Professional Education is primarily responsible for the development of the curriculum for elementary education majors. The Department also offers courses in the professional education sequence for persons majoring in art education, or music education, and offers a secondary education program in mathematics. A Certificate Program in Athletic Coaching for men and women is available through the physical education unit which is associated with the Department of Professional Education.

Programs and Requirements

Elementary Education

Completion of the Elementary Education curriculum qualifies graduates to teach in all grades kindergarten through eight in the public schools of the state of Maine. Students completing the prescribed program will be awarded a bachelor of science degree in elementary education.

Admission to the elementary education program is through the University of Southern Maine's Admissions Office. Admissions procedures are described in this catalog in the section, Undergraduate Admissions. Upon formal acceptance by the Admissions Office, students are designated pre-education candidates.

During the first semester of their matriculation, candidates are assigned advisors in the College of Education who will make recommendations for appropriate course selection. During the first two years of study students are referred to as pre-education candidates and usually complete the Core curriculum prescribed by the University, described on p. 37. They also begin a liberal arts program of courses, and enroll in selected education courses.

Applications for admission as an elementary education major are accepted after pre-education candidates have successfully completed 45 semester hours of baccalaureate level coursework. Applications may be obtained from advisors who will guide pre-education candidates through this process. The essential criteria for acceptance as an elementary education major are as follows:

- A. Completion of at least 24 University Core curriculum credits, HRD 333, MAT 131, and MAT 232.
- B. An accumulative grade point average of 2.50
- C. At least two recommendations
- D. Completion of at least two of the following Preservice Education courses, one of which must be EDU 100;

EDU 100	Exploring Teaching as a Profession
EDU 210	Theoretical Foundations of Learning
EDU 360	Microcomputers
EDU 303	Developmental Reading I
EDU 310	Preparation of Classroom Materials
EDU 336	Children's Literature

Applications are reviewed by an Admissions Committee within the Department of Professional Education and forwarded with appropriate recommendations to the Dean of the College of Education. Applicants are advised of their acceptance or rejection prior to pre-registration for the next semester.

The program for elementary education majors is made up of three components: (1) the University's Core curriculum—34 semester hours; (2) an approved specialty of liberal arts courses—at least 36 semester hours; (3) a sequence of professional education courses—18 semester hours of pre-service education courses, a 30 semester hour internship and Seminar in Critical Issues in American Education, 3 semester hours.

Applications for student teaching placements in the 1988-89 academic year are due in the Clinical Experience office on or before February 1, 1988.

The University Core curriculum described on p. 37 of this catalog is a set of courses selected by category that involves 34 semester hours of course-work. It should be noted that in some cases one course may be taken that will satisfy simultaneously two categories. Specifically, HRD 333 Human Growth and Development will satisfy a Social Science requirement of the Core curriculum, while at the same time satisfying a requirement of the professional education sequence; and MAT 131 Number Systems for Elementary Teachers will satisfy a Quantitative Decision requirement, while at the same time completing one of specified mathematics requirement of the Department of Professional Education.

A concentration of courses featuring a liberal arts specialty may be completed in one of several ways, all of which require the approval of a College of Education advisor.

- (1) A liberal arts major as described in the College of Arts and Sciences section of this catalog. This option would lead to a double major.
- (2) A self-designed major of at least 36 semester hours which is first approved by a College of Education advisor and then approved by the Faculty Council for Interdepartmental Majors in the College of Arts and Sciences.
- (3) An interdisciplinary program of courses of at least 36 semester hours approved by College of Education advisor featuring a liberal arts specialty. The interdisciplinary themes include: humanities, fine arts, natural sciences, and social sciences.
- (4) A department-approved sequence of 36 semester hours in a single liberal arts discipline.

The professional education sequence is composed of two parts: (1) pre-service education courses and (2) an internship.

The Preservice Education Courses

			<i>Credits</i>
EDU	100	Exploring Teaching as a Profession	3
EDU	210	Theoretical Foundations of Learning	3
EDU	303	Developmental Reading I	3
EDU	310	Preparation of Classroom Materials	3
EDU	336	Children's Literature	3
EDU	360	Microcomputers	3

Internship Part I (2nd semester junior year)

			<i>Credits</i>
<i>Enabling Experiences in a Public School Setting</i>			
EDU	304	Practicum in Elementary School Mathematics	18
EDU	307	Practicum in Elementary Science	
EDU	311	Practicum in Language Arts	
EDU	358	Practicum in Elementary Social Science	
EDU	320	Practicum in Developmental Reading II	
EUD	331	Teaching Strategies and Seminar	
PHE	304	Health & Physical Education for Teachers	

Internship Part II Teaching (1st semester of senior year)

			<i>Credits</i>
EDU	325	Internship with Master Teacher	12
EDU	335	Exceptional Children in the Classroom	3

During the final semester of the elementary education program students must complete their liberal arts component and EDU 400 Seminar in Critical Issues in American Education (3 credits).

Certificate Program in Athletic Coaching for Men and Women

This program is designed to prepare students for certain coaching responsibilities in schools and recreational programs. The curriculum includes an introduction to the organization and administration of athletics as well as practical work in assisting coaches in selected sports. Attention is also given to the prevention and care of the most common injuries occurring in athletic programs.

A certificate will be presented to students completing the minimum 15-hour program. In addition, the proper notation will be made on the student's official transcript indicating proficiency in the area of athletic coaching as determined by the certificate program.

Course of Study in Athletic Coaching (15-credit program)

Required

PHE	203	Athletic Training
PHE	302	Coaching Philosophy and Fundamentals
PHE	314	Organization and Administration of Athletics
PHE	391	Field Experience in Coaching

Electives

PHE	209	Officiating Basketball
PHE	210	Officiating Field Hockey
PHE	211	Officiating Soccer
PHE	212	Officiating Baseball/Softball
PHE	303	Coaching Basketball, Philosophy and Methods
PHE	311	Coaching Soccer, Philosophy and Methods
PHE	312	Coaching Football, Philosophy and Methods
PHE	315	Coaching Field Hockey, Philosophy and Methods
PHE	316	Coaching Volleyball, Philosophy and Methods
PHE	318	Coaching Gymnastics, Philosophy and Methods
PHE	335	Coaching Baseball and Softball, Philosophy and Methods
PHE	389	Advanced First Aid and CPR

EDU 100 Exploring Teaching as a Profession

This course provides an introduction to the College of Education program for all elementary and secondary mathematics majors during the first year. The course is designed around lectures and seminars coordinated with field-based experiences in a school setting. The purpose is to enable students to make a valid career decision through an examination of the diversity of facets of education including teacher roles, educational settings, and curricular methods. Cr 3.

Emphasis will be placed on teaching learning theory, learning styles, approaches to school and classroom organization, parent involvement, the teacher as a human being and the hidden curriculum. Students will work independently in a modular approach for one segment of this course. Cr 3.

EDU 301 Elementary School Curriculum

This course is designed to provide an overview of the influences, methods, and materials that affect curriculum designs in the intermediate grades. Emphasis is given to four factors affecting curriculum development: (1) goals and objectives; (2) sources of content; (3) teaching strategies; and (4) evaluation. Prerequisite: HRD 333. Cr 3.

EDU 151 Preprofessional Field Experience (For International Exchange Students)

This section is designed primarily for international exchange students. It allows an expanded preprofessional experience (requiring a minimum of four full days per week in schools). Students are expected to participate in teaching activities as well as classroom management during this placement. Cr 6.

EDU 303 Developmental Reading I

A basic course encompassing the development of literacy. Content includes three major stages of reading progress, informal diagnostic techniques, and general awareness of instructional approaches and options. Case studies are used to illustrate characteristics of readers at each stage of literacy acquisition. Cr 3.

EDU 200 Studies in Educational Foundations

This course provides an introduction to the study of American education. Problems and issues in contemporary education are examined from several perspectives, including the social, historical and philosophical. Cr 3.

EDU 304 Practicum in Elementary School Mathematics

A field-based course conducted primarily in the setting of actual elementary school classes. After several mathematics workshop sessions, the students will prepare and then teach several lessons in elementary school math classes. All planning and teaching will occur with guidance of the professor and the public school cooperating teacher. Prerequisite: MAT 131. Cr 2.

EDU 210 Theoretical Foundations of Learning

An interdisciplinary approach to the study of the learning process. Explores origins and domains of learning theories. Analyzes how major theories view the learning process. Applies theoretical content to motivation, concept development, classroom management, methodology and evaluation. Prerequisites: EDU 100 and HRD 333 (or concurrent). Cr 3.

EDU 305 Teaching Elementary School Mathematics

The content of the course will focus on developing techniques for teaching mathematics to elementary grade pupils. Conducted in a setting of activity-oriented sessions, special attention will be devoted to explanations for

EDU 300 Introduction to Teaching in the Early Elementary Grades

This basic course is designed to provide an overview of curriculum, methods and materials utilized in early elementary education.

children about the fundamentals of mathematics, diagnosing mathematical difficulties, organizing various modes of instruction, and exploring ways to enrich the curriculum. Prerequisite: MAT 131. Cr 3.

EDU 307 Practicum in Elementary Science

A field-based methodology course conducted primarily in an elementary school. After several science workshop sessions students prepare and teach sequential lessons in the actual K-6 classroom setting under the supervision of University staff and cooperating public school teachers. Cr 2.

EDU 308 Science for Children

An alternative to EDU 307. This course is conducted in a University science resource center and provides opportunities for students to apply learning theory by exploring current science curricula. Emphasis is on content analysis and comparison and on implementation in public classrooms. A field experience is included whenever possible. Recommended prerequisite: EDU 210. Cr 3.

EDU 310 Preparation of Classroom Instructional Materials

This lecture-laboratory course involves students in the creation of instructional materials using techniques such as dry mounting of flat pictorial materials, professional quality lettering, rudimentary photography and processing (including use of the darkroom), and the production of transparent projectuals. Lab fee \$20.00. Cr 3.

EDU 311 Practicum in Language Arts

A field based course featuring recent methods and materials to the teaching of communication skills. Topics include spelling, handwriting, listening, creative expression, oral and written reporting. Cr 2.

EDU 312 Teaching Language Arts in Elementary School

Recent methods and materials basic to the teaching of communication skills. Topics include spelling, handwriting, listening, creative expression, oral and written reporting. Use of tapes, records, filmstrips, and contemporary language arts books for the elementary school. Cr 3.

EDU 316 Introduction to Learning Disabilities

This course is designed to serve as an introduction to the reasons why some children have difficulty in school. In pursuit of this goal, it will survey the field of exceptionality in general, and will focus specifically on origins, detection, and strategies of intervention for disabilities in the information processing model. Cr 3.

EDU 319 Measurement and Evaluation

Construction, selection, and use of educational achievement tests, including diagnostic and survey instruments. Skill in writing essay

and objective types is developed. An inquiry into the validity and reliability of typical standardized tests. Elements and uses of statistics; tabulation of data; measures of central tendency, variability, and correlation. Cr 3.

EDU 320 Practicum in Developmental Reading II

A field-based methodology course featuring concepts introduced in Developmental Reading I. Students are guided in designing specific instructional activities that correspond to the major stages of reading progress. Empirical demonstrations, methods, and materials for teaching reading are stressed. Prerequisite: EDU 303. Cr 2.

EDU 321 Developmental Reading II

This course builds upon the concepts introduced in Developmental Reading I. Students are guided in designing specific instructional activities that correspond to the major stages of reading progress. Empirical demonstrations, methods, and materials for teaching reading are stressed. Cr 3.

EDU 322 Remedial Reading

The course presents typical reading disabilities, including methods for diagnosing and planning corrective strategies. Consideration is given to methods and techniques appropriate for general classroom use. Prerequisite: a basic course in reading. Cr 3.

EDU 323 Independent Study in Education

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent synthesis, or an artistic or technical creation reflecting a high caliber of performance. May not be used as a substitute for currently described courses. Cr Var.

EDU 324 Student Teaching

Full-time student teaching during the senior year is provided for one semester under direct supervision in off-campus situations for all who meet requirements. Opportunities for student teaching include: elementary, secondary mathematics, art, music, industrial arts, and vocational education. Prerequisites: vary according to major field of study. See curriculum listing in catalog. Applications due in the office of the Director of Clinical Experiences by February 1 of the junior year. Cr 12.

EDU 325 Internship

Year-long internship during the junior and senior year is provided under direct supervision in off-campus teaching/learning centers for all who meet requirements. Professional courses are offered concurrently with internship. Opportunities for internship are available for elementary majors only. Cr 12.

EDU 326 Seminar in Elementary Education

A study of issues in elementary education: school law; professional and ethical procedures; organization of student teaching; and teacher relationships with schools, community, and state. Visiting lecturers participate. Concurrent: enrollment in EDU 324 or EDU 325. Cr 3.

EDU 330 Teaching Strategies

This course features the instructional approaches and techniques that will enable a teacher to translate the content of a curriculum into teaching/learning activities for the classroom. Emphasis will be placed on developing teaching strategies with respect to: planning, modes of instruction, classroom management, grouping schemes, utilization of resources, and evaluation. Cr 3.

EDU 331 Teaching Strategies and Seminar

A two-part field-based seminar in elementary education. Part one is a week-long workshop which provides an introduction to Internship, basic teaching strategies, and classroom management. Part two is a weekly seminar conducted by the Internsite coordinators, discussing issues in school law, professional and ethical procedures, and the teacher relationships with schools, community, and state. Concurrent enrollment with Internship Enabling Semester. Cr 3.

EDU 335 Exceptional Students in the Classroom

This course shall serve as an introduction to the unique characteristics and needs of exceptional students in grades K-8. Legislation and its implications, roles and responsibilities of the regular classroom teacher, resources and characteristics of exceptional students shall be discussed. Cr 3.

EDU 336 Children's Literature

This course emphasizes a creative, interdisciplinary approach to children's books, an understanding of the interests and developmental tasks of the child, and, by precept and example, methods of individualizing reading. The student will be expected to read children's books widely and in depth. Prerequisite: junior standing. Cr 3.

EDU 340 Language Acquisition

This course focuses on the development of language acquisition, 0-5 years; factors which affect language acquisition process; brief introduction to deviations in early language and speech function; and materials, methods, and skill development for facilitating language and speech development. Cr 3.

EDU 342 Theories and Practices in Early Childhood Education

In addition to familiarizing the student with the historical perspective of early childhood education, this course is designed to acquaint the student with the underlying philosophical

bases of a wide variety of early education models and with the approaches for implementing these models. Content will be presented by means of films, filmstrips, recordings, guest speakers, group discussions, student presentations, and lectures. Cr 3.

EDU 344 Teaching the Child Under Six

Philosophy, curricula, methods, and materials of the preschool child and teachers. Extensive observation and field experience are integral parts of the course. Prerequisite or corequisite: EDU 342. Cr 3.

EDU 346 Exceptionality and the Preschool Child

This course is designed primarily for students interested in exceptionality and the preschool child. It is intended to be a practical introduction to the field of exceptionality. Topics covered will include: definitions, labels, brief history of special education, the law, integration, attitudes, diagnosis and prescription, materials, and community resources. Cr 3.

EDU 348 Cooperative Experiences in Early Childhood Education

This course is designed exclusively for early childhood education majors who are currently contributing to a preschool or K-3 program in a public or private school. Seminars and on-site visits by the instructor will be an integral part of the experience. Prerequisites: EDU 100 and instructor approval of the cooperative experience site. Cr 3.

EDU 357 Practicum in Elementary Social Studies

A field based methodology course, conducted primarily in elementary/middle school. The content of this course will focus on teaching strategies appropriate for social studies. Emphasis is on content analysis and curriculum development. Cr 2.

EDU 358 Teaching Social Studies

The content of this course will focus on teaching strategies appropriate for social studies. Emphasis is on content analysis and curriculum development. Cr 3.

EDU 360 Microcomputer Applications in Education

This course is designed to orient the pre-service teacher with the terminology, operation, evaluation, and applications of microcomputers, hardware, and software, as related to American educational systems. Additionally, the course will deal with traditional electronic and electro-mechanical media as related to modern learning processes. Cr 3.

EDU 363 Emotional Problems of Exceptional Children

This course is designed to offer a cross-categorical view of exceptionality with emphasis on disabilities in the affective domain. Origins, detection, prevention, and strategies of intervention will be treated. Cr 3.

EDU 366 Practicum in Learning Disabilities

This course is designed to provide students with an advanced pre-professional experience with learning-disabled children. This experience is served coterminously by a seminar which provides leadership in discussion activities to assist students in reflecting on experiences and viewing them from various perspectives. Prerequisite: EDU 316. Cr 3.

EDU 368 Introduction to Communication Disorders

The common speech and language disorders found in school children will be discussed. For each disorder the probable causes, symptoms, and methods diagnosis and remediation will be covered. The course will also include the basic principles of articulatory phonetics. Cr 3.

EDU 399 Methods and Materials for Teaching Learning Disabled

This course reviews approaches and materials concurrently used for teaching children with learning problems. Remediation methods for perceptual, motor, cognitive, communication, and academic skills will be covered as well as ways to modify existing curriculum to meet existing needs. Prerequisite: EDU 316. Cr 3.

EDU 400 Seminar in Critical Issues in American Education

This seminar is devoted to the study of critical issues in American education examined from social, political, legal, historical and philo-

sophical perspective. Students will critique and evaluate existing and proposed educational policy as it relates to the role of the school and the professional educator in contemporary society. Active student participation will be emphasized through individual and small group problem solving techniques and issues resolution activities. Designed for senior education majors who have completed their professional sequence and internship or student teaching experience. Cr 3.

EDU 442 Organizing and Directing the Preschool

Comprised of a series of discrete modules, this course will focus on the implementation, organization, and continued functioning of the preschool. Equipment, daily routines, health and safety, licensing regulations, parent involvement, and funding will be among the topics explored. Students will spend considerable time while participating in this course. Cr 3.

EDU 499 British Exchange

A cooperative program between the College of Education of USM and King Alfred's College in England. Students may elect to take up to 15 credits per semester with prior USM departmental approval. Information about this program may be obtained in the Office of International Studies, 120 Upton Hall, Gorham campus.

*Physical Education Courses***PHE 102 Independent Activities**

This course will allow students to earn credit for doing physical education activities outside the University. Students may select any activity which can be done independently or may enroll in a structured program, such as Y classes, aerobic dance classes, etc. Instructor permission required. Cr 1 or 2.

PHE 103 Physical Fitness

An aerobic fitness class utilizing any of a number of aerobic activities such as jogging, aerobic dance, calisthenics, etc. These activities are designed to place an aerobic demand on the participants and help promote a general improvement in cardiovascular fitness. Cr 1.

PHE 198 Physiology of Health Fitness

The purpose of this course is to provide the student with a scientific background in exercise physiology and health concepts in order to develop and maintain a lifetime program of high level physical fitness and quality health. Cr 3.

PHE 203 Athletic Training

Care and prevention of athletic injuries; the use of proper field equipment, support methods, therapeutic modalities, pharmacology in

athletics, and training techniques. Cr 3.

PHE 209 Officiating Basketball

Study and discussion of the rules with limited practical experience in the techniques of officiating basketball. Course is designed to prepare student for the National Federation Examination. Cr 2.

PHE 210 Officiating Field Hockey

Study and discussion of the rules of field hockey as well as practical experience in the techniques of officiating. Practical and written tests will be given. Opportunity to become a rated official. Cr 2.

PHE 211 Officiating Soccer

Study and discussion of the rules of soccer as well as practical experience in the techniques of officiating. Practical and written tests will be given. Opportunity to become a rated official. Cr 2.

PHE 212 Officiating Baseball/Softball

Study and discussion of the rules of baseball and softball as well as practical experience in the techniques of officiating. Practical and written tests will be given. Opportunity to become a rated official. Cr 2.

**PHE 221 Experiential Education—
The Outward Bound Experience—
Hurricane Island Outward Bound School
(Winter)**

Instruction in the basic and enabling skills in the art of safe mountain travel and winter camping. Course content includes cross-country skiing, snowshoeing, map and compass reading and shelter building. The Outward Bound experience strongly emphasizes leadership development, interpersonal communication, team-building, and group problem-solving. Fee course. 5-day program. Cr 2.

**PHE 232 Experiential Education—
The Outward Bound Experience—
Hurricane Island Outward Bound School
(Winter)**

Instruction in the basic and enabling skills in the art of safe mountain travel and winter camping. Course content includes cross-country skiing, snowshoeing, map and compass reading and shelter building. The Outward Bound experience strongly emphasizes leadership development, interpersonal communication, team-building, and group problem-solving. Fee course. 10-day program. Cr 3.

**PHE 242 Experiential Education—
The Outward Bound Experience—
Hurricane Island Outward Bound School
(Summer)**

The course has two major parts: (1) training period and (2) final expedition. During the training period students are instructed and participate in sail theory, navigation, seamanship, first aid, rock climbing, camping skills and environmental awareness. The final expedition is designed to allow the student an opportunity to demonstrate the application of each newly learned skill. All students will participate in a solo, (an experience of self-isolation in a natural environment, designed for reflection into yourself.) In addition, the mission of Outward Bound is to develop respect for self, care for others, responsibility to the community and sensitivity to the environment. Fee course. 10-day program. Cr 3.

**PHE 302 Coaching Philosophy and
Fundamentals**

This course covers various approaches to planning, organizing, and implementing practice sessions in preparation for athletic competition. The psychological and emotional aspects of coaching are also investigated. One segment of the course will be concerned with society's view of coaching as illustrated by today's literature. Cr 3.

**PHE 303 Coaching Basketball, Philosophy
and Methods**

Emphasis on the methods of teaching and coaching basketball. Offense and defense, coach-player relationship, team selection, planning of practice sessions, and game situations will be areas of concentration. Cr 2.

**PHE 304 Health and Physical Education for
Elementary Teachers**

A basic course for prospective teachers to develop knowledge and skills to acquaint them with essentials for sound program planning in the various areas of health and physical education. Topics include teaching methods and materials, curriculum, class organization, and lesson planning and evaluation in health and physical education. Observation and practical experience with children will be included. Cr 3.

**PHE 305 Practicum in Health and
Physical Education**

A field-based methodology course conducted in an elementary school. Topics include teaching methods and materials, curriculum, class organization, and lesson planning and evaluation in health and physical education. Observation, peer teaching, and practical experience with children will be included. Cr 2.

**PHE 310 Experiential Learning in Outdoor
Education
Ropes/Initiative Course Construction
and Use**

Participants can expect to gain first-hand knowledge and experience through actual participation in all phases of initiative course construction and operation. Of primary importance will be the understanding one receives from the experience for constructing a similar course in his/her own educational program.

Mountaineering

Designed to gain knowledge in technical mountaineering and to improve capabilities in technical rock climbing.

Orienteering

Designed to gain knowledge in expedition planning and route finding. Cr 3.

**PHE 311 Coaching Soccer, Philosophy
and Methods**

Emphasis on the methods of teaching and coaching soccer. Offense and defense, player-coach relationship, team selections, planning of practice sessions, and game situations will be areas of concentration. Cr 2.

**PHE 312 Coaching Football, Philosophy
and Methods**

Emphasis on the methods of teaching and coaching football. Offense and defense, player-coach relationship, team selections,

planning of practice sessions, and game situations will be areas of concentration. Cr 2.

PHE 314 Organization and Administration of Athletics

This course covers the principles and practices of athletic administration as related to middle schools, junior and senior high schools. Cr 3.

PHE 315 Coaching Field Hockey, Philosophy and Methods

Analysis of the techniques and methods of coaching field hockey with emphasis on stick work, team strategy, and practice organization. Cr 2.

PHE 316 Coaching Volleyball, Philosophy and Methods

Fundamentals of individual skills, team strategy, practice organization, and team play are emphasized. Cr 2.

PHE 318 Coaching Gymnastics, Philosophy and Methods

Analysis of skills fundamental to competitive gymnastics with emphasis on techniques of coaching floor exercise, uneven parallel bars, vaulting, and balance beam. Judging skills are also developed. Cr 2.

PHE 325 Workshop in Experiential Education

Using the Gorham campus as a base, the student will embark on a unique wilderness experience, designed toward self-discovery through participation in challenging activities. A group of 12 students will participate in a general orientation on campus, then be taken off to start expeditions of backpacking, canoeing, rock climbing, rappelling, mountain rescue, and survival. Wilderness skills will be integrated with experience in self-discovery, and process of experiential outdoor education which can be later channeled into everyday life and future teaching situations. Permission of instructor. A fee course. Cr 3.

PHE 335 Coaching Baseball and Softball, Philosophy and Methods

Emphasis on the methods of teaching and coaching baseball and softball. Offense and defense, player-coach relationship, team selection, planning of practice sessions, and game situations will be areas of concentration. Cr 2.

**PHE 343 Experiential Education--
The Outward Bound Experience--
Hurricane Island Outward Bound School
(Summer)**

The course has two major parts: (1) training period and (2) final expedition. During the training period students are instructed and participate in sail theory, navigation, seamanship,

first aid, rock climbing, camping skills and environmental awareness. The final expedition is designed to allow the student an opportunity to demonstrate the application of each newly learned skill. All students will participate in a solo, (an experience of self-isolation in a natural environment, designed for reflection into yourself.) In addition, the mission of Outward Bound is to develop respect for self, care for others, responsibility to the community and sensitivity to the environment. Fee course. 26-day program. Cr 6.

**PHE 353 Teacher Training--
Experiential Education--
Hurricane Island Outward Bound School**

A 28-day course for educators designed to blend the lessons of experiential education with more traditional forms of learning. Students will participate in a sailing expedition with instruction in developing teaching styles, methods of experiential education in inside/outside the classroom, improving student/teacher relationship and leadership training. Fee course. 28-day program. Cr 6.

PHE 391 Field Experience in Coaching

Practical field work in a coaching area. The student will be assigned as an assistant coach in a sport for a season. Supervision, evaluation, and guidance of the student will be provided by a staff member who is responsible for that coaching area. Prerequisite: PHE 203, PHE 302, PHE 314. Restricted to students in coaching certificate program. Cr 1-3.

PHE 389 Advanced First Aid and CPR

This course will cover the topics prescribed by the American Red Cross and the advanced first aid and emergency care course, including respiratory emergencies, artificial respiration, wounds, poisoning, water accidents, drugs, burns, emergency child birth, emergency rescue and transfer, and CPR. Successful completion of the course requirements will lead to: Advanced Red Cross First Aid and CPR certification. Cr 3.

PHE 398 Independent Study in Physical Education

Provides students who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest, bearing upon it previous course experience and emerging with an intellectually sound, coherent synthesis reflecting a high caliber of performance. Restricted to students in the PHE Leadership minor. Prerequisite: permission of instructor. Cr 1-3

Department of Human Resource Development

The Department is responsible for courses in human development and family studies. It provides graduate programs in adult education, counselor education, and community agency and rehabilitation counseling. For information regarding graduate programs, please consult the Graduate Catalog. Undergraduate courses offered by the Department include courses in human development and educational psychology.

HRD 331 Group Dynamics

An experimental study of the nature of group process and one's own functioning in a group. The developing awareness of self in relation to others in a group will be of primary importance. Specific techniques will include reading and participation in a seminar planned to aid in the exploration of self and others. Prerequisite: upperclass or graduate status and permission of the instructor. Cr 3.

HRD 332 Psychology of the Self

An exploration into the development of the self, primarily as an issue of personal growth. Topics might include alienation, loneliness, and verbal/non-verbal communication. Learning techniques center around readings, common class experience, and intensive small-group interaction. Prerequisite: permission of instructor. Cr 3.

HRD 333 Human Growth and Development

This course introduces developmental theory and research which encompasses the entire life span. Emphasis will be on prenatal development through adolescence, with an overview of adult development. A multi-disciplinary view of human development will be taken which considers stability as well as change throughout the life cycle. The interaction of hereditary and environmental factors will be considered in studying physical, cognitive, and psychosocial development. Cr 3.

HRD 335 Educational Psychology

Basic principles, techniques, and research in educational psychology. A special consideration given to the learning process, perception, motivation, individual differences, and measurement, with reference to the facilitation of effective teaching and learning. prerequisite: upperclass status. Cr 3.

School of Business, Economics and Management

Dean: Richard J. Clarey; *Associate Dean:* Robert W. Findlay
Assistant to the Dean: Margaret Palmer; *Academic Counselor:* Ronda Bailey; *Staff Associate for Undergraduate Advising:* Cynthia A. Young; *Director, Center for Real Estate Education:* Charles Coit; *Executive-in-Residence:* Edwin R. Nelson, CPA

Department of Accounting

Chair: D. Bradlee Hodson, 118 Bedford Street, Portland;
Professors: Findlay, Potts; *Associate Professors:* Hodson, Jagolinzer; *Assistant Professors:* Ketcham, Westort

Department of Business Administration

Chair: William Sturner (fall); Charles N. Greene (spring), Luther Bonney, Portland
Professors: Greene, Miaoulis, Neveu, Sturner, Wood; *Associate Professors:* B. Andrews, Clarey, Houlihan; *Assistant Professors:* Boyle, Lombardo, G. Parsons, H. Parsons, Richardson, Voyer

Department of Associate Business Administration

Chair: Joel I. Gold, 213 Luther Bonney, Portland
Professor: McKeil; *Associate Professors:* Aiello, S. Andrews, Gold, Gutmann, Purdy; *Assistant Professors:* Kucsma, MacDonald, Manny, Palmer, Sanders, Waterworth, Westfall

Department of Economics

Chair: Robert C. McMahon, 227 Luther Bonney, Portland
Professor: Durgin; *Associate Professors:* Bay, McMahon, Phillips; *Assistant Professor:* Medley; *Instructors:* Goldstein, Hillard

The School of Business, Economics and Management offers a number of different programs to meet student needs. The School offers a program in business administration leading to an associate of science in business administration degree. Undergraduate programs leading to the degree of bachelor of science in business administration or economics are available in three areas of study: accounting, business administration, and economics. The School also provides a graduate program leading to the degree of master of business administration (see Graduate Catalog for information).

Programs and Requirements

Associate of Science in Business Administration

The associate program in business administration is designed to prepare students who wish to complete their education in two years for employment in junior management positions in several different careers; and to provide a sound foundation for those students who perform well and who wish to transfer to a baccalaureate program in business administration at this University or other institutions.

Associate degree graduates are prepared for employment at the junior management level in many fields of business. Some fields of business that graduates have entered are accounting, bookkeeping, business computers/

data processing, sales, retailing, banking, finance, real estate, hospitality services, and management trainee programs.

While the program emphasizes business, it contains courses in liberal arts including English, fine arts, social science, humanities, and mathematics. Concentrations within the associate program include accounting; business computer programming; management; marketing; hotel, motel and restaurant management; and real estate. Also available is a transfer concentration for those students planning to enter a baccalaureate program in business administration immediately after completion of the associate degree program. This concentration requires more mathematics and liberal arts courses than the career concentrations.

The hotel, motel, and restaurant management option is a cooperative, two-year program developed jointly by Southern Maine Vocational Technical Institute and the A.B.A. program. The fourth semester is offered on the SMVTI campus in their Culinary School. Students are enrolled at the University but attend at SMVTI and must provide their own transportation.

Admission Requirements

Any high school student may seek admission to the associate degree program. A college preparatory background, while desirable, is not necessary. Applicants should complete the University of Maine application and specify the associate in business administration program. Candidates also must complete the Scholastic Aptitude Test.

Transfer Policy

All of the concentrations within the associate program are transferable to the baccalaureate program providing a grade of C- or better is obtained.

To be admitted from the associate degree program to the baccalaureate status within SBEM, an individual must have completed at least 15 semester credit hours and no more than 53 semester credit hours with an accumulative grade point average of at least 2.40 in all associate business (ABU) courses and in all associate level courses and at least a 2.00 in all baccalaureate level courses.

Associate business courses (ABU) must be completed with a minimum grade of C- to be considered the equivalent to:

ACC	201	(ABU 111 and 112)
BUS	280	(ABU 280)
BUS	290	(ABU 190)
ECO	201	(ABU 101)
ECO	202	(ABU 102)

For any baccalaureate courses which have been completed, an accumulated grade point average of at least 2.00 must be earned.

ABU 220, Introduction to Business Finance; ABU 240, Principles of Management; and ABU 260, Marketing must be validated. (See page 00.) Other associate level courses not mentioned above do not have baccalaureate equivalency and therefore transfer as general electives.

From the time of admission to baccalaureate status within SBEM, an individual must fulfill the remaining criteria for admission to a major in the same manner as any other baccalaureate student.

Other Policies

Students who have not been admitted to an associate degree program within the School will be allowed to enroll in associate business courses on a space-available basis according to the following criteria:

1. They have declared a major which requires the course in its curriculum.
2. They have been admitted as baccalaureate degree students in the School of Business, Economics and Management. (SBEM baccalaureate students will *not* receive credit for these courses towards their major requirements unless prior approval has been received from the Dean.)
3. They are admitted to the University as degree candidates.
4. They are non-degree students.

To enroll in a 300-level ACC, BUS, or ECO course, a student must have attained junior standing.

Associate of Science in Business Administration

The minimum number of credits required for the degree is 60 (including 15 credits of ABU courses taken at the University of Southern Maine).

Basic Requirements (18 credits)

- ENG 100 College Writing (3)
- ENG 019 Written Business Communication (3)
- Mathematics (6)– two courses selected from the following with approval of an advisor: MAT 010, MAT 011, MAT 100, MAT 110, MAT 211.

From courses approved for Core curriculum (6)

1. Either one Humanities from a) Literature or b) Other Times/Other Cultures **Or:** one Fine Arts from a) Performance-Centered or b) History-Centered

2. Social Science

Required Courses in Business for all concentrations (18 credits)

- ABU 101 Principles of Economics I
- ABU 102 Principles of Economics II
- ABU 111 Principles of Accounting I
- ABU 112 Principles of Accounting II
- ABU 190 Introduction to Computers in Business
- ABU 280 Legal Environment of Business

Associate Business Administration Program Concentration (24 credits)

Accounting Concentration

- ABU 211 Accounting Applications I
- ABU 212 Accounting Applications II
- ABU 220 Introduction to Business Finance
- ABU 240 Principles of Management
- ABU 260 Marketing
- ABU Program Electives (6)

General Elective (3)

Business Computer Programming Concentration

To continue in this concentration, a student must qualify for admission to an associate business administration program concentration, plus earn at least a grade of B (3.00) in ABU 191.

- ABU 220 Introduction to Business Finance
- ABU 240 Principles of Management
- ABU 260 Marketing
- ABU 191 Mainframe Tools and Structured Programming
- ABU 291 COBOL I: Application and Documentation
- ABU 295 Data Design and Handling
- ABU 296 Business Information Systems
- ABU 297 Advanced Database Systems

Business Management Concentration

- ABU 220 Introduction to Business Finance
- ABU 240 Principles of Management
- ABU 243 Problems in Small Business
- ABU 253 Human Relations in Business
- ABU 260 Marketing
- ABU Program Electives (6)

General Elective (3)

Business Marketing Concentration

- ABU 220 Introduction to Business Finance
- ABU 240 Principles of Management
- ABU 243 Problems in Small Business
- ABU 260 Marketing
- ABU 264 Retailing
- ABU 267 Sales Management
- ABU Program Elective (3)

General Elective (3)

Hotel, Motel and Restaurant Concentration (spring semester at SMVIT)

- ABU 220 Introduction to Business Finance
- ABU 240 Principles of Management

ABU	243	Problems in Small Business
ABU	260	Marketing
HMR	101	Food Fundamentals
HMR	104	Hotel Law
HMR	200	Food and Beverage Management
HMR	202	Front Office Management
<i>Real Estate Concentration</i>		
ABU	220	Introduction to Business Finance
ABU	221	Principles of Real Estate
ABU	222	Real Estate Law
ABU	224	An Introduction to Appraising Real Property
ABU	226	Principles of Real Estate Finance
ABU	240	Principles of Management
ABU	260	Marketing

General Elective (3)

ABU Program Electives

To fulfill the ABU electives required in the above concentrations, students may select from the following courses:

ABU	100	Introduction to Business
ABU	191	Mainframe Tools and Structured Programming
ABU	211	Accounting Applications I
ABU	212	Accounting Applications II
ABU	221	Principles of Real Estate
ABU	222	Real Estate Law
ABU	224	Introduction to Appraising Real Property
ABU	226	Principles of Real Estate Finance
ABU	227	Introduction to Stocks and Bonds
ABU	243	Problems in Small Business
ABU	253	Human Relations in Business
ABU	264	Retailing
ABU	267	Sales Management
ABU	271	Independent Study
ABU	285	ABA Work Internship
ABU	291	COBOL I: Application and Documentation
ABU	292	COBOL II: Advanced Programming Application
ABU	294	RPG Programming
ABU	295	Data Design and Handling
ABU	296	Business Information Systems
ABU	297	Advanced Database Systems
ABU	299	Special Topics
ACC	202	Principles of Management Accounting
ACC	301	Intermediate Accounting I
BUS	190	Personal Finance
MAT	109	Linear Systems
MAT	110	Calculus for Business
MAT	211	Probability
MAT	212	Statistics

Transfer Track Concentration

This concentration is designed for those associate degree students who desire to enter a baccalaureate program in accounting or business administration immediately upon completion of their associate degree.

ABU Program Electives (6)

Select two from the following: ABU 100, ABU 211, ABU 212, ABU 221, ABU 222, ABU 224, ABU 226, ABU 240, ABU 260, ABU 271, ABU 285, ABU 291, ABU 292, ABU 294, ABU 295, ABU 296, ABU 297, ABU 299, ACC 202, BUS 190

Mathematics (6)

Select two courses from the following sequence depending upon mathematics courses taken to satisfy Basic Requirements above: MAT 100, MAT 110, MAT 211, MAT 212 (Students who complete MAT 110, MAT 211, and MAT 212 in their first nine hours of mathematics should select a course to fulfill the Core curriculum requirement in Reasoning.)

From courses approved for Core curriculum

Students should take no more than one course from any item below

1. Natural Science with Lab
2. Social Science
3. Humanities from either a) Literature or b) Other Times/Other Cultures
4. Fine Arts from either a) History-Centered or b) Performance-Centered
5. Interdisciplinary COR designated course

Baccalaureate Programs in Business Administration, Accounting, and Economics

The primary objective of the undergraduate baccalaureate program in business administration is to develop the student's abilities to assume the responsibilities of management. The program aims at developing skills and an attitude of mind that will enable the student to cope successfully with the changing problems of management in the years ahead.

The program is implemented in three phases. First, the student acquires broad training in the arts and sciences for the necessary foundation upon which his or her future education will build. Second, the student pursues a program of study designed to provide an understanding of the major functional areas common to most business operations and knowledge of certain fields which are particularly relevant to the study of management. Third, the student undertakes to acquire a deeper knowledge of the selected major field, either accounting or business administration. This is accomplished by taking 18–21 credit hours beyond the common requirements in business and economics.

The undergraduate program in economics provides a broad preparation for a variety of careers as well as for graduate study in economics, business administration, or law. Economics is a social science and as such must be studied in the perspective of a broad training in the liberal arts and sciences. Within the economics program, courses are available in such fields as: economics analysis, quantitative methods, international economics, and the economics of monetary and fiscal policy.

Applied Studies

Within the four-year programs in accounting, business administration, and economics, the following opportunities are available.

Internship/Cooperative Education Program The School of Business, Economics and Management offers an Internship/Cooperative Education Program in which students, while working in business or industry, may earn academic credit. This program combines the efforts of employers and educators forming educational experiences in areas including accounting, marketing, finance production, management, and human resources development. Firms involved with the Internship/Cooperative Education Program represent such fields as public accounting, internal auditing, banking, securities and investments, retailing, and manufacturing. Frequently opportunities with nonprofit organizations also are available. Students who desire further information should contact the director of the Internship/Cooperative Education program.

Small Business Institute The School of Business, Economics and Management, through the Small Business Development Center, sponsors a program called the Small Business Institute. Juniors and seniors are selected to provide management counseling to the area's small businesses. Under the program, students counsel and advise, in cooperation with a faculty advisor and representatives of the Small Business Administration, various busi-

nesses within southern Maine. The program provides an opportunity for relevant practical application of academic principles. Students may be involved in such areas as accounting, finance, management, marketing, and production. The course carries three hours of academic credit.

Double Majors Students may elect to complete the requirements for a double major in accounting and economics or in business administration and economics. Students may not seek a double major in accounting and business administration.

Admissions Requirements for Majors

Students admitted to the University will enter the School of Business, Economics and Management as baccalaureate degree students. However, to be admitted to a baccalaureate major within the School of Business, Economics and Management, a student must have completed at least 53 semester hours with a minimum accumulative grade point average of 2.00, and have completed one of the following sets of courses, depending upon the designated major, with a minimum accumulative grade point average of 2.00 for business and economic majors or a grade of C or better in all courses for accounting majors listed below.

Accounting Major: ENG 100, ACC 201, ACC 301, BUS 280, BUS 290, ECO 201, ECO 202, MAT 110, MAT 211, MAT 212

Business Administration Major: ENG 100, ACC 201, ACC 202, BUS 280, BUS 290, ECO 201, ECO 202, MAT 110, MAT 211, MAT 212

Economics Major: ACC 201, ECO 201, ECO 202, MAT 109 and MAT 110 or MAT 152 and MAT 153

An application for admission to the major in the School of Business, Economics and Management should be completed and returned to the Dean's Office.

Although actual admission will not be approved until completion of at least 53 semester hours, the required set of courses and achievement of required grade point averages, students may apply and be admitted pending completion of the semester's work in which they will have earned 53 or more credits. If admissions requirements are not met, their admission will be revoked and any enrollments in 300-level or above courses in the School of Business, Economics and Management will be cancelled.

Other Policies

Students who have not been admitted to a baccalaureate major within the School may be allowed to enroll in 300-level or above courses on a space-available basis according to the following priorities:

1. They have declared a major which requires the course in its curriculum.
2. They have been admitted to the minor in business administration or the minor in economics (applies to economics courses only).
3. They are admitted to the University as degree candidates.
4. They are non-degree students.

Validation of Upper-Division SBEM Course Requirements Taken as a Lower Division Student

Courses in the School of Business, Economics, and Management which are numbered 300 or higher shall be taken only by juniors and seniors. In order for a student to receive credit toward an SBEM degree for a 300-level or 400-level SBEM course taken while a person is a freshman, sophomore, or associate degree student, it must be validated by a method which conforms to the policies established by the American Assembly of Collegiate Schools of Business (AACSB). The validation procedures listed below are applicable to all students who complete upper-division SBEM courses or their equivalents while they are freshmen, sophomores, or associate degree students at either USM, other University of Maine System institutions, or other community/junior colleges and baccalaureate degree granting institutions from which transfer credit may be requested. The School of Business, Economics, and Management normally accepts transfer credit from institutions which have regional accreditation (e.g. New England Association, North Central, WICHE, etc).

1. BUS 320 Business Finance may only be validated by passing the departmental competency exam developed at USM.
2. BUS 327 Investment Management may not be validated at this time, but a method for validation is being studied.
3. BUS 340 Principles of Management may be validated by either
 - (1) obtaining a passing score on the College Level Equivalency Program (CLEP) subject exam Introduction to Management designed by the Educational Testing Service, or
 - (2) earning a grade of C=2.00 (A=4.00 system) or higher in BUS 452 Organizational Behavior.
4. BUS 360 Marketing may be validated by either
 - (1) obtaining a passing score on the CLEP subject exam Introductory Marketing or
 - (2) earning a C=2.00 (A=4.00 system) or higher in BUS 367 or
 - (3) by passing the departmental competency exam developed at USM.
5. ACC 301 Intermediate Accounting I may be validated by earning a grade of C=2.00 (A=4.00 system) in ACC 302 Intermediate Accounting II.

Other 300-level or 400-level courses in SBEM cannot be validated at this time. Courses similar in title with comparable course descriptions may be accepted as general electives, but will not be applied toward major or minor requirements in SBEM.

If a student does not succeed in validating a 300-level or 400-level SBEM course taken as a freshman, sophomore, or associate degree student, then that course cannot be applied toward fulfilling an SBEM requirement and the appropriate SBEM course must be completed.

The SBEM validation policies stated above pertain to all students admitted to the University of Southern Maine for whom the academic policies and requirements stated in this 1987-88 catalog apply. These validation policies are subject to change in ensuing USM catalogs.

Transfer Students

For students transferring to USM from outside the University of Maine System: In order to receive transfer credit, courses in accounting, business, economics, and mathematics applicable to the basic and major requirements must have been completed within the past 10 years from date of admission with a grade of C- or better. Exceptions to this policy may be made subject to the approval of the Dean's office.

Degree Requirements

All students must complete at least 120 credit hours of coursework. To be eligible for the B.S. degree, a student must have attained an accumulative grade point average of 2.00 or higher in coursework taken in baccalaureate programs at the University and in all baccalaureate courses in accounting (ACC), business (BUS), and economics (ECO). Accounting majors also must attain a 2.00 or higher cumulative grade point average in all ACC designated courses. Transfer students majoring in accounting normally will need to complete at least 12 credits of 300-level or 400-level ACC designated courses at USM to obtain a B.S. degree. Exceptions may be granted with approval of the Chairperson, Department of Accounting.

Bachelor of Science in Business Administration

The minimum number of credits (including the University's Core curriculum) required for the degree: 120 (A minimum of 48 credits must be taken from courses outside SBEM).

Core Curriculum Requirements (31 credits)

Basic Competence

1. English Composition (3)

Students who fulfill the English Composition Competence of the Core curriculum without earning credits must complete 3 credits of electives from CLA, ENG, FRE, GER, GRE, IAT, or SPA courses.

2. Skills of Analysis/Philosophy (3)

3. Quantitative Decision Making

This requirement may be fulfilled by taking a mathematics course stipulated below under the supplementary requirements.

Methods of Inquiry/Ways of Knowing

1. Fine Arts

- a. Performance-centered arts (3)
- b. History-centered arts (3)

2. Humanities

- a. Literature (3)
- b. Other Times/Other Cultures (3)

3. Social Science (not to include ECO courses) (6) (See supplementary requirements below)

4. Natural Science (4)

5. Interdisciplinary COR course. (3)

Supplementary Requirements

1. Mathematics (9)

- a. MAT 110 Calculus for Business
- b. MAT 211 Probability
- c. MAT 212 Statistics

2. Social Science (6) (Business Administration Majors only)

To be selected from ANTI, CRI, COM, GEO, HTY, POS, PSY, SOC, and SWO courses.

Basic Requirements for Accounting (18)

ACC	201	Principles of Financial Accounting
BUS	280	Legal Environment of Business
BUS	290	Introduction to Computers in Business
ECO	201	Principles of Economics I
ECO	202	Principles of Economics II
*ECO	300	

*To satisfy this requirement any 300 level ECO course may be selected; to satisfy the international dimension select one of the following: ECO 350 Comparative Economic Systems; ECO 351 Economic Systems of the Soviet Union; ECO 360 Economic Development; ECO 361 Applied Economic Development; ECO 370 International Trade

If only one ECO 300 level course is selected it must be taken from the above international courses.

Basic Requirements for Business Administration (18)

ACC	201	Principles of Financial Accounting
BUS	280	Legal Environment of Business
BUS	290	Introduction to Computers in Business
ECO	201	Principles of Economics I
ECO	202	Principles of Economics II
ECO		elective (300-level or above)

Major in Accounting or Business Administration

1. Common Courses (18)

BUS	320	Business Finance
BUS	340	Principles of Management
BUS	360	Marketing
BUS	371	Operations Research/Management Science
BUS	375	Production/Operations Management
BUS	450	Business Management and Policy

2. Major Field

Either

A. Accounting (21)

ACC	301	Intermediate Accounting I
ACC	302	Intermediate Accounting II
ACC	303	Intermediate Accounting III
ACC	305	Cost Accounting
ACC	313	Federal Tax Reporting
ACC	401	Advanced Accounting I
ACC	410	Auditing or ACC 415 Internal Auditing

Or

B. Business Administration (18)

ACC	202	Principles of Management Accounting
BUS	327	Investment Management
BUS	452	Organizational Behavior

Six credits from ACC, BUS, ECO electives (300-level or above)

Three credits of these six credits must be taken from the following courses:

ECO	350	Comparative Economic Systems
ECO	351	Economic Systems of Soviet Union
ECO	360	Economic Development
ECO	361	Applied Economic Development
ECO	370	International Trade

Three credits from BUS electives (300-level or above)

General Electives: Accounting 23; Business Administration 20.

Minor in Business Administration

In order to be admitted to the minor in business administration, a student must have completed at least 24 credit hours with a grade point average of 2.50 (A=4.00 scale) or higher. For admission to the minor the student must have completed MAT 110 or MAT 152 with a grade of C or higher. The student must also complete BUS 290, MAT 211 and MAT 212, or MAT 362, before taking any 300 level business course (BUS 320, BUS 340, BUS 360).

A student majoring in business administration or accounting in the School of Business, Economics and Management may not minor in business administration; nor may a student with an associate degree in business earn a minor in business administration.

To fulfill the requirements for a minor in business administration, a student must complete the following courses with an overall average of at least a 2.00. A minimum of four of the following seven courses required for the minor must be taken at the University of Southern Maine.

ACC	201	Principles of Financial Accounting	3 credits
ACC	202	Principles of Management Accounting	3 credits
ECO	201	Principles of Economics I	3 credits
ECO	202	Principles of Economics II	3 credits
BUS	320	Business Finance	3 credits
BUS	340	Principles of Management	3 credits
BUS	360	Marketing	3 credits

Bachelor of Science in Economics

The minimum number of credits (including the University's Core curriculum) required for the degree: 120 (at least 48 credits must be taken from courses outside SBEM).

Core Curriculum Requirements (31 credits)

Basic Competence

1. English Composition (3)

Students who fulfill the English Composition Competence of the Core curriculum without earning credits must complete 3 credits of electives from CLA, ENG, FRE, GER, GRE, IAT, or SPA courses.

2. Skills of Analysis/Philosophy (3)

3. Quantitative Decision Making

This requirement may be fulfilled by taking a mathematics course stipulated below under the supplementary requirements.

Methods of Inquiry/Ways of Knowing

1. Fine Arts

a. Performance-centered arts (3)

b. History-centered arts (3)

2. Humanities

a. Literature (3)

b. Other Times/Other Cultures (3)

3. Social Science (not to include ECO courses) (6)

4. Natural Science (4)

5. Interdisciplinary COR course. (3)

Supplementary Requirements (12)

MAT	109	Linear Systems
MAT	110	Calculus for Business
MAT	211	Probability
MAT	212	Statistics

An optional, more rigorous mathematics sequence is available to those students who desire it. They may take MAT 152 Calculus A and MAT 153 Calculus B instead of MAT 109 and MAT 110, but these students must still take MAT 211 and MAT 212.

Basic Requirements for Economics (9)

ACC	201	Principles of Financial Accounting
ECO	201	Principles of Economics I
ECO	202	Principles of Economics II

Major in Economics (27)

ECO	301	Macroeconomic Analysis
ECO	302	Microeconomic Analysis
ECO electives which may include GEO 303 and HTY 338		

General Electives (41)

A less mathematics-oriented B.A. degree with a major in economics is offered by the Department of Economics through the College of Arts and Sciences. (See College of Arts and Sciences section of catalog.)

Minor in Economics

A minor in economics is available to students in any major within the University. A description of requirements follows.

To gain admission, students must be in good standing at the University and submit a signed Economics Minor Authorization Form to the Dean of the School of Business, Economics and Management. The 21 credit hours below must be completed with at least a 2.00 accumulative grade point average: ECO 201; ECO 202; ECO 301; ECO 302; either MAT 120, or MAT 212, or MAT 362; and six additional credits of 300-level or above ECO electives.

Minor in Mathematics

In cooperation with the Department of Mathematics, a minor in mathematics is available to all economics majors. The optional mathematics minor is: 21 credit hours (not to include statistics courses), with 12 of the credit hours in MAT 152, 153, and 252. The remaining 9 credit hours are to be selected from the following: MAT 290, MAT 352, MAT 354, MAT 366, MAT 380, MAT 460; COS 260.

Master of Business Administration

The School offers a master of business administration degree. For those interested in this program a separate brochure is available at the School of Business, Economics, and Management office. Please refer to the Graduate Catalog for further information.

ABU 100 Introduction to Business

An examination of the significant relationships between business and the social, political, and economic environment of our society for the purpose of evaluation of goals, values, ethics, and practices in the business world. Historical development of business and capitalism is covered. The industrial and commercial structures and functions in our society are described. Social relationships internal to the firms are explored. Special problems concerning mass production, automation, and employment are discussed along with other current and future issues and problems related to business and our society. Cr 3.

ABU 101 Principles of Economics I

A theoretical analysis of the basic characteristics, institution, and operational activities of a modern capitalistic economy which is involved in the transformation of scarce economic resources into the goods and services demanded by consumers. Topics discussed include inflation, unemployment, government monetary and fiscal policy to achieve full employment, and economic growth. (Cannot be applied toward Core Curriculum Requirement in Social Science.) Cr 3.

ABU 102 Principles of Economics II

A theoretical analysis of the firm, and its role in the transformation of scarce economic re-

sources into the goods and services demanded by consumers. Special attention is focused on the development of a market mechanism for the exchange of goods, services, and resources within a capitalistic economy. Topics discussed include consumer preferences and consumer behavior, production theory and production costs, the monopoly firm, and resource pricing. (Cannot be applied toward Core Curriculum Requirement in Social Science.) Cr 3.

ABU III Principles of Accounting I

An introduction to the accounting cycle, working papers, and financial statements. A practical emphasis on accounting methodology with coverage of inventory control, cash control, depreciation of plant assets and payroll. Cr 3.

ABU II2 Principles of Accounting II

A study of the procedures of accounting for owner's equity, long-term investments and the cost of manufacturing goods. The proprietorship, partnership, and corporation accounting techniques are developed in a practical approach. Prerequisite: ABU 111. Cr 3.

ABU I90 Introduction to Computers in Business

This course provides an introduction to the use of computer technology within business applications. IBM compatible microcomputers are the primary equipment used. Applications include word processing, data management, spreadsheets, graphics, communications, and the use of these in integrated problem solving. In addition, a general background on the role of information systems within organizations, current technology trends, ethical issues, and social considerations are discussed. Prerequisite: MAT 010. Cr 3.

ABU 191 Mainframe Tools and Structured Programming

This course is an intensive introduction to modern mainframe computer systems, programming and data files. Mainframe system topics include Virtual Operating Systems, System Commands, Editors, and Electronic Mail. Structured Programming covers all standard control structures, arrays, functions, and subroutines. Both sequential and keyed file structures will be used throughout the programming. Prerequisites: ABU 111 and ABU 190, or permission of the instructor. Cr 3.

ABU 211 Accounting Applications I

This course further prepares students for paraprofessional accounting careers through extensive hands-on practice with a variety of common small business record-keeping systems, including microcomputers, and payroll tax reporting. In addition, students will be introduced to federal and Maine income tax return preparation for individuals and small businesses. Prerequisites: ABU 111, ABU 112. Cr 3.

ABU 212 Accounting Applications II

The accounting knowledge and skills developed in prior courses in this sequence will be applied to such financial management topics as: internal control, record-keeping system design and analysis, cash flow control and analysis, budgeting and forecasting, choice of organizational form, and analysis of accounting results. Students will be expected to use a microcomputer electronic spreadsheet program for financial analysis. Prerequisites: ABU 211. Cr 3.

ABU 220 Introduction to Business Finance

A study of the promotion, organization, and financing of the single proprietorship, partnership, and corporation. Such topics as fund flows, ratio analysis, breakeven analysis and leverage, time value of money concepts, cost of capital and capital budgeting are examined. Prerequisites: ABU 101, ABU 102, ABU 111, ABU 112, and MAT 011. Cr 3.

ABU 221 Principles of Real Estate

An overview of real estate fundamentals, including rights and interests in land; forms of ownership; contracts; records, and forms; taxes and assessments; appraisals; insurance; brokerage; property management; and land-use control. Cr 3.

ABU 222 Real Estate Law

A study of real property law in general and Maine law in particular; land titles, acquisition and transfer, methods of ownership, rights of husband and wife, rights of landlord and tenant, easements, fixtures, land descriptions, mortgages, deeds, taxes, contracts, legal elements of brokerage relationship, selected environmental and land use regulations, coastal island registry; physical regulations of subdivisions, zoning and selected federal laws. (Completion of this course with a grade of 75, or better, provides one-third of an approved course of study for those who wish to prepare for the State of Maine real estate brokers license examination.) Offered only in the evening. Cr 3.

ABU 224 An Introduction to Appraising Real Property

This is an intensive course covering all real property appraising concepts and the technical skills employed in their applications to residential property. The course is designed for the beginning appraiser, real estate broker, lender, builder, and assessor. Included is a summary introduction to real estate economics and urban land studies. This is the first of three courses accepted by the Society of Real Estate Appraisers for credit toward a professional designation. Offered only in the evening. Cr 3.

ABU 226 Principles of Real Estate Finance

Methods of financing various types of real estate including sources of funds, analysis of lenders, risks, types of loans, government influences and participation, financing instruments, loan processing, defaults and foreclosures. Offered only in the evening. Cr 3

ABU 227 Introduction to Stocks and Bonds

Provides the planning and management of investment programs for all types of investors. Evaluates the various media of investments in terms of their risks and profits. The functions of the stock market and its behavior are examined. Prerequisites: ABU 101, ABU 102, ABU 111, ABU 112, MAT 011. Cr 3.

ABU 240 Principles of 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. Prerequisites: ABU 101, ABU 102. Cr 3.

ABU 243 Problems In Small Business

A study of the aspects of management that relate most specifically to the management of small business. The course covers areas of business planning, development, and operation which the prospective owner/manager must consider seriously early in his/her thinking. During the course each student will develop a comprehensive small business plan. Prerequisites: ABU 102, ABU 111, ABU 112, ABU 260. Cr 3.

ABU 253 Human Relations in Business

Introduction to the behavioral sciences, emphasizing typical behavioral problems faced in business by employees and management. Lectures, case analysis, and outside readings are supplemented by involving the student in role playing and analyzing collected data. Prerequisite: ABU 240. Cr 3.

ABU 260 Marketing

A study of the marketing organization with a focus on product policies, distribution policies, promotional and pricing policies. Market research is implemented by getting students involved in casework, controversial issues, and local business community projects. Prerequisites: ABU 102. Cr 3.

ABU 264 Retailing

Study of the retail distribution structure and of the problems involved in successful store operation under current conditions. Prerequisites: ABU 260. Cr 3.

ABU 267 Sales Management

Analysis of the problems facing marketing management in formulating sales policy and in managing the sales organization. Prerequisite: ABU 260. Cr 3.

ABU 271 Independent Study

Selected business topics relating to the student's degree program may be studied and researched on an independent basis. Prerequisites: GPA 2.5, sophomore standing and permission of the instructor and chair of the department. Cr Variable.

ABU 280 Legal Environment of Business

This course introduces students to the legal system, consumer law, securities regulation, antitrust law, labor law, equal employment law, and environmental law. The course stresses the social responsibility of business and the legal and ethical framework in which business must function. Cr 3.

ABU 285 ABA Work Internship

This is our students' opportunity to apply their academic training to work experiences in the business world. The student, the SBEM, and an employer make prearranged commitments for a one-semester job in a local business organization. The work must be in an area related to the student's chosen concentration in the ABA program and must be approved in advance by the SBEM Director of Internships. *This is open only to second year students in the ABA Program.* ABU 286 may be taken after ABU 285 for a maximum of 6 credits in ABA Internship. Cr 3.

ABU 291 COBOL I: Applications and Documentation

An introduction to programming in the COBOL language, it includes practice in the structure, rules, and vocabulary of COBOL using exercises in structured problem analysis, program specification techniques, and coding. Programs will focus on simple business problems and generally accepted business procedures. Prerequisites: A grade of B (3.00) or better in ABU 191 or permission of the instructor. Cr 3.

ABU 292 COBOL II: Advanced Program Applications

It emphasizes applying the techniques for developing and documenting a complete business program. Major focus will be on data design, non-sequential file updating, job control language, program calls, and program optimization. Prerequisites: ABU 291 and ABU 295, or permission of the instructor. Cr 3.

ABU 294 RPG Programming

An introduction to programming in the RPG language, its focus is on the use of RPG to manipulate files in the process of producing necessary business reports. Programming assignments will focus on report specifications, file handling, and editing. Prerequisites: ABU 191 or permission of the instructor. Cr 3.

ABU 295 Data Design and Handling

A course in the design, use and management of advanced data file structures and elementary databases. Content includes data storage,

file and database concepts, the actual development and use of direct access methods such as hashing and keys, and the development of primitive databases using both pointer and inversion organization. Prerequisites: A grade of B or better in ABU 191 or permission of the instructor. Cr 3.

ABU 296 Business Information Systems

The purpose of this course is to develop an understanding of the interrelationships and requirements for an integrated business data processing system in order to provide accurate and timely management information. It examines the most common business applications. Prerequisites: ABU 240 and ABU 191, or permission of the instructor. Cr 3.

Baccalaureate Program

ACC 201 Principles of Financial Accounting

An introduction to accounting principles and concepts. Emphasis is placed on understanding financial statements and the accounting for assets, liabilities, equities, revenue, and expenses. Cr 3.

ACC 202 Principles of Management Accounting

This course is designed for non-accounting majors. It deals with the selection and preparation of information which will serve to support and assist management in planning and controlling a firm's operations: the emphasis is on information needs for management decision making. Included are analysis of financial statements, changes in financial position, cost-volume-profit analysis, budgeting, income tax considerations, and quantitative techniques integrated with more traditional approaches. Prerequisite: ACC 201. Cr 3.

ACC 301 Intermediate Accounting I

A study of accounting theory including the conceptual framework, financial statements, the accounting for cash, temporary investments, receivables, and inventories. (Sophomores may enroll on a space-available basis.) Prerequisite: ACC 201. Cr 3.

ACC 302 Intermediate Accounting II

The study of accounting theory including property, plant and equipment, intangible assets, current liabilities, long-term corporate capital, and earnings per share. Prerequisite: ACC 301, junior standing and completion of admission requirements for majors. Cr 3.

ACC 303 Intermediate Accounting III

The study of accounting theory and practice relating to pension liabilities, leases, interim reporting, segment reporting, accounting changes, price level and current value accounting, statement of changes in financial position, and income tax allocation, other topics. Prerequisite: ACC 302, junior standing and completion of admission requirements for majors. Cr 3.

ABU 297 Advanced Database Systems

This course examines the design, use and management of modern database systems. The concept of 3-level databases, along with the difference between production database systems and 4th generation languages, is studied. A state-of-the-art 4th generation language is extensively used to demonstrate query and non-procedural languages, MIS and DSS concepts, and distributed workstation processing. Prerequisites: ABU 240, ABU 291 and ABU 295, or permission of the instructor. Cr 3.

ABU 299 Special Topics

This course will be offered on an irregular basis to present special topics relevant for the ABA major. Cr 13.

ACC 305 Cost Accounting

Concepts and analytical procedures necessary to the generation of accounting data for management planning and control and product costing. Emphasis is on job costing, process costing, standard costs, and variance analysis and direct costing. Prerequisite: ACC 202 or ACC 301, junior standing and completion of admission requirements for majors. Cr 3.

ACC 313 Federal Tax Reporting

An overview of federal income tax laws as they affect individuals. Minor emphasis on partnerships, corporations, and related topics. Prerequisite: ACC 201, junior standing and completion of admission requirements for majors. Cr 3.

ACC 401 Advanced Accounting I

The study of accounting principles and theory relating to mergers and consolidations, not-for-profit organizations, and foreign currency. Prerequisite: ACC 303, junior standing and completion of admission requirements for majors. Cr 3.

ACC 402 Advanced Accounting II

The study of accounting principles and theory related to partnerships, estates and trusts, installment sales, consignments, franchises, receiverships, retail land sales, and other miscellaneous advanced topics. Prerequisite: ACC 303. Cr 3.

ACC 410 Auditing

A study of auditing philosophy and theory relative to the examination of financial statements and other data. Coverage includes internal control, auditing standards and procedures, and the legal and ethical responsibilities of the independent auditor. Prerequisite: ACC 303, junior standing and completion of admission requirements for majors. Cr 3.

ACC 415 Internal Auditing

A study of the nature of internal auditing, professional standards, organizational con-

trols, operational auditing, and internal audit reporting. Prerequisite: ACC 303 Cr 3.

ACC 420 Senior Seminar in Accounting

A review of APB opinions, FASB statements, SEC role in accounting, and other current issues. Prerequisite: ACC 303, senior standing and completion of admission requirements for majors. Cr 3.

ACC 490 Independent Readings and Research in Accounting

Selected topics in the various areas of accounting, auditing, and income taxes may be studied and researched on an independent basis. Prerequisites: senior standing and completion of admission requirements for majors. Cr 1-3.

BUS 190 Personal Finance

In dealing with the problems of managing personal finances, primary emphasis is placed on methods of measuring and evaluating expenditures to assure optimal benefit from the income. It includes an evaluation of typical occupations and incomes; of life insurance with the various types, investments and mutual funds; of the borrowing of money and use of credit; of taxes and estate planning. The course work will be a series of readings with brief case problems in each of the major areas. (When taken by business or accounting majors, this course will give general elective credit.) Cr 3.

BUS 280 Legal Environment of Business

This course introduces students to the legal system, consumer law, securities regulation, antitrust law, labor law, equal employment law, and environmental law, and stresses the social responsibility of business and the legal and ethical framework in which businesses must function. Cr 3.

BUS 290 Introduction to Computers in Business

This course provides an introduction to the use of computer technology within business applications. IBM compatible microcomputers are the primary equipment used. Applications include word processing, data management, spreadsheets, graphics, communications, and the use of these in integrated problem solving. In addition, a general background on the role of information systems within organizations, current technology trends, ethical issues, and social considerations are discussed. Cr 3.

BUS 320 Business Finance

This course introduces the student to the theories and techniques of managing capital sources and uses within the framework of shareholder wealth maximization. Lecture, problems, cases. Prerequisites: BUS 290, ECO 201, ECO 202, ACC 201, ACC 202 or ACC 301, MAT 110, MAT 211, MAT 212, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 327 Investment Management

Provides the planning and management of investment programs for all types of investors. Evaluates the various media of investments in terms of their risks and profits. The functions of the stock market and its behavior are examined. Prerequisite: BUS 320, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 340 Principles of Management

A comprehensive introductory survey of the problems encountered by managers and the practices they employ in planning, organizing, leading, and controlling organizations. The role of the general manager in business is explored, as is the behavior of other individuals and groups within business organizations. Among the various topics covered are: development of management as a discipline, motivation, power, leadership, strategic management, decision making, organizational design, job design, information and control systems, and other areas related to the functions and process of management. Prerequisites: ECO 201 and ECO 202, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 346 Personnel Management

The selection, training, and management of personnel in private and public sectors, including elements of wage and salary administration, testing, training, and labor relations. Designed for the student interested in administration, office management, or personnel work in education, business, engineering, public service, and other fields. Prerequisite: BUS 340, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 348 Industrial Relations

A study of industrial relations patterns in the U.S. Major focus is on the relationship between management and labor (organized and unorganized), and the bargaining, administration, and interpretation of contracts, the problem of dispute 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: BUS 340, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 349 Women in Management

For both men and women in business, education, and other work settings. It explores the changing business and organizational environment created by the increase of women in professional and managerial positions. The course examines theoretical concepts pertaining to women in management. Both women and men who are or aspire to be managers will benefit from this course. Prerequisites: BUS 340, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 360 Marketing

An introduction to the field of marketing normally through the use of a computer simulation game. The concepts of market segmentation, marketing mix strategy, and market systems development are presented along with an analysis of consumer behavior and the need for marketing research. Prerequisites: ACC 201, ECO 201, ECO 202, BUS 290, MAT 110, MAT 211, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 363 Advertising

Students will explore the evolution of advertising; forms and medium used and their relationship to the product, the climate, the target market, all within the framework of the marketing concept. Prerequisite: BUS 360, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 367 Managerial Marketing

Students gain experience making marketing decisions as managers of a computer-simulated firm. The emphasis is on applying a "systems" approach to marketing decision making and on integrating knowledge gained in the other functional business areas into a strategic market planning framework. Prerequisites: BUS 360, BUS 371, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 369 Marketing Research

Consideration of market research as a management planning and evaluative tool. Emphasis on problem formulation, exploratory research, research design, basic observational and sampling requirements, data analysis, interpretation and sampling. Prerequisites: BUS 360 and MAT 212, junior standing and completion of admissions requirements for majors. Cr 3.

**BUS 371 Operations Research/
Management Science**

A survey of quantitative methods and tools which are commonly used in sophisticated managerial decision making. Mathematical models are constructed and applied, with the computer's aid, to a wide range of real world business situations. Topical coverage includes decision analysis, inventory models, network analysis, simulation, queuing models, applied stochastic processes, dynamic programming and non-linear programming. Prerequisites: BUS 290, MAT 110, MAT 211, MAT 212, junior standing and completion of admissions requirements for majors. Cr 3.

**BUS 375 Production/Operations
Management**

An introduction to the problems and topics associated with the management of production operations and the delivery of services. The primary emphasis is upon the design

of model-based planning and control systems. Specific applications of such systems are used to illustrate general concepts as well as implementation difficulties. Prerequisite: BUS 371. Cr 3.

BUS 380 Business Law I

This course, an introduction to the study of business law, includes a thorough survey of the preparation for and conduct of a civil lawsuit, a brief discussion of criminal law, and a broad overview of contracts, agency, negotiable instruments, partnerships, corporations, secured transactions, and bankruptcy. This course is intended to provide a broad overview of business law and the Uniform Commercial Code. Prerequisite: BUS 280 or permission of instructor. Cr 3.

BUS 381 Business Law II

An opportunity to continue the study of business law and to evaluate thoroughly selected topics such as corporate reorganizations and combinations, antitrust law, business organization, and tax planning and estate planning. This course is designed for students who want to do in-depth analysis of selected areas in business law. Prerequisite: BUS 280, junior standing and completion of admissions requirements for majors. Cr 3.

**BUS 391 Computer-Based Decision
Modelling and Simulation**

A more in-depth examination of the role of the computer as an aid in managerial decision making. Emphasis is placed upon strengthening the student's ability to build and properly utilize computer-based decision models and simulation for problem solving in the public and private sectors. Prerequisites: BUS 290 or COS 160, MAT 211, MAT 212, junior standing and completion of admissions requirements for majors. Cr 3.

**BUS 395 Cooperative Education/Internship-
Business Administration I**

The student has the opportunity to relate academic knowledge to practical experience in the business world. The University can make arrangements with certain institutions and/or industries to employ students to fill specific jobs on a semester basis. The work experience will be related to the student's major and increases in difficulty and responsibility as the student progresses through the academic curriculum. The work experiences are approved in advance by the director. Prerequisite: junior standing and completion of admissions requirements for majors. Cr 1-5.

**BUS 396 Cooperative Education/Internship-
Business Administration II**

Open to second-semester juniors and seniors in the School of Business, Economics and Management with permission. Prerequisite: BUS 395, junior standing and completion of admissions requirements for majors. Cr 1-5.

**BUS 397 Cooperative Education/
Internship—Business Administration III**

Open to seniors in the School of Business, Economics and Management with permission. Prerequisite: BUS 396, junior standing and completion of admissions requirements for majors. Cr 1-5.

BUS 445 Compensation Administration

It provides a basic understanding of the tasks, responsibilities, and objectives of compensation and managing compensation programs. Techniques for determining wages, salaries, and benefits and their application to actual situations in order to design, develop, and administer compensation programs will be covered. The implications of process and policies on parties internal and external to the organization will be investigated. Prerequisites: BUS 346, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 450 Business Management and Policy

Administrative practice at the higher levels of business management through case analysis and discussion. The course attempts to coordinate the background of business majors in the formulation and administration of sound business policy. Prerequisites: BUS 320, BUS 340, BUS 360, BUS 371, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 452 Organizational Behavior

An analysis of the interplay between individual and group behavior, leadership styles and the culture of an organization. The findings of behavior science are applied to such processes as motivation, influence, the structure of work, organizational design, leader-group relations and organizational change. Models, case studies, simulations, and applications. Prerequisites: BUS 340, junior standing and completion of admissions requirements for majors. Cr 3.

BUS 490 Independent Readings and Research

Selected topics in the various areas of accounting, finance, management, and marketing may be studied and researched on an independent basis. Prerequisites: junior standing and completion of admissions requirements for majors. Cr 1-6.

BUS 491 Small Business Institute

This course is designed to allow the student to apply the concepts of business administration, economics, and accounting to operational problems in the field. Assignments are arranged by the School of Business, Economics and Management in conjunction with agencies such as the Small Business Administration for an off-campus consulting experience in a business firm or other appropriate institutional setting. Prerequisites: junior standing and completion of admissions requirements for majors. Cr 3.

**BUS 499 Special Topics in Business and
Management**

Cr var 1-3.

**EDC 300 Economic Concepts and Research
Materials for Educators**

A study of the simplification of economic concepts for presentation at elementary and secondary grade levels; also the study and preparation of various resource materials used in presenting economic concepts at these levels. Prerequisite: permission of the instructor. Cr 3.

ECO 201 Principles of Economics I

A theoretical analysis of the basic characteristics, institutions, and operational activities of a modern capitalistic economy which is involved in the transformation of scarce economic resources into the goods and services demanded by consumers. Topics discussed include inflation, unemployment, government monetary and fiscal policy to achieve full employment and economic growth. Cr 3.

ECO 202 Principles of Economics II

A theoretical analysis of the firm and its role in the transformation of scarce economic resources into the goods and services demanded by consumers. Special attention is focused on the development of a market mechanism for the exchange of goods, services, and resources within a capitalistic economy. Topics discussed include consumer preferences and consumer behavior, production theory and production costs, the monopoly firm, and resource pricing. Cr 3.

ECO 301 Macroeconomic Analysis

A theoretical analysis of the basic forces that cause inflation, growth, and fluctuations in economic activity. The effects on employment and other factors are thoroughly treated. Stabilization policies are examined and evaluated. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 302 Microeconomic Analysis

Price, income, and employment theory as tools in the study of economics. Prerequisites: ECO 201, ECO 202, and junior standing. Cr 3.

ECO 305 Mathematical Economics

This course will cover the development and application of contemporary quantitative methods to the analysis of economic theory. Primary emphasis will be placed upon optimization theory and techniques for solving systems of simultaneous equations. These tools will be developed within the framework of economic models. Prerequisites: ECO 201, ECO 202; MAT 109 and 110 or MAT 152 and MAT 153, and junior standing. Cr 3.

ECO 306 Econometrics

Econometrics is a special field of economics in which models are used to test the validity of hypothesized theoretical relationships against

actual data. Topics covered include: the bivariate linear regression model, heteroscedasticity, multicollinearity, serial correlation of errors, and two-stage least squares. Econometric forecasting and simultaneous equation estimation will be discussed. Prerequisites: ECO 201, ECO 202, MAT 212, and junior standing.

Cr 3.

ECO 310 Money and Banking

This course examines the structure and operation of the financial system with major emphasis on commercial banking; reviews the structure of the Federal Reserve System and analyzes the tools of policy; develops alternative monetary theories; and discusses major issues in monetary policy. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 315 Political Economy

The course provides an overview of various perspectives on the U.S. economic system, its dynamics, problems, and its relation to the political sphere. Topics treated include: inequality and discrimination; crisis and state intervention; growth and the environment; military spending, productivity and growth; the U.S. and the world economy; and policies for the future. Prerequisite: ECO 201, and junior standing.

Cr 3.

ECO 320 Labor Economics

This course emphasizes the application of economic analysis and concepts to a variety of labor problems such as the supply and demand for labor, labor markets, wage determination, wage differentials and structures, and wages and inflation. In addition, there will be a brief review of the evolution of the American labor movement and public policy toward labor. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 330 Urban Economics

This course seeks to introduce the study of urban economics through a three phase approach. Phase one provides a conceptual and historical background for analyzing the urban economy. Phase two outlines basic theoretical models of urban spatial structure, land use, transportation needs, demographic change, economic activity and employment analysis linking urban economics to the content of micro and macro economics courses. Phase three applies the tools of analysis developed in part two and the background presented in part one to several of the most urgent urban problems of the 1980s. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 340 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. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 350 Comparative Economic Systems

The structures and operating principles of the major contemporary economic systems are examined and compared. Prerequisite: ECO 201, and junior standing.

Cr 3.

ECO 351 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. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 360 Economic Development

The theories and practices of interregional and international economic development. Special attention is given to developmental problems of emerging nations. Prerequisite: ECO 201, and junior standing.

Cr 3.

ECO 361 Applied Economic Development

This course provides case studies of the issues, problems, and policies of economic development. The development experience of various countries is examined in a comparative context. Prerequisites: ECO 201 and junior standing.

Cr 3.

ECO 370 International Trade

The principles and practices of international trade and finance are thoroughly treated. Special emphasis is given to current trends in the international economy and to United States commercial policy. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 380 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. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 381 State and Local Public Finance

Development of the federal system; fiscal performance; intergovernmental fiscal relations; state and local revenue systems; budgetary practices; state and local debt. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 385 U.S. Economic Policy

This course examines currently perceived problems of the U.S. economy. A range of views of these problems and associated policy proposals are considered. Topics including the proper role of government, determinants of productivity change, domestic and foreign investment, and foreign competition are examined as sources of problems. Free market, traditional monetary and fiscal, as well as new "industrial" policies are considered as potential solutions. Prerequisites: ECO 201, and junior standing.

Cr 3.

ECO 390 Energy Economics

The purpose of this course is to assist the student in analyzing the "energy crisis" from an economic perspective. Topics to be covered include: the concepts of energy and efficiency, the role energy plays in the U.S. economy, stocks of energy resources and the role of the government in creating and/or curing the crisis. Various energy related policies will be reviewed. Some time will be devoted to an analysis of alternate energy sources and technologies. Prerequisites: ECO 201, ECO 202, and junior standing.

Cr 3.

ECO 450 Readings in Economics

A series of readings and discussions of important books of a socio-economic and politico-economic nature books with which the well-informed economics major should be familiar but which, due to time constraints, have not been integrated into the study hours of economics.

Cr 3.

ECO 490 Independent Readings and Research in Economics

Independent study and research of various student-selected areas of economics. Prerequisites: senior standing and a completed independent study form (available from SBEM Dean's office).

Cr 1-3.

School of Applied Science

Dean: Brian C. Hodgkin, 106 Science Building, Portland

Associate Dean: Arthur O. Berry, 103 Technology Center, Gorham

The School of Applied Science is an academic unit of the University delivering science, engineering, computer science, and technology programs which serve the needs of southern Maine. The School is organized into four departments: the Department of Computer Science, the Department of Technology, the Department of Engineering and the Department of Applied Immunology. Through these departments, the School offers bachelor's and master's degrees, including the B.S. in computer science, industrial technology, and vocational technology. The School provides industrial arts and vocational/occupational courses in support of B.S. degrees in industrial arts education and vocational/occupational education offered by the College of Education. The B.S. degree in electrical engineering is offered cooperatively with the University of Maine. The Department of Engineering also offers introductory undergraduate courses in engineering to prepare students for transfer to engineering programs at the University of Maine or elsewhere. The School also works closely with the University's Department of Continuing Education for Business to provide courses and programs serving the needs of the region. A Technology Center provides for ongoing liaison with industry. The School offers the M.S. degree in computer science, and through a cooperative arrangement, the M.S. degree in electrical engineering is extended from the University of Maine. The M.S. degree in applied immunology is offered in collaboration with the Maine Medical Center and with the Foundation for Blood Research.

Further information regarding the School's graduate programs may be found in the Graduate Catalog.

General Information

Admission to an undergraduate program in the School of Applied Science is initiated through the University Admissions Office. Candidates for admission must be graduates of an approved secondary school and meet such other admissions requirements as are set out on page 9 of this catalog.

General academic policies will be found in the Academic Policies section of this catalog. Specific policies and requirements are set forth in the sections dealing with the individual departments of the School. With the exception of candidates for the B.S. in electrical engineering, all students are reminded that, in addition to meeting departmental requirements for a major, they must also meet the requirements of the University Core curriculum.

Department of Computer Science

Interim Chair of the Department: Charles Welty, 224 Science Building, Portland
Associate Professors: Gabrovsky, Heath, Schroff, Welty; *Assistant Professor:* Briggs;
Instructor: MacLeod

The Department of Computer Science offers a four-year program leading to a B.S. in computer science. In cooperation with the Department of Mathematics, it offers an additional major in computer science and mathematics. Students may receive either a B.S. in computer science with an additional major in mathematics or a B.A. in mathematics with an additional major in computer science. The Department also provides computer science major courses for a B.S. in education.

All students are reminded that, in addition to meeting departmental requirements for a major, they must also meet the University Core curriculum requirements.

Programs and Requirements

Bachelor of Science in Computer Science

The minimum number of credits (exclusive of the University's Core curriculum) required for the major: 56. Total minimum credits to graduate: 120.

The program in computer science offers a background in digital computing together with special courses designed to prepare the undergraduate for a career in computer programming or for further study in computer science. Each student must have an accumulative grade point average of at least 2.0 in major courses before being considered for a baccalaureate degree of computer science.

Computer science courses have been made available to visually handicapped or legally blind students. The adapting hardware and software is not braille oriented, per se, but enlarges computer input and output to increase accessibility. Visually handicapped students interested in computer courses or majors must contact the coordinator of handicapped student services to verify accessibility.

A. Successful completion of the following courses:

COS	160	Structured Problem Solving-PASCAL
COS	161	Algorithms in Programming
COS	250	Computer Organization
COS	251	Software Systems
COS	280	Discrete Structures
COS	285	Data Structures
COS	360	Programming Languages
COS	480	Introduction to Theory of Computing
MAT	152	Calculus A
MAT	153	Calculus B
MAT	380	Theory of Probability and Statistics

B. Successful completion of five additional COS courses numbered 300 and above.

C. Successful completion of one additional mathematic course with second digit 5 or greater, excluding MAT 290.

D. Successful completion of one of the following mathematics courses:

MAT	295	Linear Algebra
MAT	350	Differential Equations
MAT	364	Numerical Analysis (not to be taken in addition to COS 374)
MAT	395	Abstract Algebra

B.S. in Computer Science with an Additional Major in Mathematics

Requirements for this degree are identical to those listed in the Mathematics Department under the heading, "B.A. in Mathematics with an Additional Major in Computer Science." See that section of this catalog.

Minor in Computer Science

The minimum number of credits (exclusive of the University's Core curriculum) required for the minor: 18.

A minor in computer science may be obtained by successfully completing the courses listed below with an accumulative grade point average of 2.0 in these courses: COS 160; COS 161; COS 250; COS 280; and two additional COS courses with first digit 2 or greater.

Computer Science and Mathematics for Education Majors

The Department of Mathematics and the Department of Computer Science, in cooperation with the College of Education, offer an area major of 51 hours of mathematics and computer science courses for students majoring in secondary education. Please refer to the mathematics section of this catalog for details.

COS 140 Programming in FORTRAN

A study of programming techniques and applications using FORTRAN. Prerequisite: Two years of high school algebra or equivalent. Cr 3.

COS 160 Structured Problem Solving: PASCAL

A study of problem-solving techniques and applications using PASCAL. This course is primarily for students with a computer science major or minor or a strong serious interest in computer science. Prerequisite: two years of high school algebra or equivalent. Cr 3.

COS 161 Algorithms in Programming

The development of algorithms and their implementations in a higher-level programming language, with emphasis on proper design principles and advanced programming concepts. Prerequisite: COS 160 (PASCAL). Cr 3.

COS 230 Programming in COBOL

A study of the programming language used primarily in business. Prerequisite: COS 140 or COS 160. Cr 3.

COS 240 Programming in PL/1

A continuation of the study of programming principles through study of the PL/1 language. Prerequisite: COS 140 or COS 160. Cr 3.

COS 245 Assembly Language Programming

The basic elements of IBM System 370 architecture will be presented. IBM System 370 assembly language will be presented in detail. Prerequisite: COS 160. Cr 3.

COS 250 Computer Organization

The course covers the basic hardware and software that make up a computer system. Subjects include logical design, micro programming, machine languages, assembly languages, and operating systems. Prerequisite: COS 161. Normally only offered in the fall semester. Cr 3.

COS 251 Software Systems

This course is a continuation of COS 250. The course examines the software layers that comprise a computer system in the context of specific programming environments. Topics will

include UNIX, MS-DOS and C. Prerequisite: COS 250 Cr 3.

COS 280 Discrete Structures

Concepts of modern algebra, set theory, Boolean algebra, elements of graph theory, and their application to computer science. Prerequisite: COS 161. Cr 3.

COS 285 Data Structures

Basic concepts of data, strings, stacks, arrays, and lists. Representations of trees and graphs. Storage systems and structures, searching and sorting techniques. Multi-linked structures. Prerequisite: COS 250 and COS 280 or permission of instructor. Normally offered only in Spring semester. Cr 3.

COS 355 Computer Architecture

Fundamentals of the design and organization of digital computers. Topics include applications of Boolean algebra to logical design; machine algorithms used in addition, subtraction, multiplication, etc.; types of memory; synchronous and asynchronous operation; minimization of logic circuits. Also, concepts from microprocessors and large parallel computers. Prerequisites: COS 280 or MAT 290 and COS 250. Normally only offered in the spring semester. Cr 3.

COS 357 File Organization

Study of various external storage media including magnetic tape, disk and bubble memory. Various file organizations such as sequential, direct, and indexed sequential will be studied in detail. Some concepts of how file organization supports data base systems may also be included. Prerequisite: COS 285. Cr 3.

COS 360 Programming Languages

An examination of basic concepts and special facilities in higher-level programming languages via the consideration of several representative languages. Emphasis on scope of declarations, storage allocation, data structure variety, binding time of constituents, and control organization. Introduction to the formal definition of programming languages. Prerequisite: COS 251, COS 285. Normally offered only in the fall semester. Cr 3.

COS 370 Topics in Computer Science

Topics to be covered may include philosophy of computers, history of computers, computers and society, simulation, graphics, and other advanced topics. Prerequisite: COS 285 or permission of the instructor. Cr 3.

COS 372 Software Engineering

A study of methods applied to large-scale software development, including topics such as project management, software design, verification and validation. Prerequisite: COS 251, COS 285. Cr 3.

COS 374 Numerical Analysis I

A study of the theory and application of computational algorithms for interpolation, equation solving, matrix methods, integration, error analysis. Prerequisites: MAT 252, COS 160, and permission of instructor. Cr 3.

COS 450 Operating Systems

Computer resource management. Topics include an in-depth study of concurrent cooperating processes; virtual systems; segmentation and paging; I/O device handling; protection and security; deadlock; race conditions. Prerequisites: COS 285, COS 355. Cr 3.

COS 452 Computer Graphics

A study of the techniques involved in computer graphics systems. Topics include: point-plotting and line drawing in two- and three-dimensional space; clipping and windowing; geometric modelling; algorithmic solutions to the hidden line and hidden surface problems. Prerequisite: COS 251, COS 285. Cr 3.

COS 457 Database Systems

Introduction to the basic methods and principles of database management systems (DBMS). Topics covered: DBMS objectives and architecture, data models, data definition and manipulation languages, query languages, data base application and design development tools. Prerequisite: COS 285. Cr 3.

COS 469 Introduction to Compiler Construction

Definition of a language, context-free grammars, rigorous definition of a typical small language in BNF, design and implementation

of a compiler for programs within this language. Prerequisite: COS 251, COS 285. Cr 3.

COS 472 Artificial Intelligence

An introduction to the underlying concepts and applications of intelligent systems. Topics include computer representations of knowledge; heuristic search techniques and computer problem solving; learning; game playing; automatic theorem proving; pattern recognition; natural language question-answering. Prerequisites: COS 280, COS 285. Cr 3.

COS 480 Introduction to Theory of Computing

Introduction to the basic concepts of finite automata and Turing machines; finite state acceptors and regular sets; linear sequential circuits, complexity results for finite networks, elementary notions of recursive and recursively enumerable sets. Prerequisite: COS 280 or MAT 290. Cr 3.

COS 497 Independent Study in Computer Science

An opportunity for juniors and seniors who have demonstrated critical and analytical capability to pursue a project independently, charting a course and exploring an area of interest within their major field. Prerequisites: junior or senior standing and permission of the department chairman and instructor. Cr 1-3.

COS 200-201, 300-301, 400-401 Cooperative Education in Computer Science

The student has the opportunity to relate academic knowledge to practical experience in a job situation. The University makes arrangements with certain institutions, businesses and industries to employ qualified students for specific jobs for a set time period. Students already employed may qualify. The student's work is ordinarily in a related field, and the work experiences increase in difficulty and responsibility as the student progresses through the sequence of courses. The experiences are approved on a case-by-case basis by the department. Evaluation is done with the employer and a faculty supervisor. Prerequisite: open to qualified students, subject to availability of suitable jobs. Course is graded on a pass-fail basis only. Cr 3.

Department of Technology

Chair of the Department: Arthur Berry, Technology Center, Gorham
Professor: Berry; *Associate Professors:* Anderson, Carter, Faulkner, Kirk, W. Moore, Nannay, Zaner; *Assistant Professor:* Bazinet

Technology is the study of the creation and utilization of adaptive systems including tools, machines, materials, techniques and technical means, and the relation of the behavior of these elements and systems to human beings, society, and the civilization process. Technological concepts are presented through a variety of approaches including the lecture, technical laboratories, field experiences, industrial visitations, and cooperative programs.

The curricula of the Department of Technology provide a blend of cultural, technical, and professional courses designed to prepare individuals for teaching or industrial positions. Recognition is given to prior learning, where appropriate. Four degree programs are offered.

The undergraduate program in industrial arts education is designed to prepare students to organize, manage, and teach programs of industrial arts in elementary and secondary schools. Laboratory courses in energy power systems, technical communications, and materials and processes provide a technical/conceptual background.

Vocational/occupational education recognizes prior learning and skill obtained through occupational experience. It is designed to prepare students for teaching in vocational/technical education or other occupational training programs and requires a minimum of three years of occupational experience as a prerequisite for the degree program. Emphasis is placed on the development of cultural and professional education.

Industrial technology is a management-oriented curriculum designed to prepare an individual for supervisory/technical/managerial roles in industry. Two options are available. For the individual without technical skills, shop/laboratory experiences provide for development of technical proficiency. For those with prior learning through occupational training/experience, trade and technical competencies are evaluated and credit granted. Both options, in cooperation with the School of Business, Economics and Management, provide a basic preparation in business administration.

The vocational technology program is an occupationally oriented curriculum designed for individuals who desire to prepare for managerial/supervisory roles. The program recognizes nontechnical occupational experience, assesses prior learning, and offers three areas of concentration in business management. A minimum of three years of occupational experience is required as a prerequisite for the degree program.

Admissions Requirements

Applicants for industrial arts education, or those without occupational experience desiring to pursue the industrial technology program, must visit the Technology Center for a tour of the facility and interviews with the faculty. Applicants will be notified of the appropriate procedure to follow and the dates available for on-campus visits.

Applicants with a minimum of three years of occupational experience who desire to pursue the industrial technology, vocational/occupational education, or vocational technology programs must submit evidence of a minimum of three years of occupational experience and appear for a personal interview. Candidates should contact the Department office for an appointment to discuss the evaluation of prior work experience in the vocational/technical field.

**Programs and
Requirements**

Bachelor of Science in Industrial Arts Education

The number of credits (including the University's Core curriculum) required for the degree: 125.

Core Curriculum (34 credits)

Basic Competence 9

Methods of Inquiry/Ways of Knowing

a. Fine Arts 6

1. Performance-centered

2. History-centered

b. Humanities 6

1. Literature

2. Other Times/Other Cultures

c. Social Sciences 6

(Students must take HRD 333 Human Growth and Development in addition to another Social Science course.)

d. Natural Sciences 4

Interdisciplinary course 3

Departmental Requirements

Science/Math 6 credits

a. Math/Computer Science 3

b. Physics or Chemistry 3

In addition, students must take 6 credits of electives.

Technical (57 credits)

Required courses

ITP	100	Modern Industry
ITT	102	Introduction to Industrial Technology
ITT	103	Materials Properties and Testing
ITT	211	Electronics Technology
ITT	221	Power Systems
ITT	231	Technical Graphics
ITT	241	Graphic Reproduction
ITT	251	Material Processes—Metal
ITT	261	Material Processes—Wood
ITT	281	Computers in Industry and Technology
ITT	311	Communications Electronics
ITT	323	Control Systems
ITT	331	Engineering Design Graphics
ITT	342	Photo Offset Lithography
ITT	351	Machining and Fabrication
ITT	361	Production Manufacturing in Wood
ITT	371	Plastics Technology

Technical Electives (select any two)

Energy and Power Systems

ITT	313	Electrical Construction
ITT	321	Automotive Systems
ITT	322	Automotive Diagnosis and Tuneup
ITT	383	Robotics
ITT	413	Instrumentation
ITT	414	Digital Electronics
ITT	423	Fluid Power
ITT	424	Fluid Power Systems
EET	51	Analog Systems
EET	61	Digital Systems
EET	71	Microcomputer Architecture and Applications

Communication

ITT	332	Architectural Drawing and Design
ITT	333	Descriptive Geometry
ITT	334	Energy Efficient Residential Design
ITT	343	Communication Design
ITT	382	CAD-CAM Technology
ITT	434	Industrial Production Illustration
ITT	435	Systems Analysis and Design

ITT	444	Photographic Reproduction
ITT	445	Color Reproduction Theory
Materials and Processes		
ITT	352	Fabrication and Forming
ITT	362	Residential Construction
ITT	363	Wood Science
ITT	402	Materials Testing
ITT	452	Metallurgy and Metrology
ITT	490	Special Problems in Technology

Professional Education (22 credits)

IEA	190	Preprofessional Field Experiences
IEA	290	Contemporary Teaching in Industrial Education
*IEA	380	Curriculum Materials in IA Education
*IEA	381	Methods of Teaching IA Education
EDU	324	Student Teaching/Seminar

*Minimum 2.5 cumulative index required and must be maintained in order to register for IEA 380, IEA 381, and EDU 324 and for graduation from the program.

Bachelor of Science in Industrial Technology

The number of credits (including the University's Core curriculum) required for the degree: 129–30.

Option #1: Skill Development

Core Curriculum (34 credits)

Basic Competence	9
Methods of Inquiry/Ways of Knowing	
a. Fine Arts	6
1. Performance-centered	
2. History-centered	
b. Humanities	6
1. Literature	
2. Other Times/Other Cultures	
c. Social Sciences	6
(Students must take ECO 201 Economics I in addition to another social science course.)	
d. Natural Sciences	4
Interdisciplinary course	3

Departmental Requirements

Science/Math	12 credits
Mathematics	3
Statistics	3
Computer Science	3
Physics or Chemistry	3

In addition, students must take 6 credits of electives.

Technical (39 credits)

Required courses

ITT	102	Introduction to Industrial Technology
ITT	103	Materials Properties and Testing
ITT	211	Electronics Technology
ITT	221	Power Systems
ITT	231	Technical Graphics
ITT	241	Graphic Reproduction
ITT	251	Material Processes—Metal
ITT	261	Material Processes—Wood
ITT	281	Computers in Industry and Technology

Technical Electives—12 credit hours

Energy/Power Systems

ITT	311	Communication Electronics
ITT	313	Electrical Construction
ITT	321	Automotive Systems
ITT	322	Automotive Diagnosis and Tuneup
ITT	323	Control Systems

ITT	383	Robotics
ITT	413	Instrumentation
ITT	414	Digital Electronics
ITT	423	Fluid Power
ITT	424	Fluid Power Systems
Technical Communication		
ITT	331	Engineering Design Graphics
ITT	332	Architectural Drawing and Design
ITT	333	Descriptive Geometry
ITT	334	Energy Efficient Residential Design
ITT	342	Photo Offset Lithography
ITT	343	Communication Design
ITT	382	CAD-CAM Technology
ITT	434	Industrial Production Illustration
ITT	435	Systems Analysis and Design
ITT	444	Photographic Reproduction
ITT	445	Color Reproduction Theory
Materials and Processes		
ITT	351	Machining and Fabrication
ITT	352	Fabrication and Forming
ITT	361	Production Manufacturing in Wood
ITT	362	Residential Construction
ITT	363	Wood Science
ITT	371	Plastic Technology
ITT	402	Materials Testing
ITT	452	Metallurgy and Metrology
Optional Electives		
ITT	400	Occupational Experience (Verified)
ITT	440	Related Occupational Experience/Internships
ITT	490	Special Problems
Professional (38–39 credits)		
Required courses		
ITP	100	Modern Industry
ITP	300	Motion and Time Study
ITP	310	Plant Layout and Material Handling
ITP	320	Occupational Safety
ITP	330	Production Control
ITP	340	Quality Control Fundamentals
ITP	350	Conference Leading
ITP	370	Job/Work Analysis
ITP	380	Principles of Management
ITP	390	Cost Analysis and Control
ABU	111	Principles of Accounting I
ECO	202	Principles Economics II
		Technical Writing (ENG 209 Business and Report Writing may be taken to satisfy this requirement)

Option #2: Occupational Experience

Core Curriculum (34 credits)

Basic Competence 9

Methods of Inquiry/Ways of Knowing

a. Fine Arts 6

1. Performance-centered

2. History-centered

b. Humanities 6

1. Literature

2. Other Times/Other Cultures

c. Social Sciences 6

(Students must take ECO 201 Economics I in addition to another social science course.)

d. Natural Sciences 4

Interdisciplinary course 3

Departmental Requirements

Science/Math 12 credits

Mathematics	3
Statistics	3
Computer Science	3
Physics or Chemistry	3

In addition, students must take 6 credits of electives.

Technical (39 credits)

Technical Assessment (39 credit hours)

ITT	400	Occupational Experience
ITT	440	Related Occupational Experiences/Internships (two options, total credits to be no more than the difference between those granted for ITT 400 and 39 credits)

Option #1: This course option is designed to permit attendance at an approved industry-sponsored school or seminar for the purpose of providing the student with advanced related occupational or technical training. Courses provided by organizations such as General Motors Training Centers or International Typographical Union qualify under this option.

Option #2: Approved employment with a company may qualify a student under this option. Arrangements must be approved by the advisor in advance. The experiences should provide opportunities for updating occupational technical skills and knowledges. Credit will be determined on the basis of one credit for each two full weeks of employment with a maximum of three credits for each period of approved continuous full-time employment. A daily log, summary, report, and evaluation by a supervisor will constitute part of this option.

For additional information concerning either option of ITT 440, consult your advisor.

Professional (38–39 credits)

Required courses (18 credit hours)

ITP	100	Modern Industry
ITP	300	Motion and Time Study
ITP	310	Plant Layout and Material Handling
ITP	320	Occupational Safety
ITP	330	Production Control
ITP	340	Quality Control Fundamentals
ITP	350	Conference Leading
ITP	370	Job/Work Analysis
ITP	380	Principles of Management
ITP	390	Cost Analysis and Control
ABU	111	Principles of Accounting I
ECO	202	Principles of Economics II
		Technical Writing (ENG 209 Business and Report Writing may be taken to satisfy this requirement)

Bachelor of Science in Vocational/Occupational Education

The number of credits (including the University's Core curriculum) required for the degree: 120.

Core Curriculum (34 credits)

Basic Competence	9
Methods of Inquiry/Ways of Knowing	
a. Fine Arts	6
1. Performance-centered	
2. History-centered	
b. Humanities	6
1. Literature	
2. Other Times/Other Cultures	

c. Social Sciences	9
(Students must take HRD 333 Human Growth and Development in addition to two other social science courses.)	
d. Natural Sciences	4
Interdisciplinary course	3
Departmental Requirements	
Science/Math	9 credits
Electives	3

Technical Assessment (45 credits)

ITT	400	Occupational Experience
ITT	440	Related Occupational Experiences/Internships (two options, total credits to be no more than the difference between those granted for ITT 400 and 45 credits)

Option # 1: This course is designed to permit attendance at an approved industry-sponsored school or seminar for the purpose of providing the student with advanced related occupational or technical training. Courses provided by organizations such as General Motors Training Centers or International Typographical Union qualify under this option.

Option # 2: Approved employment with a company may qualify a student under this option. Arrangements must be approved by the advisor in advance. The experiences should provide opportunities for updating occupational technical skills and knowledges. Credit will be determined on the basis of one credit for each two full weeks of employment with a maximum of three credits for each period of approved continuous full-time employment. A daily log, summary, report, and evaluation by a supervisor will constitute part of this option.

For additional information concerning either option of ITT 440, consult your advisor.

Professional Education (27 credit hours)

Required Courses: All courses 3 credits except as noted

IEV	300	Occupational and Trade Analysis
IEV	305	Curriculum Development in Vocational Education
IEV	310	Methods and Materials of Instruction in Vocational Education
IEV	340	Shop Organization and Management
IEV	350	Philosophy of Vocational Education
IEV	411	Measurement and Evaluation (vocational)
ITP	100	Modern Industry
EDU	324	Student Teaching/Clinical Experiences—6 credits
OR		
IEV	402	Student Teaching

Recommended Electives (all 3 credit courses)—May be elected to meet credit requirement for degree, if needed

IEV	312	Teaching Students with Special Needs
IEV	315	Learning and Programmed Instruction
IEV	320	Coordination of Cooperative Education
IEV	330	Principles and Practices of Vocational Guidance
IEV	382	Preparation of Instructional Materials
IEV	420	Trends in Vocational Education
IEV	450	Local Administration and Supervision of Vocational Education
IEV	455	Development of Technical Education
IEV	460	Independent Study in Vocational Education
ITP	350	Conference Leading

Bachelor of Science in Vocational Technology

The number of credits (including the University's Core curriculum) required for the degree: 120.

Core Curriculum (34 credits)

Basic Competence 9

Methods of Inquiry/Ways of Knowing

a. Fine Arts 6

1. Performance-centered

2. History-centered

b. Humanities 6

1. Literature

2. Other Times/Other Cultures

c. Social Sciences 6

(Students must take ECO 201 Economics I in addition to another social science course.)

d. Natural Sciences 4

Interdisciplinary course 3

Departmental Requirements

Science/Math 9 credits

Electives 3

Technical Assessment (45 credits)

ITT 400 Occupational Experience

ITT 440 Related Occupational Experiences/Internships (two options, total credits to be no more than the difference between those granted for ITT 400 and 45 credits)

Option # 1: This course is designed to permit attendance at an approved industry-sponsored school or seminar for the purpose of providing the student with advanced related occupational or technical training. Courses provided by organizations such as General Motors Training Centers or International Typographical Union qualify under this option.

Option # 2: Approved employment with a company may qualify a student under this option. Arrangements must be approved by the advisor in advance. The experiences should provide opportunities for updating occupational technical skills and knowledges. Credit will be determined on the basis of one credit for each two full weeks of employment with a maximum of three credits for each period of approved continuous full-time employment. A daily log, summary, report, and evaluation by a supervisor will constitute part of this option.

For additional information concerning either option of ITT 440, consult your advisor.

Professional (30 credits)

Required Courses (18 credit hours)

ITP 100 Modern Industry

ITP 350 Conference Leading

ITP 370 Job/Work Trade Analysis

ABU 111 Principles of Accounting I

ABU 240 Principles of Management

ECO 202 Principles of Economics II

Professional Concentration (select one area) (12 credits)

Area 1—General

ABU 112 Principles of Accounting II

ABU 190 Introduction to Computers in Business

ABU 220 Business Finance I

ABU 260 Marketing

Area 2—Personnel Management

ABU 112 Principles of Accounting II

BUS 346 Personnel Management

BUS	348	Industrial Relations
ECO	320	Labor Economics
Area 3—Marketing and Distribution		
BUS	346	Personnel Management
ABU	260	Marketing
BUS	363	Advertising
BUS	367	Managerial Marketing

ITT 102 Introduction to Industrial Technology

An introductory study of industry and technology. Emphasis on developing an understanding of the basic concepts and functions of industry, the application of technology, and the life cycle of goods and services. Basic conceptual models and skills relating to production, communications, and power systems defined and developed. Lecture and lab. Cr 3.

ITT 103 Materials Properties and Testing

A study of the basic properties of industrial materials, structures and testing procedures used to determine those properties. Studies include physical, mechanical, optical, chemical, thermal, and electrical properties. Testing and associated literature and reporting procedures, calculation and measurement are also included. Cr 3.

ITT 211 Electronics Technology

A study of the fundamental concepts, devices, and applications of AC and DC theory with an introduction to semiconductor theory. Use of laboratory test equipment in defining circuit status is included. Computer aided instruction in the laboratory is emphasized. Cr 3.

ITT 221 Power Systems

An introduction to the broad field of power. Power is examined from its relationship to energy and electro-mechanical devices. Laboratory experiences include design and construction, servicing and maintenance, testing and evaluation of electro-mechanical devices and systems. Cr 3.

ITT 231 Technical Graphics

Concepts of spatial relationships and visualizations with related techniques. Basic skill development and understanding taught through freehand illustrations as well as conventional instruments and devices. Multiview projections, pictorial techniques, primary and secondary auxiliaries, detail and assembly working drawings, and reproduction techniques. Contemporary industrial practices and processes. Cr 3.

ITT 241 Graphic Reproduction

A comprehensive study of the common reproduction systems with significance in the graphic arts industries and technology. Design, generation, conversion, reproduction, and finishing of graphic materials utilizing current and emerging industrial techniques. Emphasis on relief, lithographic, and stencil transfer methods. Lecture and lab. Cr 3.

ITT 251 Material Processes—Metals

A laboratory course consisting of the study of manufacturing processes that are common in today's metal manufacturing industries. Processes covered include: material identification, material removal, forming/shaping, deformation, casting, fastening/joining, heat treatment, finishing and associated measurement/calculations. Lab activity involves these processes in manufacturing of products. Prerequisite: ITT 102, ITT 103, ITT 231 or permission of the instructor. Cr 3.

ITT 261 Material Processes—Woods

The processing of wood and wood related composites as they relate to manufacturing and construction. Laboratory experiences will center around common methods and processes utilized by industry. Primary emphasis will be placed on forming, machining, assembly, handtooling, finishing, and associated measurement and calculation processes. Prerequisites: ITT 102, ITT 103, ITT 231 or permission of the instructor. Cr 3.

ITT 281 Computers In Industry And Technology

An introduction to current and emerging computer applications utilized in industry and technology. Basic computer operation, programming fundamentals, and the use of general industrial applications software and hardware will be included. Emphasis on computer terms, concepts, and uses as they relate to industrial management, computer-aided design, computer-aided manufacturing, graphics, and related industrial applications. Lecture and lab. Cr 3.

ITT 311 Communication Electronics

A detailed study of communication circuits and applications; including AC-DC fundamentals for communication, device theory and circuits, power supplies and communication systems fundamentals laboratory sessions focus on equipment use and measurement of circuit parameters on student assembled receivers. Prerequisite: ITT 211 or permission of instructor. Cr 3.

ITT 313 Electrical Construction

A study of electrical wiring, control circuits and motors, as they relate to industrial and residential applications. Laboratory experiences and field study are used to enhance the student's learning. Prerequisite: ITT 211 or permission of instructor. Cr 3.

ITT 321 Automotive Systems

Automotive Systems is an extension of the basic concepts of power technology as they are applied to the automobile. Automotive technology is examined through analysis, operation, and service of electrical and fuel systems. Experiences include testing and measurement as well as overhaul procedures. Includes theory of design, construction, and operation of basic systems in automotive products. Prerequisite: ITT 221 or permission of instructor. Cr 3.

ITT 322 Automotive Diagnosis and Tuneup

Automotive Diagnosis and Tuneup is designed as an in-depth study of automotive ignition and carburetion systems. Theory, operation, and testing of ignition, carburetion, and pollution control systems is included. Opportunities for independent research and problem solving are provided. Prerequisite: ITT 321 or permission of instructor. Cr 3.

ITT 323 Control Systems

The study of instruments, controls, and sensory devices used to monitor and control industrial processes. Emphasis is placed on design, construction, operation, installation, and troubleshooting of industrial control systems. Cr 3.

ITT 331 Engineering Design Graphics

Contemporary industrial practices and techniques of advanced spatial and dimensional theory utilizing orthographic and pictorial techniques. Emphasis will be on design criteria selection and implementation employing standard scientific procedures. Both individual and team assignments will be used. Prerequisite: ITT 231 or permission of instructor. Cr 3.

ITT 332 Architectural Drawing and Design

Basic architectural design and drawing as related to residential and light construction. A detailed set of plans for a single home will be executed. Construction techniques, environmental considerations, building materials, specifications, costs and financing, codes and zoning, schedules, and architectural models. Prerequisite: ITT 331 or equivalent or permission of instructor. Cr 3.

ITT 333 Descriptive Geometry

A basic course in descriptive geometry with discussions and practice in advanced projection analysis, vector geometry and graphical mathematics. Theoretical and practical problems shall be solved utilizing standard graphic techniques and concepts and through the use of line, point and plane models. Cr 3.

ITT 334 Energy Efficient Residential Design

Contemporary residential design criteria and practices, logically presented in both conceptual and practical format with emphasis on energy efficiency without sacrificing aesthetics.

Problems will be worked in class as well as outside. Final design results will be analyzed using a special computer program. Topics will include: several solar strategies with emphasis on superinsulation techniques, insulation types and levels, air-vapor retarders, indoor air quality, heating systems, glazing, economics. Cr 3.

ITT 342 Photo Offset Lithography

A study of communication industries utilizing photographic offset lithography in the preparation and production of graphic materials. Emphasis on design, copy preparation, photographic conversion, stripping, platemaking, and press operation. Photographic techniques relating to line and halftone conversion, copy preparation and cost analysis are also included. Lecture and lab. Cr 3.

ITT 343 Communications Design

An introduction to the principles of layout and design in preparing camera copy for graphic reproduction. Emphasis on design elements and fundamentals, manuscript, and illustration preparation, graphic and photographic techniques, and production specifications. Prerequisite: ITT 241 or permission of instructor. Cr 3.

ITT 351 Machining and Fabrication

A study of metal industries concerned with electric and gas welding and machining techniques. Emphasis on process engineering. Laboratory and maintenance practices. Prerequisite: ITT 251 or permission of instructor. Cr 3.

ITT 352 Fabrication and Forming

Concepts, principles, and activities in TIG welding, sheet metal fabrication, and casting techniques as they relate to the manufacturing and construction industries. Group and individual problems and activities. Prerequisite: ITT 351 or permission of instructor. Cr 3.

ITT 361 Production Manufacturing in Wood

Production and wood manufacturing problems including production planning, mass production, jigs, fixtures, special machine operations, and advanced finishing techniques. General maintenance procedures on production equipment. Group and individual research assignments and related technical problems. Prerequisite: ITT 261 or permission of instructor. Cr 3.

ITT 362 Residential Construction

A study of the residential construction industries including construction principles; layout, foundation, framing, exterior covering, and finish. Related areas of services, plot planning, earth-moving principles considered in research activities. Group and individual problems. Prerequisite: ITT 261 or permission of instructor. Cr 3.

ITT 363 Wood Science

Wood anatomy and identification experiences leading into a study of the properties of wood, wood-liquid relations, bonding and finishing of wood, and machining as they relate to the manufacturing processes. Prerequisite: ITT 261 or permission of instructor. Cr 3.

ITT 371 Plastics Technology

A study of plastics as a material and the basic industrial process used to produce plastic products. Included are basic polymer chemistry, injection molding, extrusion, blow molding, compression and transfer molding, thermoforming, roll forming, lamination, casting, expansion, thermofusion, fabrication and bonding, product applications, mold design and construction. Cr 3.

ITT 382 CAD/CAM Technology

A study of computer utilization in the areas of designing, engineering, manufacturing, and documenting as they relate to production processes. Emphasis on the utilization of computer-aided drafting and design (CADD) and computer-aided manufacturing (CAM) hardware and software. Lecture and lab. Prerequisite: ITT 281. Cr 3.

ITT 383 Robotics

An introduction to the technology, nomenclature, integration and application of robots and their associated systems in manufacturing and industrial applications. This course should provide a 'working knowledge' background for any individual interested in entering the field of automated manufacturing/robotics. Cr 3.

ITT 400 Occupational Experience

This course is designed to allow credit for technical expertise learned on the job or through attendance at appropriate/related schools, workshops, and/or seminars. The student's technical knowledge and skill must be documented through the University's portfolio assessment procedures. (See your advisor for further information) Cr 1-45.

ITT 402 Materials Testing

Industrial techniques involved in the analysis of the physical properties of materials and their utilization in the manufacturing and construction industries. Emphasis on research and experimentation. Individual and team activities. Prerequisite: ITT 103, ITT 361 or 351 or permission of instructor. Cr 3.

ITT 413 Instrumentation and Process Control

A study of instruments and sensing devices used to observe and/or control processes in our industrial society. Laboratory and field experiences to research and/or construct an instrument of interest to the student. Prerequisite: ITT 211 or permission of instructor. Cr 3.

ITT 414 Digital Electronics

A study of the fundamentals of digital logic and logic systems. Laboratory experiences with typical circuits using semiconductor devices, including diodes, transistors and integrated circuits. Prerequisite: ITT 211 or permission of instructor. Cr 3.

ITT 423 Fluid Power

A study of fluids at work. Investigation of the theory and application of hydraulics and pneumatics in technology and industry. Design, construction, and maintenance of fluid power devices and systems included. Cr 3.

ITT 424 Fluid Power Systems

Application of fluid power and fluidic systems to manufacturing and construction industries. Prerequisite: ITT 423 or permission of instructor. Cr 3.

ITT 434 Industrial Production Illustration

Principles and techniques employed by contemporary industry to graphically describe industrial products, technical concepts, and service information. The media range will include chalk, ink, pencil, charcoal, water color, tempera, pressure sensitive transfer symbols, and various methods of graphic reproduction. Engineering and architectural problems. Prerequisite: ITT 331 or permission of instructor. Cr 3.

ITT 435 Systems Analysis and Design

Research applied to solving basic engineering problems. Contemporary systems of analysis and design. Economic factors, resource utilization, planning, design, model construction, follow-up studies and evaluation techniques applied to specific practical problems. Prerequisite: ITT 331 or permission of instructor. Cr 3.

ITT 440 Related Occupational Experiences/ Internships

Two options,
OPTION NO. 1

This course option is designed to permit attendance at an approved industry-sponsored school or seminar for the purpose of providing the student with advanced related occupational or technical training. Courses provided by organizations such as General Motors Training Centers, or International Typographical Union, qualify under this course option. Cr 1-3.

OPTION NO. 2

Approved employment with a company may qualify a student under this option. Arrangements must be approved by the advisor in advance. The experiences should provide opportunities for updating technical skills and knowledge. Credit will be determined on the basis of one credit for each two full weeks of employment (80 hrs) with a maximum of three

credits for each period of approved continuous full-time employment. A daily log, summary report and evaluation by an industrial supervisor will constitute part of this option. Cr 1-3.

For additional information concerning either option of ITT 440, consult your adviser.

ITT 444 Photographic Reproduction

Photographic concepts, processes, and techniques utilized in graphic reproduction. Experience in contact printing, continuous tone enlarging, duotones, posterization, and color separation. Prerequisite: ITT 241 or permission of instructor. Cr 3.

ITT 452 Metallurgy and Metrology

The technology of metallurgy and metrology. Heat treatment, powdered metals, machining and inspection of metal parts. Individual and group activity. Prerequisite: ITT 251 or permission of instructor. Cr 3.

ITT 455 Color Reproduction and Theory

Advanced study in the additive and subtractive theories of color reproduction. Experiences in photographic separation and offset press printing of color originals. Emphasis on understanding physiological and psychological responses to color. Lecture and lab. Prerequisite: ITT 444 Cr 3.

ITT 490 Special Problems in Technology

Provides upper-level students an opportunity to pursue independently a topic, project, or experiment of interest. Students will prepare a contract or proposal for study to be conducted and, upon completion, submit findings in a scholarly report or other evidence of merit. Cr 1.

EET 51 Analog Systems

Linear and non-linear operation of solid-state electronic devices with emphasis on the operation and applications of the operational amplifier. Prerequisite: course in basic electronics. Cr 4.

EET 61 Digital Systems

An introduction to the design of digital systems including combinatorial logic, sequential machines and the use of MSI and LSI circuits. No prerequisites, however, designed for students with a basic electrical background. Classroom and lab experiences. Cr 4.

EET 71 Microcomputer Architecture and Applications

The microcomputer and its component parts including microprocessors, registers, memory and I/O. Programming and applying the microcomputer in engineering systems. Cr 4.

IEA 190 Preprofessional Field Experiences

Provides an exploratory opportunity in public/private school or educative agencies to assist students in becoming acquainted with

the teaching profession and to examine various options in the field of industrial arts. Cr 2.

IEA 290 Contemporary Teaching in Industrial Education

This course is designed to develop verbal communication skills in the field of industrial arts. Basic understanding of related terminology in industrial education will be emphasized. Students will become knowledgeable of contemporary industrial arts programs at the elementary, junior high, and senior high school levels. Prerequisites: IEA 190. Cr 2.

IEA 380 Curriculum Materials in Industrial Arts Education

Development of curriculum materials for contemporary programs in industrial arts. Emphasis on unit preparation, performance-based objectives, and task analysis essential for identifying content and an effective instructional delivery system. Individualized and class instruction. First of a two-course sequence prior to student teaching. Prerequisites: 100/200 level technical core, ITP 300, IEA 290, 2.5 GPA, and recommendation of faculty. Cr 3.

IEA 381 Methods of Teaching Industrial Arts Education

Utilization of prepared plans for micro- and participation-teaching. Instructional media preparation and utilization. Audio and video tape presentations and critiques. Introduction to criterion-referenced evaluation techniques. Safety principles and classroom control stressed. Basic organization and administration procedures for implementing a modern program of industrial arts. Orientation to student teaching. Prerequisites: 100/200 Level Technical core, ITP 290, 2.5 GPA, and recommendation of faculty. Cr 3.

ITP 100 Modern Industry

Evolution and contemporary structure of American industry and its impact upon the social, economic, and cultural environment. Major areas and functions of industry explored include: personnel administration, research and development, production, finance, marketing, and service. Industrial visitations and reports. Cr 3.

ITP 300 Motion and Time Study

A study of techniques to utilize available resources (men, material, machines and facilities) in the most effective and economical manner giving full recognition to the human factors involved in engineering work methods and time measurements. Cr 3.

ITP 310 Plant Layout and Material Handling

A study of materials flow, layout production, assembly and service departments, manufacturing, buildings, service departments, handling equipment, and packaging techniques. Cr 3.

IIP 320 Occupational Safety

Theory of industrial safety with emphasis on fundamental concepts in the industrial environment. Emphasis will be placed on the psychological, sociological, and physiological aspects of industrial safety. Consideration will be given to OSHA and its impact on the work environment. Cr 3.

IIP 330 Production Control

Production control as a system, types of process organization, planning and scheduling, inventory control, forecasting production control and production planning. Some of the techniques developed in Operational Research will be used to solve problems in Production Control. Cr 3.

IIP 340 Quality Control Fundamentals

An overview of fundamental concepts and principles of quality control. The course will cover techniques utilized from the simplest products test to process control engineering and will include incoming material control, inspection sampling and quality control management. The course will cover practical application for installing quality control systems using actual case studies developed by participants. Cr 3.

IIP 350 Conference Leading

A course in philosophy and techniques of organizing and conducting successful conferences. Each participant will assume the responsibility of planning and leading a simulated conference. Cr 3.

IIP 370 Job/Work Analysis

The course in job analysis is basic to the functional aspects of work involved in producing goods and services in our economy. It is a first course in applied research, helping the technology major to understand the importance of being methodical in one's study and one's work. There is also emphasis in the course on career development, work design, work ethic and work productivity. A semester project requires students to analyze a job in terms of relevant duties, tasks, job methods and requirements. Cr 3.

IIP 380 Principles of Industrial Management

Fundamental principles of management as applied to business and industrial settings. The functions of management, introduced in IIP 100, will be given broader treatment by considering management of manufacturing firms. Prerequisite: IIP 100. Cr 3.

IIP 390 Cost Analysis and Control

Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Cr 3.

IEV 300 Occupational and Trade Analysis

Identification of occupational or trade fields, units, operations, and items of related information. Cr 3.

IEV 305 Curriculum Development in Vocational Education

This course is concerned with developing specific course content from an occupational analysis. The identification of educational needs and objectives precedes the selection and organization of relevant matter. Prerequisite: IEV 300. Cr 3.

IEV 310 Methods and Materials of Instruction in Vocational Education

This course treats the general and specific materials and methods of teaching vocational courses. Deals with both the theoretical and practical aspects. Prerequisites: IEV 300 and IEV 305. Cr 3.

IEV 312 Teaching Students With Special Needs

A course designed for vocational educators who need to learn how to serve handicapped, disadvantaged and gifted youth. It is structured to aid vocational teachers in working with special education personnel and to provide skills needed in planning instruction for students with special needs. Cr 3.

IEV 315 Learning and Programmed Instruction

The first application of the laboratory and scientific study of the learning process, including the principles of learning which are derived from experimental study and which have provided a foundation for advances in the techniques of learning. Cr 3.

IEV 320 Coordination of Cooperative Education

The role of the coordinator in organizing and conducting a program of work-study experience in high school. Introduction to cooperative half-time training, community survey, advisory committees, laws and regulations; and examination of the responsibilities and activities of the coordinator. Cr 3.

IEV 330 Principles and Practices of Vocational Guidance

Discussion and study with the intent to develop a better understanding of principles and objectives of vocational guidance. Cr 3.

IEV 331 Practicum Vocational Guidance

Field experiences in identification of content and relevant information for vocational counseling. Individual and group activity, visitations, tours, and career counseling techniques. Cr 3.

IEV 340 Shop Organization and Management

Basic principles of planning, organizing, and managing an industrial or technical shop or laboratory. Selection and arrangement of equipment including specification writing. Control of personnel for efficient shop management. Prerequisite: IEV 310. Cr 3.

IEV 350 Philosophy of Vocational Education

A survey of the history and philosophy of vocational education in the United States with emphasis upon recent developments. Cr 3.

IEV 382 Preparation of Instructional Materials

A lecture-laboratory series which involves students in the creation of instructional materials. Techniques include the dry mounting of flat pictorial materials, cloth backing of pictorial materials, professional-quality lettering, rudimentary photography and processing (including use of the darkroom), and the production by several techniques of transparent projectuals. Cr 3.

IEV 402 Student Teaching

Experienced instructors (three years teaching experience) seeking credit. Observation of performance and documentation of successful practice required. Cr 6.

IEV 411 Measurement and Evaluation in Vocational Education

The construction, selection, and use of achievement and performance tests in industrial-technical education. Skill in writing test items is developed. Elementary statistics for the industrial-technical instructor, including grading, are stressed. Prerequisites: IEV 300 and IEV 310. Cr 3.

IEV 420 Trends in Vocational Education

Identification, analysis, and discussion of major problems and trends in vocational education. Cr 3.

IEV 450 Local Administration and Supervision of Vocational Education

Procedure and practices utilized in establishing, promoting, coordinating, supervising, controlling vocational programs on the local level. Cr 3.

IEV 455 Development of Technical Education Programs

Planning and development of technical education programs including the determination of needs and organization of programs for secondary and post-secondary schools. Cr 3.

IEV 460 Independent Study in Vocational Education

An opportunity to pursue independently a topic, project, or experiment of interest. Students will prepare a contract or proposal for study to be conducted and, upon completion, submit findings in a scholarly report or other evidence of completeness. Permission of advisor. Cr 3.

Department of Engineering

Chair of the Department: Brian C. Hodgkin, 106 Science Building, Portland;
Associate Professor: Smith; *Adjunct Assistant Professors:* Parent, Parker; *Faculty Associate:* Murray

Engineers apply the principles of chemistry, mathematics and physics to design and create instruments, structures, machines and systems. Virtually every physical part of modern society was designed, developed and tested by engineers. The computer, an engineering accomplishment itself, is now a valuable engineering tool.

Engineering programs include the University of Maine bachelor and master of science degree programs offered at the University of Southern Maine, as well as first-year engineering curricula for several engineering specialties.

Preparation for an undergraduate engineering program should include high school chemistry, physics, and mathematics including algebra and trigonometry. Courses are available at the University of Southern Maine for those students needing to make up prerequisites.

Programs and Requirements

I. Bachelor of Science in Electrical Engineering

Electrical engineering is a challenging profession concerned with the design, development, fabrication, and control of electrical and electronic devices and systems. The undergraduate program is designed to provide a broad base from which later specialization can occur.

Students wishing a B.S. degree in electrical engineering have three options:

1. The University of Maine offers its B.S. degree program at the University of Southern Maine primarily for place bound and part-time students, particularly those who are already working in local industry. Courses are scheduled primarily in early morning, late afternoon, and evening and in some cases are delivered by instructional television directly to a company.
2. Students can complete their first year at the University of Southern Maine and transfer to the University of Maine or elsewhere. This program is described in Section II.
3. Students wishing to undertake a traditional full-time day program can enroll directly in the program at the Orono campus.

Requirements

Requirements for the bachelor of science degree are the same at either location and include:

Mathematics

MAT	152	Calculus A
MAT	153	Calculus B
MAT	252	Calculus C
MAT	350	Differential Equations

One advanced mathematics course selected from an approved list

Computer Science

COS	140	Programming in FORTRAN
OR		
COS	160	Structured Problem Solving: PASCAL

Basic Science

CHY	113, 114	Principles of Chemistry I
PHY	121, 122, 123, 124	General Physics I and II

One basic science elective selected from an approved list

Electrical Engineering

ELE	171	Microcomputer Architecture and Applications
ELE	172	Logic Systems
ELE	210, 211, 212	Electrical Networks
ELE	262	Physical Electronics
ELE	300	Seminar
ELE	314	Linear Circuits and Systems
ELE	323	Energy Transmission and Conversion
ELE	342, 343	Electronics
ELE	351	Fields and Waves
ELE	383	Communications Engineering
ELE	400	Electrical Engineering Design Project

Mechanical Engineering

MEE	150	Applied Mechanics: Statics
MEE	230	Thermodynamics

Technical Electives

At least 3 electrical engineering elective courses are required. The fourth required technical elective can be chosen from physics, chemistry, mathematics, computer science, and other engineering disciplines as available. At least 4 credit hours of engineering design must be included with these technical electives.

Other

ENG	100	College Writing
THE	170	Public Speaking

A course in technical writing.

Eighteen credit hours of approved humanities/social sciences, of which two must have other humanities/social science courses as prerequisites.

Credits to graduate: 133

Grade point average: 2.0 overall (course repeats allowed) and 1.8 in 300-level and above electrical engineering courses (course repeats not allowed).

II. First-year Transfer Program for Several Engineering Disciplines

The first-year engineering program prepares students to complete the degree at the University of Maine or elsewhere. All University of Southern Maine students who have satisfactorily completed their first year at the University of Southern Maine are eligible to transfer to the University of Maine for their second, third, and fourth years. The following curricula are offered at the University of Maine: agricultural engineering, chemical engineering, chemistry, civil engineering, computer engineering, electrical engineering, engineering physics, forest engineering, mechanical engineering, pulp and paper technology, surveying engineering.

The first-year program includes science, mathematics, computer programming, and English composition as common elements. Other courses depend on the engineering disciplines. Humanities and social science courses may be taken as time permits. Common courses include: Calculus (MAT 152, 153), General Physics (PHY 121, 122, 123, 124), Principles of Chemistry (CHY 113, 114 and in some cases 115, 116) and English (ENG 100). The following are also required for the indicated discipline.

Agricultural and Forest Engineering

MEE	150	Applied Mechanics: Statics
ITT	231	Technical Graphics

Chemical Engineering

COS	140	Programming in FORTRAN
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or

COS	160	Structured Problem Solving: PASCAL
CHY	115, 116	Chemical Principles II

Civil Engineering and Engineering Physics

COS	160	Structured Problem Solving: PASCAL
ITT	231	Technical Graphics

Electrical and Computer Engineering

COS	140	Programming in FORTRAN
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or

COS	160	Structured Problem Solving: PASCAL
ELE	171	Microcomputer Architecture and Applications
ELE	172	Logic Systems

Mechanical Engineering

COS	140	Programming in FORTRAN
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or

COS	160	Structured Problem Solving: PASCAL
ITT	231	Technical Graphics
MEE	150	Applied Mechanics: Statics

Surveying Engineering

COS	160	Structured Problem Solving: PASCAL
GEY	111, 112	Physical Geology

III. Master of Science in Electrical Engineering

At the graduate level, the University of Maine master of science and master of engineering in electrical engineering degree programs are available. The University of Southern Maine graduate catalog should be consulted for details.

ELE 171 Microcomputer Architecture and Applications

The microcomputer and its component parts including microprocessors, registers, memory and I/O. Programming and applying the microcomputer in engineering systems. Lecture 3 hrs, Lab. 3 hrs. Cr 4.

ELE 172 Logic Systems

Introduction to the design of logic systems; combinatorial and sequential logic: extensive use of SSI and MSI in design of logic systems. Lecture 3 hrs., Lab. 3 hrs. Cr 4.

ELE 210 Electrical Networks I

Basic circuit laws and theorems, natural and forced responses of first and second order systems, phasor concepts, application of basic circuit theorems to steady-state a-c networks. Characteristics and proper use of basic circuit instruments. Introduction of the PC as network analysis tool. Prerequisite: MAT 153, PHY 123. Lecture 3 hrs., Lab./Comp. 3 hrs. Cr 4.

ELE 211 Electrical Networks II

Steady-state power concepts, analysis of poly-phase circuits and magnetically coupled circuits, frequency domain analysis, network representation using two-port parameters, Fourier series applications. Prerequisite: MAT 252, ELE 210; also ELE 212 concurrently or permission. Lecture 3 hrs. Cr 3.

ELE 212 Electrical Networks Laboratory

Tools and techniques of electrical measurements, computer analysis of electrical networks, op-amp applications, verification and clarification of concepts developed in ELE 210/211. Prerequisite: ELE 211 concurrently. Lecture 2 hrs., Lab. 3 hrs. Cr 3.

ELE 215 Electric Circuit Fundamentals

A basic course in electrical circuits, covering direct and alternating circuits, first order transients, three phase circuits, operational amplifiers. Prerequisites: PHY 123, MAT 153. Not open to electrical engineering majors. Lecture 3 hrs. Cr 3.

ELE 224 Instrumentation

Application and characteristics of electronic instrumentation including the oscilloscope and digital indicators; sensitivity and frequency limitations; meters and bridges; instrumentation systems. Prerequisites: ELE 210 or ELE 215. Lecture 3 hrs., Lab. 3 hrs. Cr 4.

ELE 262 Physical Electronics

Basic characteristics and properties of materials of importance in solid state engineering. Particular emphasis is placed on atoms, crystal structures, electronic conductivity, semiconductor theory and bipolar devices. Introduction to thermal, ionic and super conductivities and field effect transistors. Prerequisite: CHY 113, PHY 123. Corequisite: MAT 350. Lecture 3 hrs. Cr 3.

ELE 300 Seminar

Exploration of career opportunities, organizational structure of industry and professional responsibilities. Prerequisite: junior standing. Lecture 1 hr. (Pass/fail grade only). Cr 1.

ELE 314 Linear Circuits and Systems

Analysis of continuous and discrete-time systems, Fourier and Laplace transforms, state variables, convolution, z-transforms, fast Fourier transforms. Prerequisite: ELE 211, MAT 350, COS 160 or COS 140 or equivalent. Lecture 3 hrs. Cr 3.

ELE 323 Energy Transmission and Conversion

Basic concepts related to electrical power system, power system components and measurements. Prerequisite: ELE 210 or ELE 215. Lecture 3 hrs., Lab. 3 hrs. Cr 4.

ELE 342 Electronics I

Fundamentals of digital electronic devices and circuits; diodes, BJTs, monolithic IC fabrication, logic gates and families, combinational and sequential logic circuits, FETs, LSI fundamentals. Prerequisites: ELE 211, ELE 262. Lecture 3 hrs., Lab. 1 hr. Cr 4.

ELE 343 Electronics II

Fundamentals of analog electronic circuits and systems; analog diode circuits, amplifiers, feedback, frequency, response, op amp characteristics and applications. Prerequisite: ELE 342. Lecture 3 hrs., Lab 3 hrs. Cr 4.

ELE 351 Fields and Waves

Static electric and magnetic fields; field mapping; properties of dielectric and ferromagnetic materials; time varying fields, Faraday's law, Maxwell's equations; plane waves in dielectric and conducting media; calculation of the fields and other properties of common transmission lines. Prerequisite: MAT 350, PHY 123. Lecture 3 hrs. Cr 3.

ELE 383 Communications Engineering

Basic principles of modern communication engineering; methods of analysis; modulation techniques; effects of noise; information transmittal. Prerequisite: MAT 350, ELE 314. Lecture 3 hrs. Cr 3.

ELE 394 Electrical Engineering Practice

Work experience in electrical engineering. May be taken more than once. Sophomore standing and permission. (Pass/fail grade only). Cr 1-3.

ELE 400 Electrical Engineering Design Project

Proposal, implementation, and reporting on a device or system to perform an engineering function. To be accomplished by a single student or a group of students. The course is divided into three semesters. Semester A: Lectures on researching the project, implementation of the design, report and proposal writing, oral presentations. Major emphasis will be on

the project proposal. Semester B: Implementation of the design project. This will usually consist of independent laboratory work to build and test the proposed device or system. Semester C: Written and oral presentation and documentation. In the normal sequence, this course is taken in the second semester of the junior year and the two semesters of the senior year. Prerequisite: junior standing.

Cr A-1, B-4, C-2, total 7.

ELE 425 Control Devices and Systems

Theory and operational characteristics of electromechanical control devices, linear modelling of nonlinear components, transfer functions and their use in analysis of feedback control systems; use of microcomputer for control. Prerequisite: ELE 323 or permission. Lecture 3 hrs. Cr 3.

ELE 417 Introduction to Robotics

An introduction to the basic concepts of robotics and operation of microcomputer-controlled manipulators with their applications in automation. The following topics will be discussed: a general review of robot structure, current application of robots in automation, spatial descriptions and coordinate transformations, manipulator kinematics and solutions, robot control and path planning, dynamics, vision in robot application. Prerequisite: COS 140 or 160; MAT 252; knowledge of matrix algebra and some familiarity with basic control and rigid body mechanics suggested. Lecture 3 hrs., Lab. 3 hrs. Cr 3.

ELE 427 Electric Power Transmission

Line constants per unit quantities, matrices, load flows studies, symmetrical components and study of power system faults. Prerequisite: ELE 210. Lecture 2 hrs., Lab 3 hrs. Cr 3.

ELE 428 Electric Power Systems

Power system control and stability, power flow, AC/DC power lines, analysis of faulted power systems, relaying. Lecture 2 hrs., Lab. 3 hrs. Prerequisite: ELE 427 Cr 3.

ELE 436 Electro-acoustics

Acoustic wave specifications and levels; human ear physiology and protection; electro-mechanical and acoustical lumped circuits; electro-mechano-acoustic systems of microphones and loudspeakers; fundamentals of architectural acoustics; acceptable noise standards and criteria; instrumentation; Lecture 3 hrs. with several laboratory periods substituted for equivalent class time. Prerequisites: senior or graduate standing. Cr 3.

ELE 437 Environmental Noise Control

Sound energy propagating in porous acoustical materials, in solid structures; basic design of mufflers and vibration isolation; air handling system noise control, sound energy propagating outdoors, transportation vehicle

noise; statistical specification of industrial and urban noise; rudiments of community noise control. Lecture 3 hrs. Prerequisite: ELE 436. Cr 3.

ELE 441 Micro-Electronics Filter Theory and Design

Design of inductorless electric filter stressed, standard forms of lowpass, bandpass, highpass, and bandstop realized with op-amps; applications include data and voice communication systems in modern micro-electronic engineering. Prerequisite: ELE 210 and ELE 211. Lecture 3 hrs. Cr 3.

ELE 444 Analog Integrated Circuits

Topics in the internal circuit design and system applications of analog integrated circuits; current sources, differential amplifiers, level shifters, op amps, regulators, high frequency considerations; digital-to-analog and analog-to-digital converters, phase-locked loops. Prerequisite: ELE 314 and ELE 343. Lecture 3 hrs. Cr 3.

ELE 453 Microwave Engineering

Microwave measurement techniques, impedance matching; Maxwell's equations; rectangular and cylindrical wave-guides; antennas. Prerequisite: ELE 351. Lecture 2 hrs., Lab. 3 hrs. Cr 3.

ELE 463 Solid State Electronic Devices

The theory of solid state electronic devices and an introduction to device fabrication technology. Devices studied include Schottky diodes, solar cells, light emitting diodes, metal oxide semiconductor field effect transistors (MOS-FETS) and capacitors and junction field effect transistors (JFETS). Diffusion, epitaxial growth, oxidation and photolithography processes appropriate for device fabrication are also discussed. Prerequisites: ELE 262. Lecture 3 hrs. Cr 3.

ELE 464 Microelectronics

Design principles and fabrication techniques of hybrid and monolithic integrated circuits. Characteristics and state-of-the art technology of passive and active IC components and cir-

cuit design. Prerequisite: ELE 463 with occasional laboratory period substituted for equivalent class time. Lecture 3 hrs. Cr 3.

ELE 471 Microprocessor Applications Engineering

Application of microprocessors to the solution of design problems, including hardware characteristics, peripheral control techniques and system development. Prerequisites: ELE 171, 172, Lecture 2 hrs., Lab 3 hrs. Cr 3.

ELE 475 Sequential Logic Systems

Methods of design and test for logic systems with memory. Sequential machine flow charting and algorithmic approaches to design. Test procedures and the design of system tests. Prerequisite: ELE 172. Lecture 3 hrs. Cr 3.

ELE 484 Communications Engineering II

Digital communication systems, multiplexing, signal space, information theory and coding. Prerequisite: ELE 383. Lecture 3 hrs. Cr 3.

ELE 486 Digital Signal Processing

The basic principles of processing signals in discrete form. Review of z-transforms, discrete Fourier series and transforms. Flow graph and matrix representations of digital filters, digital filter design techniques and fast Fourier transforms. Emphasis is placed on using the computer to both design and realize various signal processors. Prerequisites: COS 160 and ELE 383. Lecture 3 hrs. Cr 3.

ELE 498 Selected Topics in Electrical Engineering

Topics in electrical engineering not regularly covered in other courses. Topics recently covered in this course include advanced microprocessor applications, robot applications, semiconductor device modelling for IC design, instrumentation semiconductor technology, introduction to VLSI design and microwave acoustics. The content can be varied to suit current needs. The course may, with permission of the department, be taken more than once. Prerequisite: Permission of the department. Cr 1-3.

University of Southern Maine School of Nursing

Dean: Nancy P. Greenleaf; *Associate Dean for Undergraduate Affairs:* Sallie Nealand; *Associate Dean for Graduate Affairs:* Kathleen MacPherson

Faculty in Nursing

Professor: MacPherson; *Associate Professors:* Burson, Czupryna, Dorbacker, Drew, Fournier, Greenleaf, Healy, Jensen, Normandeau, Paltrow, Peake-Godin, Rodgers, Shoobs, Thompson, Tiffany, Tryon, Tukey; *Assistant Professors:* Elliott, Heidema, Nealand, Perry, Roche, Stone, Young; *Instructors:* Ellis, Ison, Smith, Vezina, Whitcher.

Administrative Manager: Susan Taylor

Information Services Associate: Brenda Webster

Program Coordinator, University of Southern Maine School of Nursing, RN Studies Track, Farmington Campus: Patricia Shultz

Director, University of Southern Maine School of Nursing Learning Resource Laboratory: Mary Ann Hodsdon

Adjunct Faculty: Mary Ann Rost, Kristin Kreamer

Faculty in Recreation and Leisure Studies:

Chair, the Department of Recreation and Leisure Studies: James V. Sullivan

Professor: Sullivan; *Associate Professors:* Meyer, McCullough; *Assistant Professors:* Martin, Willard

Nursing is a creative art and science committed to holistic health care. The process of nursing requires the development of knowledge, the use of critical thinking and the utilization of research as a basis for professional practice. In this practice, nurses' roles focus on the prevention of illness and the promotion, maintenance, and restoration of health. The nursing role also includes the facilitation, when inevitable, of a meaningful death. Believing strongly that health is promoted by principles of social justice, nurses utilize ethics and political activity to advocate health policies which help alleviate human suffering. Through these activities, the profession of nursing is strengthened. Nursing is multifaceted, humanistic work. It focuses on caring for people through diagnosis and treatment of human responses to actual and potential threats to health. As a form of human activity, nursing is characterized by both process and product. Nursing produces a shared space between humans where intimacy may be experienced, where caring and nurturing may be given and received, where advocacy may be expressed, and where health may be restored. Nursing knowledge and technology are expanding rapidly, changing nursing's potential to respond to societal needs. The nurse must be flexible and proactive in order to respond to these needs.

The University of Southern Maine School of Nursing offers programs in nursing and leisure studies. These include a graduate program which leads to a master of science degree with a major in nursing, a baccalaureate program which leads to a bachelor of science degree with a major in nursing, and a recreation and leisure studies program which offers both associate of science and bachelor of science degrees in therapeutic recreation. The recreation and leisure studies programs are described more fully in the next section of this catalog.

The aims of the School of Nursing are consistent with the mission of the University of Southern Maine: to provide nursing and leisure studies education within a state institution of higher learning; to recognize the centrality of the liberal arts in the education of professional practitioners; to focus on community health needs; to recognize research as a means of increasing knowledge and improving practice; and to acknowledge an educational responsibility to respond to the learning needs of a diverse student population.

The baccalaureate program in nursing prepares a beginning professional nurse for practice in a variety of settings, and provides a foundation for advanced study in nursing.

The master's program in nursing prepares students for nursing roles that require advanced nursing knowledge, practice skills, and knowledge of the research process; provides a foundation for leadership and advanced practice in nursing; and provides a foundation for doctoral study. Please consult the USM graduate catalog for details.

The School of Nursing has developed a special component of its baccalaureate program for RNs. This RN Studies Track allows the possibility of completing a B.S. in nursing in as little as a year after fulfilling the prerequisites to the nursing major. Please refer to RN Studies Track in this section of the catalog for further information.

Baccalaureate Program in Nursing

The School of Nursing offers a baccalaureate nursing program with an upper-division major for professional study. Each nursing student must complete a minimum of 121-126 credits which include nursing, core competencies, general education, liberal arts, sciences, and other supporting courses. Upon successful completion of the program the student is awarded a bachelor of science degree with a major in nursing, and is eligible to take the State Board Examination for RN licensure. The School of Nursing is approved by the Maine State Board of Nursing and accredited by the National League for Nursing.

Admission Policy and Procedure

Please consult the Admissions section of this catalog for information about admission to the University of Southern Maine and the School of Nursing. Students in the School of Nursing must attain a GPA of 2.25 to enter NUR designated clinical courses. Please see page 220 of this catalog for other academic standards in the School of Nursing. All students enrolled in the School of Nursing will be advised by nursing faculty.

RN Applicants at USM

Admission decisions for RNs are made as applications are received. Other policies are described in this catalog in the section entitled RN Studies. It is important that the applicant make contact with the RN Studies counselor at the School of Nursing. Request application materials from Brenda Webster, University of Southern Maine School of Nursing, 96 Falmouth Street, Portland, Maine, 04103. (phone: 207-780-4130) Applicants must complete both the USM application and the School of Nursing application.

For all categories of applicants, enrollment in nursing clinical courses is dependent on successful completion of designated prerequisite requirements before the beginning of the nursing major.

Prerequisites for the Nursing Major

Prerequisite courses to the upper-division nursing major consist of competencies (English Composition, Quantitative Decision Making, Skills of Analysis/Philosophy), physical and behavioral sciences, humanities, and fine arts. Nursing students must achieve a minimum of 2.25 grade point average in designated prerequisite courses in order to be eligible to progress to the 300-level nursing major courses. D grades or below are not acceptable in prerequisite areas except in one general elective course.

Prerequisite Requirement Areas

General Education Requirements

*English Composition	0-3 credits
*Philosophy	3 credits
Humanities	6 credits
Fine Arts	6 credits
Statistics	3 credits
	<hr/>
	18-21 credits

Physical Science Requirements

*General Biology and lab	4 credits
*Human anatomy and Physiology and lab	8 credits
*Inorganic Chemistry and lab	4 credits

*Organic or Bio Chemistry	3 credits
*Microbiology and lab	4 credits
††Pathophysiology	3 credits
††*Nutrition	3 credits
	<u>29 credits</u>
Social Science Requirements	
*Introductory Psychology	3 credits
*Introductory Sociology	3 credits
††*Human Growth & Development (life span preferred)	3 credits
	<u>9 credits</u>

Other

General Electives (can include nursing electives)

*must be completed before entering 300-level nursing courses.

††Courses which support and are intricately related to the core nursing courses. In this catalog these will be designated "support courses."

Note 1: Nursing candidates taking prerequisite courses at the University of Southern Maine campus must meet Core curriculum requirements of the University of Southern Maine. Please refer to Core curriculum section of this catalog.

Note 2: For graduation with major in nursing, no more than 3 credits of pass/fail in general elective credit will be accepted.

Nursing Major

The nursing major in the University of Southern Maine School of Nursing consists of clinical nursing courses, courses supportive of nursing content, and elective courses. Clinical nursing courses are organized in a manner that facilitates the integration of nursing and other disciplines. These courses focus on the use of the nursing process to promote, maintain, and restore the health of clients. Students have experiences which involve assessment, planning, implementation, and evaluation of care for individuals of all ages, in families, groups of clients, and communities on all spectrums of the health continuum. Inpatient and outpatient hospital settings, community health agencies, community settings, nursing homes, schools, and industries are used for clinical experience.

Nursing Courses

***NUR 200	Preprofessional Nursing	3 credits
***NUR 309	Health Assessment	3 credits
***NUR 300	Nursing Process I	2 credits
***NUR 350	Nursing I lab	2 credits
**NUR 302	Pharmacology	3 credits
**NUR 352	Mental Health Nursing	3 credits
***NUR 305	Nursing Process II	3 credits
***NUR 355	Nursing II lab	4 credits
***NUR 400	Nursing Process III	3 credits
***NUR 450	Nursing III lab	4 credits
**NUR 401	Health-Related Research	3 credits
**NUR 456	Community Health Nursing	3 credits
***NUR 405	Nursing Process IV	3 credits
***NUR 455	Nursing IV lab	4 credits
***NUR 407	Leadership in Health Care	4 credits
		<u>47 credits</u>

**Courses which support and are intricately related to the core nursing courses. In this catalog these will be designated "support courses."

***Courses core to the nursing curriculum.

Non-academic Requirements for the Nursing Major

Nursing majors are required to have the Medical History and Physical Examination Form completed and on file at the University of Southern Maine Student Health Services before enrolling in clinical nursing courses. Because health care workers are at higher risk for certain illnesses, it is strongly recommended that all students carry health insur-

ance and be immunized against hepatitis B. The excellent health plan available to USM students is described in the Student Services section of this catalog.

Nursing majors must purchase uniforms before entry into the clinical nursing courses. In addition, a \$15.00 fee per semester (junior and senior years) is required as a clinical fee. Cost for books is approximately \$250.00 per semester. Clinical learning experiences take place in a variety of settings and geographic locations. It is the student's responsibility to provide his/her own transportation for junior and senior clinical experiences. Professional liability insurance and health insurance are strongly recommended for students in the School of Nursing. Certification in cardiopulmonary resuscitation (CPR) is required each year prior to entry into clinical experiences.

RN Studies Option for Registered Nurses

The University of Southern Maine recognizes the need and desirability for registered nurses to attain a baccalaureate degree within the state. The School of Nursing faculty believes in a flexible approach to attaining this goal. We realize that RNs returning to school face life complexities such as changes in established roles, financial strains, and family and work responsibilities. Every effort is made to promote dialogue to aid in the integration of the personal and educational changes that will occur in moving toward the B.S. degree.

In response to the need for baccalaureate programs for RNs, the School of Nursing has developed an RN Studies Option. The RN Studies Option consists of courses in new areas of content for the RN and assessments of prior learning in areas of previously attained knowledge and skill. A total of sixty (60) credits might be attained through the assessment of prior learning. The RN Studies Option seeks to meet the needs of the adult learner through flexible class scheduling, extensive credits-by-examination, and full- or part-time study.

Credits-by-examination may be attained in both lower- and upper-division coursework. Lower division courses available for credit-by-examination include English composition, general biology, general chemistry, general sociology, general psychology, human anatomy and physiology, human growth and development, and human nutrition. The upper division RN Studies Option consists of the following courses (courses available for credit-by-examination are noted by the asterisk):

NUR	304	Transition Course	5 credits
NUR	309	Health Assessment*	3 credits
BIO	345	Pathophysiology*	3 credits
NUR	302	Pharmacology*	3 credits
NUR	352	Mental Health Nursing*	3 credits
NUR	312	Clinical Assessment Test*	1 credit
NUR	314	Assessment Test of Basic Nursing Knowledge*	18 credits
NUR	456	Community Health Nursing	3 credits
NUR	402	Community Health Clinical	4 credits
NUR	401	Health Related Research	3 credits
NUR	407	Leadership in Health Care	4 credits

The RN applicant to the School of Nursing must: a) meet the general admission requirements of the University; b) achieve a minimum 2.25 grade point average in designated prerequisite courses in order to progress to the 300-level nursing major courses; and c) be a registered nurse. For further information regarding the RN Studies Option, contact the University of Southern Maine School of Nursing.

Academic Policies

Dean's List: Students matriculated in the School of Nursing who carry at least nine credits, and who maintain a semester average of 3.2, will be eligible for the Dean's List. Students on the Dean's List will receive recognition by letter from the Dean and have their names released to the news media.

Retention/Progression

Students within the School of Nursing must maintain class standing according to hours accomplished, with a grade point average as follows:

<i>Credit Hours</i>	<i>For Good Standing</i>	<i>For Probationary Standing</i>
46-60	2.25	2.0
31-45	2.0	1.8
0-30	1.8	1.6

Standards apply to both part-time and full-time students. Probation lasts for a period of one semester. These standards allow the beginning or non-traditional student to adjust to school and studies. By maintaining a 2.25 GPA or above during the upper-division years, the student maintains a standard appropriate to professional practice.

The faculty of the School of Nursing reserves the privilege of retaining only those students who, in the judgment of the faculty, satisfy the requirements of scholarship, health, and personal suitability for nursing.

A student who receives a grade of D or F in NUR 309, Health Assessment, will be allowed to repeat the course once alone or concurrently with NUR 300 and NUR 350, Nursing Process I and Nursing I laboratory, with the permission of the instructor. The course must be passed with a grade of C or better.

Nursing Process and Laboratory courses must be taken concurrently the first time a student is enrolled in each course. Exceptions may be made with the consent of the course faculty. (NUR 300 with NUR 350, NUR 305 with NUR 355, NUR 400 with NUR 450, and NUR 405 with NUR 455).

A grade of D or F in a Nursing Process or Laboratory course will stop progression within the School of Nursing until corrected. Only the course in which the D or F is received, Nursing Process or Laboratory, needs to be repeated. The student must achieve a grade of C or better in the course which is repeated before entering the next nursing process or laboratory course. A course may be repeated only once.

A student who receives an F grade in any course with a NUR designation, who is able to maintain a grade point average of 2.25, will be allowed to take the course one time when it is offered again. The course must be passed with a grade of C or above. A student who is unable to maintain a grade point average of 2.25, but whose average remains above 2.00, is on probation within the School of Nursing. Such a student may take support courses until his or her grade point average has been restored to the level of 2.25 or above, at which point progress in Nursing Process and Laboratory courses may resume. A student who receives a D or F grade in courses with a NUR designation and who is unable to maintain a grade point average of 2.00 will be dismissed from the School of Nursing and either be dismissed or suspended from the University according to its policies or required to change major.

The academic record of a student who receives multiple grades of F in nursing and/or support courses will be reviewed by the Subcommittee for Academic Advancement. Matters of personal concern to the student will also be considered. The Subcommittee will come to a decision regarding progression or dismissal.

Grading for all courses will follow the established School of Nursing grading policy.

Incomplete Grades

A temporary grade may be assigned by faculty when a student, because of extraordinary circumstances, has failed to complete course requirements in a nursing course. Incomplete grades in sequential nursing courses must be completed with a letter grade of C or better before progressing to the next course in the sequence.

Graduation Requirements

To be eligible for graduation with a bachelor of science degree with a major in nursing, the student must have successfully completed all requirements, and a minimum of 121-126 credit hours with a grade point average of a least 2.25.

Student Appeal Policy A student who feels there is a just cause for an academic grievance regarding course grades or discrimination may initiate an academic appeal. A copy of the policy and procedure is available in the Dean's office.

Required Nursing Courses

NFS 252 Human Nutrition

A course designed to show how the given nutrients serve to meet the metabolic processes required for life. Prerequisites: Anatomy and Physiology; General and Organic Chemistry; Biochemistry. For challenge information of NFS 352, contact the School of Nursing. Cr 3.

NUR 200 Pre-professional Nursing

This course provides the student the opportunity to examine the nature and scope of professional nursing. Concepts basic to nursing, including health, health care consumers, and professional nursing roles are explored. Basic nursing skills are practiced. Open to any sophomore standing University student. Cr 3.

NUR 300 Nursing Process I

Utilization of nursing process is emphasized to assist individuals to promote and maintain optimal health. Concepts and selected theories provide a basis for understanding the factors which facilitate and/or inhibit the growth and development of people. Junior standing students in the School of Nursing will be accepted. Permission of instructor for non-nursing majors. Prerequisites: NUR 200, NUR 309. Concurrent: NUR 350, BIO 345. Cr 2.

NUR 302 Pharmacology

Basic concepts in pharmacology including major drug categories, drug interactions, the use of the nursing process in the therapeutic administration of drugs, legal implications, and the physical and psychological effects of drugs on various age groups will be emphasized. Prerequisites: Human Anatomy and Physiology, BIO 345. Concurrent: NUR 305. Open to other than nursing students with permission of faculty. Cr 3.

NUR 305 Nursing Process II

This course utilizes the nursing process in promoting, maintaining, and restoring the health of individuals and families experiencing short-term alterations which do not significantly disrupt potential but do require nursing and/or other intervention. Didactic classes build on the student's foundation in pathophysiology, and provide the theory necessary for implementation of nursing skills in the clinical laboratory. Prerequisites: NUR 300, BIO 345. Concurrent: NUR 302, NUR 355. Cr 3.

NUR 309 Total Health Assessment

The purpose of this course is to develop the knowledge and skill necessary to conduct an in-depth bio-psycho-socio-cultural assessment of an individual. Emphasis will be placed on

data collection through development of communication, interviewing, history-taking, and physical examination skills. Open to RN or junior standing University students. Prerequisite: NUR 200. Cr 3.

NUR 350 Nursing I Laboratory

Concepts of health promotion and maintenance are practiced in selected community settings. Must be enrolled in NUR 300 concurrently. Cr 2.

NUR 352 Mental Health Nursing

Emotional disorders are examined in relation to various bio-psycho-socio-cultural factors. Communication skills with clients of the health care system are developed. Traditional and contemporary treatment modalities are discussed with special emphasis on the nursing role in promoting, maintaining, and restoring mental health. Open to junior standing students in the School of Nursing. Prerequisites: General Psychology, Growth and Development, NUR 200. Cr 3.

NUR 355 Nursing II Laboratory

The laboratory and clinical experiences give the students an opportunity to practice and to apply affective and psychomotor skills. Experiential learning will be guided by faculty in both the learning resource laboratory and in selected clinical settings. Emphasis will be placed on the application of theory to assist individuals experiencing short term alternatives in health. The student will be given the opportunity to utilize family assessment skills and develop nursing diagnosis pertinent to the family. Must be enrolled in NUR 305 concurrently. Cr 4.

NUR 400 Nursing Process III

Long term alterations in health affecting individuals, families, and groups are presented. Students study application of the nursing process, including dependent, independent, and interdependent nursing functions, for clients who are in a variety of health care settings and at different stages of growth and development. Emphasis is placed on health promotion, rehabilitation, and adaptation. Prerequisites: NUR 300, NUR 302, NUR 350, NUR 305, NUR 355. Concurrent with NUR 450. Cr 3.

NUR 401 Health-Related Research

Various types and methods of research, concepts basic to the research process including sampling, validity, reliability, and ethics will be introduced. The student will evaluate and utilize health-related research and consider

implications for nursing practice and the nurse as a researcher. Prerequisite: statistics. Open to other than nursing students with permission of faculty. Cr 3.

NUR 405 Nursing Process IV

Alterations in health resulting in depleted health or health crises affecting individuals, families, and groups are presented. Students study application of the nursing process, including dependent, independent, and interdependent nursing functions, for clients who are in a variety of health care settings and at different stages of growth and development. Prerequisites: NUR 400, NUR 450. Cr 3.

NUR 407 Leadership and Issues in Professional Nursing

Theories of leadership, organizations, and planned change are presented. The student will analyze systems and methods of health care delivery and identify factors and strategies which inhibit or facilitate change. Professional and ethical issues, legislation, and emerging role in nursing will be analyzed. An experiential component is required and varies with the student's learning objectives and interests. Prerequisites: All nursing clinical courses except, concurrently NUR 405, 455. Cr 4.

NUR 450 Nursing III Laboratory

The student utilizes the nursing process in the promotion, restoration, and maintenance of health with individuals, families, and groups experiencing long term alterations in health. The student collaborates and consults with health team members in a variety of settings. Must be enrolled in NUR 400 concurrently. Cr 4.

NUR 455 Nursing IV Laboratory

The student utilizes the nursing process in the promotion, restoration, and maintenance of health with individuals, families, and groups experiencing depleted health/health crisis and consults with health team members in a variety of settings. Must be enrolled concurrently in NUR 405. Cr 4.

NUR 456 Community Health Nursing

Introduces concepts and principles basic to the development and maintenance of community health. Population aggregates are defined as the unit of service. The epidemiological process is stressed in surveying current major health issues. Resources available to the nurse in the community for promotion, maintenance, and restoration of health are identified. Senior standing students in the School of Nursing will be allowed to take this course. Prerequisites: NUR 305 and NUR 355. Cr 3.

Nursing Electives

NFS 300 Child Nutrition Seminar

An interdisciplinary approach to nutritional needs of children. Films, speakers, text, and journal readings serve as basis for class discussion. Sample topics include infant nutrition, nursery school meals, snacks, educational nutrition games, school lunch as a learning tool, vegetarian diets. Opportunity for students to focus on an area of special interest. One clinical feature is the participation in a head start nursery school lunch hour. Cr 3.

NUR 306 Environmental Health Nursing

This course will explore major problems and issues affecting the environment with respect to human health. Emphasis will be on community health approaches to environmental protection, political influences and role. Cr 3.

NUR 308 Women and Health Issues

An interdisciplinary approach will be used to explore and analyze the political, economic, legal, and social factors influencing women's health. Topics of discussion will include: women as receivers and deliverers of health care; health related legislation; sex-role development and its impact on women's health; women's work; health issues related to the reproductive cycle; violence against women; mental health issues related to the reproductive cycle; mental health for women; health needs of special groups; lesbian health care;

health care for aging women; health care for women of color; and Maine women's health needs. Students will have an opportunity to focus on an area of interest. Cr 3.

NUR 310 Health Care in the Camp Setting

An overview of nursing in the organized summer camp is presented. Nursing process is applied to individuals of all ages and the camp as a community. Prevention activities, management of common health problems, and crisis intervention is explored. In examining the independent role of the camp nurse, issues such as state health regulations, nurse practice acts, accreditation standards, general legal concerns, and collaboration with camp staff and other health care providers are addressed. Cr 3.

NUR 324 Cultural Diversity in Health

A study of factors that influence provider-client relationships in a multicultural society. An examination of the health care system, the social, political, and economic environment of our society, and the health care needs and practices of culturally diverse groups. Assessment tools and transcultural communications models will be presented and discussed. Cr 3.

NUR 395 Nursing Independent Study

Individualized study in an area of nursing with the permission of the instructor. Cr 1-3.

NUR 404 Issues in Adolescent Health Care

The purpose of this course is to examine the bio-psycho-socio-cultural growth and development of adolescents and with that basis, examine issues in health care that are specific to that age group. Cr 3.

NUR 408 Alternatives in Childbirth

An exploration of current trends in birthing with emphasis on factors which lead to greatest satisfaction for the birthing family while maintaining health of those involved. Cr 3.

NUR 409 Current Concepts in Nutrition

Latest concepts and trends in nutritional management of various health problems. Exploration of current nutrition-related issues. Opportunity is provided for students to focus on areas of interest. Cr 3.

NUR 495 Nursing Independent Study

Individualized study in an area of nursing with the permission of the instructor. Cr 1-3.

NUR 503 Women's Health Movement

This course will address the historical development of the women's health movement as well as its present structure and politics. The objectives of this course are to familiarize students with the growth and development of a vigorous, contemporary social movement and to stimulate interest in students regarding the movement, both theoretically and experientially. Cr 3.

NUR 510 Historical Perspectives in the Nursing Profession

Surveys historic events in nursing and relates selected aspects to current concerns of the profession. Cr 3.

NUR 520 Ethical Issues in Health Care

Analysis of selected contemporary ethical issues confronting health care professionals. Examination of major ethical theories and principles and related decision-making models. Cr 3.

NUR 530 Biology of Aging

This course is intended to serve as a foundation in aging science for students in any discipline. It approaches two questions: (1) Why do we age? (2) How do we age? Analyzes theories of the aging process, research in longevity, and statistics about the aging characteristics of our society. Considers the changes of aging, sorting out physiology from pathophysiology, and myth from fact. Students will attempt to develop an informed, working, and creative model for understanding the aging process and examine observations of their own aging and attitudes about it. Cr 3.

NUR 540 Nutritional Needs of the Older Adult

A course addressing nutritional needs of the elderly and how these needs can be met; the effects of aging, economics, and social factors on food intake; an overview of disease and disability conditions which respond to diet modifications. Cr 3.

NUR 550 Advanced Applied Pathophysiology

This course will study the mechanisms and manifestations of statistically common diseases. Lectures introduce theoretical concepts of pathophysiology using systems theory. Periodic clinical pathological conferences (CPCs) enable the student to do applied pathophysiology in a seminar setting. This is a fast-paced, in-depth review course. Strong student participation is expected in class. Cr 3.

*RN Studies Option Courses***NUR 304 Transition Course**

Utilization of the nursing process is emphasized to assist individuals, families, and groups to promote, maintain, and restore health. Concepts and selected theories provide a basis for understanding the factors which facilitate and/or inhibit the growth and development of human beings. Prerequisites: junior level standing in SON and RN licensure or permission of faculty. Cr 5.

NUR 309 Total Health Assessment

The purpose of this course is to develop the knowledge and skill necessary to conduct an in-depth bio-psycho-socio-cultural assessment of an individual. Emphasis will be placed on data collection through development of communication, interviewing, history-taking, and physical examination skills. Open to RN or junior standing University students. Prerequisites: NUR 200 or RN license. Cr 3.

NUR 312 Clinical Assessment Test

The purpose of this course is to validate the prior learning and clinical functioning of Registered Nurse students who are seeking a baccalaureate degree in nursing. This clinical evaluation provides the student with an opportunity to demonstrate the ability to apply the nursing process in the care of individual clients—assessing, planning, implementing, and evaluating care in a safe, appropriate, organized, and accountable manner. Prerequisites: NUR 304 and NUR 309 or permission of faculty. RN licensure is required. Cr 1.

NUR 314 Assessment Test of Basic Nursing Knowledge

The purpose of this examination is to validate the prior learning of Registered Nurse students in the areas of fundamental nursing care. The written assessment provides the student with an opportunity to demonstrate the

application of the nursing process in the care of individuals, families, and groups in health and illness. Prerequisites: NUR 304 and NUR 309 or permission of faculty. RN licensure is required. Cr 18.

NUR 402 Community Health Nursing Clinical
The Community Health Nursing Clinical provides an opportunity for registered nurses to

utilize the nursing process in the promotion, restoration, and maintenance of health with individuals, families, and groups in the community setting. Prerequisites: senior level standing in the School of Nursing or permission of faculty. RN licensure is required. Cr 4.

Department of Recreation And Leisure Studies

The Department of Recreation and Leisure Studies in the School of Nursing offers two degree programs for students interested in pursuing careers in therapeutic recreation. The associate degree program in therapeutic recreation consists of 60 credit hours. Upon completion of the degree requirements, the student may seek employment as a therapeutic recreation assistant or recreation generalist and is eligible for certification by the National Council for Therapeutic Recreation Certification.

The baccalaureate degree program in therapeutic recreation consists of 122.5 credit hours. Upon completion of the degree requirements, the students may seek employment as activity coordinator, therapeutic recreation specialist, or recreation generalist. Students who complete Internships under the supervision of a certified Therapeutic Recreation Specialist will be eligible for certification by the National Council for Therapeutic Recreation Certification.

In addition to the two degree programs, a wide variety of professional recreation and leisure courses, as well as fitness activity courses, is available. Students are encouraged to pursue recreation, leisure, and fitness course offerings as appropriate to their academic program.

Associate Degree Program in Therapeutic Recreation

The minimum number of credits required for the degree: 60.

The two-year program in therapeutic recreation consists of the following courses leading to the associate of science degree:

A. General Foundation Courses			Credits
Required			
ENG	100	College Writing	3
BIO	019	Biological Basis for Human Activity	3
THE	170	Public Speaking	3
OR			
COM	171	Interpersonal Communication	3
Electives (one from each area)			
Humanities			3
Social Sciences			3
General Elective			3
B. Major Requirements			
REC	110	Introduction to Recreation and Leisure Services	3
REC	113	Preprofessional Field Experiences	2
REC	120	Introduction to Therapeutic Recreation and Disabilities	3
REC	211	Programming Leadership in Recreation	3
REC	216	Advanced First Aid and Emergency Care	3
REC	230	Methods and Materials in Therapeutic Recreation	3
REC	290	Organization and Administration of Recreation	3
REC	294	Pre-internship	1
REC	295	Internship	9
Two courses from the following:			
REC	215	Social Recreation	3
REC	222	Recreation Activities for Special Populations	3
REC	231	Arts and Crafts in Therapeutic Recreation	3
REC	233	Environmental Recreation	3
Two elective courses in recreation			6

Transfer into the B.S. Degree Program in Therapeutic Recreation from other USM Academic Programs

Students in the associate degree program in therapeutic recreation who have a 3.5 cumulative average or a 3.0 average in selected courses may transfer to the four-year therapeutic recreation program providing space is available. Students interested in this option should meet with their advisor and then apply in writing to the Baccalaureate Degree Program Coordinator for transfer.

Students enrolled in other programs of study must meet with the appropriate therapeutic recreation coordinator to discuss transfer requirements. Such students will be required to provide a copy of their academic transcripts and a letter which explains their reasons for wanting to transfer. Acceptance into the program is dependent on the student's academic performance, letter of application, and space availability.

Baccalaureate Degree Program in Therapeutic Recreation

The minimum number of credits required for the degree: 122.5.

In satisfying Core curriculum requirements, students are urged to take MUS 110 Fundamentals of Music for the fine arts performance-centered arts section. PSY 101 Introduction to Psychology and SWO 101 Introduction to Social Welfare are recommended for fulfilling the social sciences requirement. BIO 105 and 106 Biological Principles are recommended for the natural sciences requirement.

The four-year program in therapeutic recreation consists of, in addition to the Core curriculum requirements, the following courses leading to the bachelor of science degree.

Required courses within the program		Credits	
REC	110	Introduction to Recreation and Leisure Services	3
REC	113	Preprofessional Field Experience	2
REC	130	Introduction to Therapeutic Recreation Services	3
REC	216	Advanced First Aid and Emergency Care	3
REC	232	Methods in Therapeutic Recreation Program Design	3
REC	241	Leadership and Supervision in Recreation	3
REC	290	Organization and Administration of Recreation	3
REC	314	Leisure Awareness Counseling	3
REC	370	Therapeutic Recreation and Mental Health	3
REC	380	Therapeutic Recreation and Physical Disabilities	3
REC	390	Therapeutic Recreation and Developmental Disabilities	3
REC	480	Management and Supervision in Therapeutic Recreation	3
REC	490	Senior Seminar in Therapeutic Recreation	3
REC	494	Pre-internship	1
REC	495	Internship	9
Required courses outside of the program			
THE	170	Public Speaking	3
BIO	211	Human Anatomy and Physiology	3
BIO	212	Practical Human Anatomy and Physiology	1.5
SWO	266	Concept of Self and the Handicapped Person	3
HRD	331	Group Dynamics	3
OR			
COM	290	Small Group Communication	3

Advanced Science—elect one of ANT 302; BIO 200; BIO 201; BIO 331; BIO 345; HRD 333.

Recreation Elective Courses (Select 12 credits)

Majors must select a well-balanced array of electives; therefore, they can elect no more than six one-credit activity courses and one three-credit fitness course from the following: REC 219, REC 277, REC 279, REC 280, REC 281, REC 282, or REC 283. One-credit activity courses cannot be taken more

than once for credit toward graduation. Students who wish to obtain an emphasis in the study of physical fitness should elect four courses from the following: REC 219, REC 277, REC 279, REC 280, REC 281, REC 282, or REC 283. These courses should be taken in addition to major requirements.

REC	100	Recreation, Leisure, And Fitness Activities (1 credit per activity) Ballroom Dance, Bicycle Touring, Karate	
REC	101	Tennis	1
REC	102	Volleyball	1
REC	103	Wallyball	1
REC	104	Racquetball	1
REC	105	Lifeline: Walk/Jog	1
REC	106	Lifeline: Aerobic Exercise	1
REC	107	Lifeline: Aerobic Dance	1
REC	108	Lifeline: Aquatics	1
REC	109	Lifeline: Weight Training	1
REC	215	Social Recreation	3
REC	217	Small Boat Handling and Seamanship	2
REC	219	Personal Fitness	3
REC	221	Audio Visual Aids in Recreation	1
REC	222	Recreation Activities for Special Populations	3
REC	226	Leadership in Recreation Leisure Activities	3
REC	231	Arts and Crafts in Therapeutic Recreation	3
REC	233	Environmental Recreation	3
REC	235	Recreation and the Disadvantaged	3
REC	250	Adapted Aquatics	3
REC	277	Weight Training: An Approach To Strength	3
REC	278	Leisure Programming for Older Adults	3
REC	279	Health and Fitness for Older Adults	3
REC	280	Physiology of Exercise	3
REC	281	Kinesiology	3
REC	282	Health and Fitness for Children and Youth	3
REC	283	Exercise Laboratory Evaluations and Techniques	3
REC	314	Leisure Awareness Counseling	3
REC	343	Perceptual-Motor Development and Learning	3
REC	398	Independent Study in Recreation/Leisure	3

General Elective Courses. The number of general electives will depend upon the number of credits remaining after the student has fulfilled the Core curriculum basic competence requirements.

COM	310	Nonverbal Communication	
SWO	267	Relating Professionally to Homosexuality	
SWO	274	Ageing and Social Policy: A Cross Cultural View	
SWO	275	Developmental Service to the Aging	
SWO	278	Professional Practice with Older People	
SWO	288	Substance Use and Abuse: Alcohol and Other Drugs	
PSY	220	Developmental Psychology	
PSY	330	Social Psychology	
PSY	333	Psychopathology	
PSY	335	Deviations of Childhood	
PSY	340	Behavior Modification	
EAS	110	Environmental Science	
NUR	402	Patterns of Emotional Disorders	
EDU	316	Introduction to Learning Disabilities	
EDU	363	Emotional Problems of Exceptional Children	
EDU	368	Introduction to Communication Disorders	
SOC	333	Sociology of Medicine	
THE	122	Contemporary Dance I	

REC 100 Recreation and Leisure Activities

Ballroom Dance; Bicycle Touring; Karate. Two-hour laboratory. 1 credit per activity.

101 Tennis; 102 Volleyball; 103 Wallyball; 104 Racquetball; 105 Lifeline-Walk/Jog; 106 Lifeline-Aerobic Exercise; 107 Lifeline-Aerobic Dance; 108 Lifeline-Aquatics; 109 Lifeline-Weight Training. 1 credit per activity. These courses provide the student with the opportunity to learn and participate in one of the above activities. With reference to the Lifeline fitness activity courses, a student must attend a minimum of 25 class sessions out of a ten-week session.

REC 110 Introduction to Recreation and Leisure Services

Concepts of leisure and recreation and play are covered from historical to contemporary societies. Leisure awareness and all the intricacies of the leisure/recreation experience and how these experiences relate to concepts of time and work are included. Cr 3.

REC 113 Pre-Professional Field Experience

This course will provide students with the opportunity to observe, analyze, and evaluate therapeutic recreation programs in various settings. Students will visit the Center for the Blind, the Baxter School for the Deaf, the Cerebral Palsy Center, two nursing homes, Maine Medical Center's Department of Rehabilitation, and the Woodford's West Educational Center. Written reports on each one of these visitations will be required. In addition, students will be expected to read four articles relating to therapeutic recreation and write summary reports on each of the articles read. Prerequisite: REC 110. Cr 2.

REC 120 Introduction to Therapeutic Recreation and Disabilities

Concentrated study of recreation service to the disabled. Inquiry into the elements of therapeutic recreation and a clinical study of selected disabilities is included. Cr 3.

REC 130 Introduction to Therapeutic Recreation Services

An overview of therapeutic recreation including historical foundations, professional functions, employment opportunities, professional organizations and literature, basic activity classifications, and activity modification principles and techniques. Concentrated study of the elements of therapeutic recreation service stressing rehabilitation, leisure education, and recreation in community and treatment settings. Cr 3.

REC 211 Programming Leadership in Recreation

This course provides the student with the principles of program planning. In particular, the course addresses the process of identifying

the problems that exist in recreation, setting goals and objectives, selecting and implementing the program design, and developing an evaluation procedure. In addition, the student learns many of the detailed technical skills that are essential to achieve positive results in programming. Prerequisite: REC 110. Cr 3.

REC 215 Social Recreation

Practice in leadership and participation in New Games, mixers and ice breakers; board or card games; musical activities, square and folk dance, dramatic activities; tag games and games with balls, special events. Cr 3.

REC 216 Advanced First Aid and Emergency Care

This course will cover the topics prescribed by the American Red Cross in their advanced first aid course, including respiratory emergencies, artificial respiration, wounds, poisoning, water accidents, drugs, burns, emergency childbirth, emergency rescue and transfer, and other topics. Successful completion of the course requirements will lead to advanced Red Cross first aid certification. Cr 3.

REC 217 Small Boat Handling and Seamanship

The objective of this course is to inform the student on all phases of boating. Information of purchasing, annual and continual maintenance, equipment, safety, rules, piloting, and navigation. All of this should insure the student's full enjoyment of this popular recreational pursuit. Two hours lecture. Cr 2.

REC 219 Personal Fitness

This course is intended to help the student understand the basics of health/physical fitness and the importance of it in relation to total lifestyle. In addition to lecture/discussion, all students will go through a fitness evaluation and be expected to attend exercise lab three times per week. Offered both semesters, 90-minute lecture, three hours lab. Cr 3.

REC 221 Audio Visual Aids In Recreation

This course will provide students with basic instruction necessary for the operation of equipment and the development of basic media used in recreation settings. Cr 1.

REC 222 Recreation for Special Populations

An overview of recreation activity classifications and curricula. Examination of activities for special populations including movement and dance, music, drama, arts and crafts, and adapted sports and games. Cr 3.

REC 226 Leadership in Recreation/Leisure Activities

Students will learn a variety of recreation activities through participation. Classroom sessions cover the rules and techniques of the sports as well as efficiency of movement. Cr 3.

REC 230 Methods and Materials in Therapeutic Recreation

Philosophy, motivational techniques, utilization of equipment, methods of instruction, and organizing materials and groups relating to special populations. Prerequisite for associate degree candidates: REC 120. Cr 3.

REC 231 Arts and Crafts for Special Populations

This course will explore and assist students in learning how to make various crafts in a laboratory setting. Examples of crafts that students will be taught to make are hooked rugs, macrame, and other appropriate projects. Prerequisite for associate degree candidates: REC 120. Cr 3.

REC 232 Methods in Therapeutic Recreation Program Design

Emphasis is on the development of specific and individualized recreation programs. Topics include the program design process, unit planning, foundation knowledges, assessment strategies, activity analysis, progress documentation, and evaluation. Prerequisite: REC 130. Cr 3.

REC 233 Environmental Recreation

An overview of basic environmental and outdoor education concepts and teaching strategies. Examination of resource-based recreation activities, outdoor survival skills, and environmental issues as well as participation in selected outdoor recreation activities such as map and compass games, nature photography, lashing, sand painting, bird watching, and fly and spin casting. Cr 3.

REC 235 Recreation and the Disadvantaged

This course explores the leisure lifestyle of persons socially, culturally, and economically disadvantaged, whether in rural or urban environments. Students will participate in a variety of field investigations, lectures, and discussions with the intent of gaining an understanding of the causality while developing skills useful in the enhancement of recreation programming for clients in these settings. Cr 3.

REC 241 Leadership and Supervision in Recreation

This course provides students with a basic knowledge of the theories, supervisory skills, techniques, and specific communication skills for effective leadership and supervision in recreation. Prerequisite: REC 110. Cr 3.

REC 250 Adapted Aquatics

This course is designed for therapeutic recreation majors who are interested in organizing swimming programs for the handicapped and for experienced swimming instructors desiring to update their background in this field. It will offer all the necessary skills and techniques for teaching handicapped people how

to swim and to discover the joys of participating in water activities. Cr 3.

REC 277 Weight Training: An Approach to Strength

Designed for both men and women, this course will examine various methods and routines of weight training for the development of muscular strength, endurance, cardiovascular benefits, and weight control. The course will consist of both theory and practical application. Cr 3.

REC 278 Leisure Programming for Older Adults

Identification, exploration, and study of leisure program content and methodological strategies for older Americans in a variety of settings including multipurpose senior centers, community programs and nursing homes. Programming concerns will be based on and related to an understanding of the biological and psychosocial aspects of the aging process. Cr 3.

REC 279 Health and Fitness for Older Adults

Emphasis throughout this course is on the positive values and benefits of better health and fitness in the development of a high quality lifestyle for older persons. The "cutting edge" of the course is to identify and study all aspects of positive health and fitness as they relate to the aged. Class sessions are organized so that students not only gain theoretical knowledge but also valuable laboratory experiences by working directly with older persons. Cr 3.

REC 280 Physiology of Exercise

Students will gain an understanding of acute and chronic effects of exercise. Muscle physiology, respiration, cardiac function, circulation, energy metabolism, and application to training. Cr 3.

REC 281 Kinesiology

The science of human motion. Human muscular anatomy and applications of concepts of muscle physiology and bio-mechanics of movement. Cr 3.

REC 282 Health and Fitness for Children and Youth

This course is designed to help students understand the changing nutritional and exercise needs of children and youth as they pass through various developmental stages from infancy through early adolescence. Along with fitness development, students will acquire a basic knowledge of nutrition, exercise physiology, and related techniques. Also, some first aid techniques will be included. Cr 3.

REC 283 Exercise Laboratory Evaluation and Techniques

This course is designed to provide hands-on learning relative to the field of physical fitness

screening. Students will spend a majority of class time in a laboratory setting. The course will also cover theoretical information relative to behavior modification, exercise prescription, testing techniques, and other pertinent materials. Prerequisite: REC 219 or REC 280 or permission of the instructor. Cr 3.

REC 290 Organization and Administration of Recreation

This course acquaints students with the need for, and nature of, recreational programs, with special consideration given to skills and techniques necessary to organize and administer recreation programs. Prerequisite: REC 110. Cr 3.

REC 294 Pre-internship

In this course students will develop objectives for Internship (REC 295) and complete all business necessary to secure an Internship placement. This must be taken immediately prior to Internship. Cr 1.

REC 295 Internship

Preprofessional assignment in appropriate recreation settings (e.g., nursing homes for the aged, institutions, agencies, halfway houses, hospitals, parks, camps, playgrounds, schools for the handicapped, penal institutions, and rehabilitation centers). Faculty supervision and guidelines provided. Prerequisite: REC 113, 294, and 30 credit hours. Cr 9.

REC 314 Leisure Awareness Counseling

The intent of this course is for students to study and learn how to help people plan for and find enjoyment in leisure. Theories and techniques of counseling will be included. Students will also study problems which individuals and groups encounter in their search for recreation and leisure experiences which have intrinsic value and give meaning to their lives. Prerequisite: REC 110 or permission of the instructor. Cr 3.

REC 343 Perceptual-Motor Learning

An introduction to motor development and motor learning including psychological theories and implications for skill instruction and research. Cr 3.

REC 370 Therapeutic Recreation and Mental Health

An overview of the concept of mental health and mental health rehabilitation as related to leisure and activities therapy. This course introduces the student to the broad perspectives of leisure in relation to mental health, then focuses upon specific uses of recreation as a behavioral change agent for people with mental health problems. Prerequisites: REC 130, REC 232. Cr 3.

REC 380 Therapeutic Recreation and Physical Disabilities

The psycho-social aspects of physical disabilities with specific reference to planning, im-

plementing, and evaluating leisure activities. Various approaches to human growth and development, and to ways in which experiential exercises will facilitate the learning process. Prerequisites: REC 130, REC 232. Cr 3.

REC 390 Therapeutic Recreation and Developmental Disabilities

An analysis of the motor and psycho-social behavioral dimensions related to developmental disabilities. The specific and direct uses of recreation as a rehabilitation agent will be examined. Classroom and practical exercises will provide experience in supervision and programming techniques. Prerequisites: REC 130, REC 232. Cr 3.

REC 398 Independent Study in Recreation Leisure

This course is intended to provide students with an opportunity to pursue a project independently, to chart a course and explore an area of interest bearing upon it based on previous course experiences. A course outline must be prepared by the student and a final written paper is required. Prerequisite: permission of the instructor. Cr 3.

REC 480 Management and Supervision in Therapeutic Recreation

An overview of management roles in therapeutic recreation settings with major focuses on comprehensive program development, supervision of professional and volunteer personnel, policy and strategy development and quality assurance. Each student is required to develop a comprehensive program and policy manual. Prerequisite: REC 495. Cr 3.

REC 490 Senior Seminar in Therapeutic Recreation

Small-group research and discussion of selected health and rehabilitation related issues which can affect the delivery of therapeutic recreation services in community and treatment settings. Students will be required to view their discipline of study through the examination of the research and literature of other disciplines. Included will be the opportunity to evaluate critically the therapeutic recreation curriculum. Prerequisites: REC 494, REC 495. Cr 3.

REC 494 Pre-internship

In this course students will develop objectives for Internship (REC 495) and complete all business necessary to secure an Internship placement. This must be taken immediately prior to Internship. Cr 1.

REC 495 Internship

This course is to be taken by recreation majors in the senior year. Students are required to work a minimum of 35 to 40 hours a week at a camp, recreation department, school, agency, hospital, institution, or nursing home for a period of 15 weeks. Students will be directly

supervised by agency personnel who are leisure service professionals. Students will be indirectly supervised by a University supervisor who will visit them and evaluate their performance with input from the agency

supervisor. During Internship, students will be required to write reports and complete projects as part of their duties. Prerequisite: REC 494. Cr 9.

Division of Off-Campus Instruction and Academic Support

Director: John W. Bay

Director, Off-Campus Centers and Instructional Delivery: Kathleen H. Bouchard; *Coordinator, Saco-Biddeford Center:* Nate Greene; *Director, Sanford Center:* Lorraine Masure; *Director, Bath-Brunswick Center:* Dennis Hatch; *Director, Learning Assistance and Computer Assisted Instruction:* Robert Lemelin; *Assistant Director, Learning Assistance and Computer Assisted Instruction:* Carl Helms; *Program/Production Coordinator, USM Television:* Caroline Hendry; *Productions Director, USM Television:* Arthur Anderson; *Administrative Manager, USM Television:* Ann Clarey; *Television Technical Operations Specialist:* Forrest Spaulding

The Division of Off-Campus Instruction and Academic Support, a unit of the University established in 1973, has responsibility for offering courses and administering associate degree programs at a number of off-campus locations in southern Maine as well as delivering courses via television. The Division sponsors or co-sponsors off-campus centers in Bath-Brunswick, Saco-Biddeford, and Sanford. Each of these centers offers comprehensive academic counseling and other student services to assist students who wish to take courses or to pursue associate degree programs. Also available are selected courses that meet the needs of baccalaureate students.

Instructional Television (ITV)

Beginning in September 1984, credit courses were offered for the first time on the University of Southern Maine's Instructional Television (ITV) system. Courses are offered "live" on color television through a system which simultaneously connects classrooms at the Gorham and Portland campuses and off-campus centers in Sanford and Saco-Biddeford. Students at each location are able to hear and see the class in session and, using a specially developed microphone system, they are able to talk to the instructor during class.

Information about the ITV system may be obtained by contacting the Division of Off-Campus Instruction and Academic Support.

Programs of Study

Associate Degree Offerings

Through the Division of Off-Campus Instruction and Academic Support, students may pursue a variety of associate degree programs at locations that are geographically convenient. Specific degree offerings include:

Liberal Arts (A.A.)

Business Administration (A.S.)

General Admission Requirements: Students desiring to pursue any associate degree program through the Division of Off-Campus Instruction and Academic Support are required to meet the admissions requirements as outlined under the specific degree program. Students questioning their qualifications should contact an academic counselor at the off-campus center of their choice to discuss possible alternatives.

Changing to a Baccalaureate Degree Program: Students desiring to change to one of the University's baccalaureate degree programs are advised to consult with an academic counselor regarding the process and the applicability of coursework toward their intended program.

Learning Assistance

The Learning Assistance Program provides students with developmental instruction designed to help them achieve proficiency in writing (ENG 009) and in mathematics (MAT 009) and in critical reading (RDG 009). In addition, tutorials, consultation in developmental skills, and academic skills-building workshops are also offered.

Off-Campus Centers

The Division of Off-Campus Instruction and Academic Support administers University courses and programs at three off-campus centers, Bath-Brunswick (a cooperative program with the University of Maine at Augusta), Saco-Biddeford, and Sanford. Each center offers geographical convenience and personal attention. A comprehensive array of services, which includes registration for and information about all campus programs, as well as admissions, financial, and career and academic counseling, is offered. Courses such as computer science, theatre, geology, economics, accounting, as well as many others are offered which meet the requirements for associate and baccalaureate degree programs. Also available is a program in writing and mathematics designed to meet the needs of those students who wish to strengthen their skills in these areas. Courses are offered both in the day and evening to accommodate the various schedules of students.

Bath-Brunswick Center

The University of Maine at Augusta and the University of Southern Maine (through the Division of Off-Campus Instruction and Academic Support) coordinate course offerings at the Bath-Brunswick Center. USM degree program offerings include an associate degree program in business administration. Those desiring information about counseling services, financial aid, courses, and degree programs should contact: Bath-Brunswick Center; 275 Bath Road, Brunswick, ME 04011; (207) 442-7070.

Saco-Biddeford Center

Located at Saco Island, the Saco-Biddeford Center offers courses carefully selected to fit program requirements for the Core curriculum and for completion of associate degrees, as well as some selections from a variety of baccalaureate programs. All courses are held on site with library resources available at nearby Dyer Library. In addition, a full range of student services is provided. For more information about programs, financial aid, or other academic counseling services contact: Saco-Biddeford Center; 2 Saco Island, Suite 101, Saco, Maine 04072.

Sanford Center

The University, through the Sanford Center, offers associate degree program opportunities in liberal arts and business administration. Persons interested in more information in areas such as academic advising, admissions, financial aid, registration or career counseling should contact: Sanford Center; 72 Pleasant Street, Springvale, Maine 04083; (207) 324-6012.

Programs and Requirements

Liberal Arts

This associate degree program is offered in conjunction with the College of Arts and Sciences. Graduates may change to a baccalaureate degree program with a maximum transferability of credits.

Admission Requirements: Admission is based upon the candidate's academic background and is consistent with admission requirements for the University's baccalaureate programs in the College of Arts and Sciences. Details of this program may be found on p. 53 of this catalog.

Business Administration

The associate degree program in business administration is offered off-campus in conjunction with the School of Business, Economics and Management and is designed to serve two purposes: to prepare students who wish to complete their education in two years for employment in junior management positions in several different careers, and to provide a sound foundation for those students who perform well and who wish to transfer to a baccalaureate program in business administration at this University or another institution.

While the program emphasizes business, it contains liberal arts courses including composition, fine arts, social sciences, humanities, and mathematics. Concentrations within the associate program offered off-campus include accounting and business administration.

Admission Requirements: Any high school graduate may apply for admission to the associate degree program. A college preparatory background is not necessary. On their application, students should specify the associate in business administration program. Details of this program may be found on p. 177.

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ENG 009 Developmental English

This course is designed to help students who need to develop proficiency to enter ENG 100, College Writing. ENG 009 is taken on a pass/fail basis. Credit earned in ENG 009 does not apply or accumulate for any degree program at the University of Southern Maine. Cr 3.

ENG 019 Written Business Communication

Training in the writing of effective business reports, letters, and related material. Cr 3.

FRS 100 Freshman Seminar

An orientation to the University emphasizing its purpose, programs, and services. Basic academic skills, expectations, career planning and other topics will be covered. This course may be counted for elective credit only. Enrollment open only to freshmen with less than 25 credits. Cr 3.

MAT 009 Developmental Mathematics

A review of fundamental topics of arithmetic needed prior to a study of algebra. Topics include properties of whole numbers, place value, perimeter, area, volume, average, percent, graphs, proportion, exponents, solving word problems and equations. Credit earned

in MAT 009 does not apply or accumulate toward any degree program at the University of Southern Maine. Cr 3.

MAT 010 Elementary Algebra

The first course of a two-course sequence designed for students who are deficient in high school algebra. Topics covered include number systems, functions, graphs, the solution of equations, and the solution of problems with a business orientation. No prerequisites. Associate degree credit only. Cr 3.

MAT 011 Intermediate Algebra

A continuation of MAT 010. Prerequisite: MAT 010 or one year of high school algebra. Associate degree credit only. Cr 3.

RDG 009 Developmental Reading

This course provides opportunities for students to develop the critical reading skills needed at the college level. Students must demonstrate skills' mastery at the end of the course. This course may be taken on a pass/fail basis. Credit earned in RDG 009 does not apply or accumulate for any degree credit at the University of Southern Maine. Cr 3.

Reserve Officers Training Corps

Professor: Lieutenant Colonel Gary S. Willison (U.S. Army)

Army ROTC Army ROTC offers male and female students of the University an opportunity to earn a commission in the United States Army while pursuing a bachelor's degree. Students register for military science courses as part of their regular undergraduate curriculum. For information, contact the ROTC office at 780-5255 or visit the office at 51 College Avenue, Gorham campus.

The Army ROTC program consists of a basic course and an advanced course. Normally, the basic course is taken during the student's freshman and sophomore years. However, other students may enroll in the basic course by receiving permission from the professor of military science. Students who have received previous military training (veterans, military academies, Junior ROTC, etc.) may be granted credit for the Basic Course or portions thereof as determined by the professor of military science. ROTC Basic Camp may be taken in lieu of the Basic Course as outlined in the course descriptions.

Students who complete or receive credit for the basic course may apply to the professor of military science for admission to the advanced course. If admitted the student receives \$100 per month during his/her junior and senior years. Students who complete the advanced course are appointed second lieutenants in the United States Army, and can be commissioned in the National Guard, the Army reserve, or the active Army.

Scholarships Army ROTC scholarships for 2 and 3 years are available on a competitive basis. The scholarships are awarded annually. They defray the cost of tuition, books, lab fees, and school supplies. You can receive more information on these scholarships by calling 780-5255 or by visiting the ROTC office at 51 College Avenue, Gorham campus.

The Basic Course Army ROTC

To complete the basic course, the student must complete the core curriculum or the student must complete ROTC Basic Camp (MIS 229). The core curriculum consists of MIS 111, 112, 221, and 222. The student may enter the basic course by taking any of the courses listed below, provided the course is listed in the schedule of classes for the semester concerned.

MTL 000 Leadership Laboratory

Leadership Lab is a requirement for all ROTC cadets. The purpose of Leadership Lab is to provide an environment wherein cadets can develop and improve their military leadership skills. Counseling and periodic evaluation of cadet performance are the primary methods used. (In case of class conflicts, an alternate Leadership Lab will be arranged to meet student requirements.) Cr 0.

MIS 111 Introduction to ROTC and the U.S. Army

The purpose and organization of the ROTC Program. The role of officers. The development of military customs, courtesies and traditions. An overview of the defense establishment is presented. The importance of

the Reserve Components (U.S. Army Reserve and Army National Guard) is outlined; the future direction of the U.S. Army is discussed. Student participation in Leadership Laboratory is required. Cr 1.

MIS 112 National Security

Soviet and United States principles of war are presented. Technological advances are highlighted and their influence on warfare. The organization of the U.S. Army and the national defense structure are discussed. Factors and instruments of national power and the attainment of national objectives. Participation in Leadership Laboratory is required. Cr 1.

MIS 221 Map Reading and Squad Tactics

Reading and interpreting maps and aerial photographs is taught. Marginal information, map grid coordinates, scale and distance, directions, use of the compass, intersection/resection, elevation and relief, GM angle, and map substitutes are a part of the map reading instruction. Squad organization, movement techniques, and actions are taught and practiced in a field environment. Student participation in Leadership Laboratory is required. Cr 2.

MIS 222/HTY 349 American Military History
Development of the United States military system from colonial times to present. Examination of the principles of war and how they impact on military organizations and tactics are discussed. Student participation in Leadership Laboratory is required. Cr 2.

MIS 229 ROTC Basic Camp

A six-week summer camp conducted at Fort Knox, Kentucky. The student receives pay, and travel costs are defrayed by the Army. The environment is rigorous, and is similar to Army Basic Training. The training includes the role and mission of the U.S. Army, map reading and land navigation, first aid, marksmanship, leadership, physical training, drill and parades, and tactics. Completion of MIS 29 satisfies all basic course requirements. Six different cycles offered during the summer. Basic course applicants are accepted during the spring semester. Students apply for enrollment to

the professor of military science. Selection for attendance is based on qualifications and merit. Cr 6.

MIS 331 Leadership

Exposure to the branches of the Army. The development and conduct of military instruction is outlined. Exposure to the various leadership theories and to the leadership environment are discussed and experienced. Fundamentals of leadership, human behavior, communication, and contemporary human problems are reviewed and practiced. Student participation in Leadership Laboratory is required. Cr 3.

MIS 332 Advanced Tactics

Exposure to military equipment and military tactics at the squad, platoon, and company level. Advanced Camp prerequisites are completed. Student participation in Leadership Laboratory is required. Cr 3.

The Advanced Course

The courses listed below are required for completion of the advanced course. In addition, students are required to attend a six-week ROTC Advanced Camp at Fort Bragg, North Carolina between their junior and senior year. In exceptional cases, ROTC Advanced Camp may be deferred by the professor of military science until the student completes the senior year. Selected students may attend Ranger School in lieu of ROTC Advanced camp.

MIS 441 Military Management

Students are exposed to military law. An analysis of legal problems facing small unit leaders is conducted. The Code of Conduct, management theory, motivation theory, training, personnel, and logistics management practices are taught. Management by Objective (MBO) and Organizational Effectiveness (OE) theories are discussed. A framework of ethical actions are discussed and practiced. Student participation in Leadership Laboratory is required. Cr 3.

MIS 442 Operations Seminar

Students are exposed to larger unit operations at the brigade and battalion level. The

sequence of command and staff actions and the problem-solving process are taught. The organization of the division, the brigade, and the battalion is outlined. Preparation of combat orders is taught and practiced. A discussion of current military problems in the leadership/management area is conducted. Student participation in Leadership Laboratory is required. Cr 3.

MIS 499 Independent Study

A concentrated program of research or study on a particular subject of the student's selection. The topic will be chosen with the advice and under the guidance of a faculty member. Cr 1-6.

Special Courses

Special courses are available to individuals in the ROTC program on a competitive and voluntary basis. Those courses are: Airborne School, Ranger School, Air Assault School, the Northern Warfare Training School, and Jungle School. Information on these courses is available through the Army ROTC office. Cr 0.



Graduate Programs

Associate Provost: David L. Silvernail, Office of Graduate Affairs, 100 Payson Smith, Portland, 780-4386

The following graduate programs are available at the University of Southern Maine. The programs are described in detail in the Graduate Catalog.

School of Applied Science: Computer Science; Applied Immunology; and in cooperation with the University of Maine in Orono: Electrical Engineering. *College of Arts and Sciences:* New England Studies, Statistics. *College of Education:* Adult Education, Counselor Education, Educational Administration; Exceptionality; Instructional Leadership, Reading; School Psychology. *School of Business, Economics and Management:* Business Administration; *School of Nursing:* Nursing; *Inter-College Program:* Public Policy and Management; *University of Maine School of Law:* Law (Juris Doctor)

School of Law

Dean: L. Kinvin Wroth; *Associate Dean:* David P. Cluchey

Professors: Carson, Cluchey, Delogu, Friedman, Gregory, Kandoian, Lang, Loper, Potter, Rogoff, Ward, Wroth, Zarr; *Associate Professors:* Brett, Mullane; *Visiting Associate Professors:* Khoury, Soifer; *Lecturers:* Allen, Beirne, Frank, Harnish, Patterson, Priest, Sheppard, Wessler; *Adjunct Professors:* Coffin, Godfrey, Rieser, Wernick.

The University of Maine School of Law is a small school that has long offered a high quality of legal education to a carefully selected student body. With a fine faculty, excellent library resources, and a nationally oriented curriculum strong in basic legal courses, the Law School takes pride in educating men and women who will become capable and motivated attorneys.

The academic program is rigorous and demanding. Thanks to the School's size, however, its students have the benefit of small classes, frequent and informal contact with the faculty, and a friendly atmosphere. These factors do much to ease the strains attendant upon entry to an exacting profession.

The School averages 75-80 students per class, of whom approximately 40 percent are women; the number of students in the School is about 210, making it one of the smallest in the country. The student body is remarkably varied in age, professional and academic experience, and background.

The School's faculty consists of 16 full-time and a number of part-time instructors. It is drawn from many specialties and represents a diversity of backgrounds and interests.

The School is fully accredited by the American Bar Association and is a member of the Association of American Law Schools.

Established at Portland in 1961, the Law School is the successor to the University of Maine College of Law which existed in Bangor from 1898 to 1920. It is an administrative unit of the University of Southern Maine, but has responsibilities to the statewide University system. The school is located in a modern building, fully accessible for handicapped students, that provides excellent facilities for classroom and seminar discussion, library research, moot court participation, clinical practice, legal publications, and student activities. The Law School shares the building with the University of Southern Maine's Center for Research and Advanced Study and the University administration.

Summer Session

Director: Susan M. Silvernail

Assistant Director: Rosa S. Redonnett

During the summer the University offers over 300 credit and noncredit courses, and a number of institutes and programs. The Stonecoast Writers' Conference, an Elderhostel program, economic education institute for the classroom teacher, and a music camp for talented high school musicians represent just a few of the many programs available for people of all ages. Over 8,000 people attend summer conferences held in University facilities, in addition to the 3,000 students who enroll in academic courses. Cultural events such as musicals, concert series, and poetry readings are also featured. Classes are held days and evenings in several schedule formats. The campus offers residence hall accommodations and meals at reasonable rates. Child care is also available for faculty, staff, students, and conference participants.

For further information, contact the Summer Session Office, University of Southern Maine, 106 Payson Smith, Portland, Me. 04103 or telephone 780-4076.

Center for Research and Advanced Study

Director: Robert J. Goettel

The purpose of the Center for Research and Advanced Study is to contribute to the development of Maine's economic, social, and environmental well-being through applied research and advanced study. The Center serves and assists governments, industries, institutions and the people of Maine to solve policy, operational, organizational, and employee problems. The staff of the Center and associated faculty work in interdisciplinary teams to address issues related to economic development, the formation and management of business enterprises, health and human services, education, marine resources, and state and local government. Since the Center's inception in 1972, projects have been supported by numerous state and local agencies in Maine, other New England states, the federal government, private foundations, and the business community.

Staff of the Center come from a wide range of research and leadership roles in state, local, and federal governments, private business, not-for-profit organizations and institutions, research and development organizations, and university appointments. The academic fields in which Center staff have been trained include economics, sociology, psychology, political science, business administration, public administration, law, education, health, social work, communications, and counseling.

The Center for Research and Advanced Study is organized in four co-operating institutes.

Human Services Development Institute

Acting Director: Andrew F. Coburn

The Human Services Development Institute's (HSDI) research program focuses on policy, research and analysis, and technical assistance to improve the effectiveness and efficiency of public and private human service systems. Health care; services for children, youth, aging and families; special needs of the handicapped; and alcoholism are among the areas targeted for research and technical assistance. Interdisciplinary teams are assembled to

carry out activities supported typically by state and federal grants and contracts. HSDI has developed special expertise in program evaluation, research policy analysis, financial and cost analysis, data and information management, and human services management training.

Marine Law Institute

Director: Alison Rieser

The Marine Law Institute is committed to research and education in the field of coastal and ocean resource law and policy. Its research considers interjurisdictional problems in marine resource management, the use of scientific knowledge in marine law, and issues affecting the resources of the Gulf of Maine. The Institute is jointly sponsored by the University of Maine School of Law and the Center for Research and Advanced Study. It is a component of the Center for Marine Studies of the University of Maine. Its policy research and educational projects are supported by grants and contracts from government agencies and private foundations. The quarterly publication, *Territorial Sea*, is partially supported by subscribers.

New Enterprise Institute

Director: Richard J. Clarey

The New Enterprise Institute was formed in 1974 as a business development and research project in the Center for Research and Advanced Study. Supported by both public and private sources, the New Enterprise Institute operates a Technical Assistance Center which provides technical and other types of assistance to jurisdictions and organizations in the state. NEI also engages in applied research activities directed at supporting local, regional, and state economic development strategies.

Small Business Development Center

Director: Warren G. Purdy

The Small Business Development Center was established in 1977 to help strengthen the economy of Maine by providing assistance to small business through the development and implementation of counseling, training, and information services. One-on-one counseling for small business owners/managers is offered covering a wide range of topics from organization and planning to marketing and management. Training programs are designed to increase the practical business knowledge and skills of business owners/managers. A comprehensive business reference library is staffed with a full-time information specialist to provide business information services. On a statewide basis, management assistance is also provided in the areas of computerized loan packaging and government procurement. The SBDC is a partnership of the U.S. Small Business Administration, the State Development Office, the University of Southern Maine, and local sponsoring organizations.

In addition to the four institutes the Center for Research provides research and development services in several program areas including economic studies and organized camping.

Division of Public Service

Director: William G. Mortensen

Assistant to the Director: Ellen M. Corkery

The Division of Public Service is responsible for the development, coordination, and support of the University's noncredit programs. It offers a wide range of noncredit activities to meet the professional and personal needs of the residents of southern Maine. During 1985-1986, over 50,000 persons participated in conferences, seminars, workshops, short courses, and certificate programs sponsored by the Division.

CEU Award System The Division administers the Continuing Education Unit (CEU) Award System. The CEU is a nationally accepted unit of measurement applicable to noncredit continuing education. CEU courses are generally designed for a specific audience and are often used for professional development in a particular industry or profession. The CEU permits the individual to participate in many kinds of programs while accumulating a uniform record available for future reference. One CEU is awarded for 10 hours of participation in an approved program of continuing education.

The following information indicates the variety and scope of the University's noncredit activities. Specific inquiries about these programs should be directed to the appropriate department. General inquiries should be directed to the Division of Public Service at 68 High Street, Portland, Maine 04101, 780-4030.

Department of Continuing Education for Business

Director: Donald J. Clark

The Department of Continuing Education for Business (CEB) assists southern Maine employers by offering a variety of seminars, courses, and programs to meet identified needs. Through its program advisory groups, the department involves business and industry representatives in the planning, implementation, and evaluation of its offerings. Those individuals represent nearly all sectors of the regional economy as well as small, medium, and large firms.

CEB's instructional staff consists of faculty and staff from USM and individuals from business and industry. The expertise represented by these extensive resources covers nearly every potential topic of interest to area organizations.

All offerings of the department are noncredit and carry CEUs when they meet the requirements of certificate programs.

Representatives of business, industry, and nonprofit organizations desiring more information about the department's programs or services should contact Department of Continuing Education for Business, University of Southern Maine, 68 High Street, Portland, Me. 04101; telephone 780-4092/93.

Department of Conferences

Director: Kevin P. Russell

Assistant Director: Kathleen LeBel; *Conference Coordinator:* Cynthia M. Stocks

The Department of Conferences provides planning and coordination to University and community groups and organizations wishing to use the University's conference facilities and services. The Department occasionally provides workshops and seminars which bring together qualified individuals to share new information and ideas, upgrade professional skills, or to impart new techniques.

The Department's conference planning and management services are extended to professional and trade associations, government agencies, private business and community groups and organizations. Programs can be conducted on either campus, or off-campus wherever an appropriate meeting site can be arranged.

An experienced conference staff is available to plan, coordinate, and facilitate the delivery of programs of virtually any size or duration. By using the University's conference services, the program initiator is free to concentrate fully on program content.

During the summer and, to a lesser extent during the academic year, the University's classrooms, auditoriums, recreational facilities, and dining services are available for use by conference groups. Residence halls are also available for housing during the period mid-May to end of August. All meetings are within easy reach of major educational facilities on both campuses. Two libraries allow conference participants ready access to reference materials. The University also maintains two well-equipped audio-visual departments, as well as a print shop.

Conference fees are determined by the Department of Conferences with the assistance of the conference sponsor's planning committee. While program costs will vary with the number of participants, duration of program, and special requirements, program fees are kept reasonable by utilizing University facilities and services whenever possible. The staff prepares a budget for each conference or workshop and presents to the sponsor a financial statement at the successful completion of the program.

Each summer the Department of Conferences offers a number of camps for junior and senior high school age students. Offerings for the summer include Soccer School, "SWISH" Basketball Camp, "STIX" Field Hockey Camp, Southern Maine Music Camp, and the Ten-O Gymnastics. The Department also offers Elderhostel each summer for people over 60 years of age.

For information about these and other conference services at USM please call 780-4074.

Department of Continuing Education for Nursing and Health Professions

Director: Mary Ann Rost

The Department of Continuing Education for Nursing and Health Professions develops, offers, and evaluates noncredit programs in a variety of formats to meet the learning needs of nurses and other health professionals at locations throughout the state of Maine. Programs offered by the Department are held at college campuses, in health facilities, and other appropriate locations and include workshops, seminars, conferences, and courses. Programs are available either on a fee basis or through specifically designed contracts with health care agencies.

Programs offered by the Department of Continuing Education for Nursing and Health Professions are conducted in cooperation with health agencies, health care officials in the state of Maine, or at the request of a group or individual. Examples of groups served are: nurses, pharmacists, dieticians, physical therapists, occupational therapists, and social workers.

All programs are awarded CEUs and are approved by professional associations including The Maine State Nurses Association, and Maine Commission of Pharmacy. The following are examples of programs recently offered by the Department: The Annual Nurse-Pharmacist Conference; Physical Assessment Skills; Families in Crisis; Clinical Update for Nutritionists.

Department of Community Programs

Director: Joanne Spear

Assistant Director: Nancy Viehmann; *Program Specialist:* Marc Levesque;
Administrative Staff Associate: Lucille Sheppard

The Department of Community Programs offers a wide range of programs including professional development in selected areas, personal enrichment, and career and skill enhancement. Community Programs are generally designed for adults with full-time home and career responsibilities who desire practical courses which meet a specific need and which are offered at convenient times.

Courses are taught by instructors who are recognized experts in their fields. Instruction is usually designed so that participants can apply the knowledge and skills obtained to their specific situation.

Because of the rapidly changing programs within the personal enrichment category, only professional certificate programs are described in this catalog. Please contact the Department of Community Programs at 780-4045 for specific information regarding programs and courses of study in both categories.

Personal Enrichment Areas of Study: finance and investment; community leadership; interpersonal skills; creative skills; self-help; arts; parapsychology; women's issues.

Certificate Program for Legal Assistants This paraprofessional program will provide a sequence of training leading to a certificate in the broad range of legal services known as general practice.

The Legal Assistant Program is designed primarily for part-time students and courses are offered either twice a week in the evenings or in a one- or two-day seminar format.

Those wishing to obtain the certificate must apply for acceptance to the program and meet admission requirements. Only accepted candidates will be allowed to enroll in courses. The curriculum includes the following courses.

Level I: Introduction to Law and Paralegalism; Legal Research and Source Materials; Litigation; Estates, Wills and Trusts; Real Estate; Business Organizations; Bankruptcy/Secured Transactions; Domestic Relations; Legal Writing; Computers in the Law Office. Required seminars: Orientation to the Legal Assistant Profession, Interpersonal Skills and Interview Techniques.

Follow-up courses may be offered on a demand basis. Internships are also available with the approval of the Program Coordinator.

Computer Resource Center The department established the Computer Resource Center in the spring of 1985 to enhance and expand its existing computer courses to better accommodate needs of new and experienced personal computer users. The Computer Resource Center is equipped with IBM PC-compatibles. Participants in the Center's programs get hands-on experience with personal computers in order to become quickly familiar with a variety of business software and gain practical, usable skills. The courses offered use a "Computer Driver's Education" approach which allows people to use computers, much as they use automobiles, to accomplish a goal, rather than become experts on the computer's architecture. In addition to providing a variety of courses, the Center can design and deliver custom training programs to business on a contract basis.

Certificate Program for Personal Computer Coordinators This program is designed to prepare and support individuals in the new role of in-house PC coordinators. The core of this one-year program centers on the role of the PC in office productivity and management information systems. Required courses include: advanced work in spreadsheet, database, word processing and project management, software, maintenance and interfacing, and disk operating systems. Courses on designing and initiating in-house consultation and training programs are also required. Seminars focus on the role of the coordinator, policy development, and future developments in the personal computer field. Each student will be required to complete a project under the supervision of an advisor. Some previous computer experience is helpful but not required.

Applicants for the program must meet admission requirements.

Lifeline Program

Director: Robert Folsom

Assistant Director: Thomas Downing; *Acting Admissions Coordinator:* Peter Allen; *Exercise Specialists:* Len Jordan, Jerie Schroeder, Nick Branch, Gabe Williamson; *Medical Director:* Peter K. Shaw, M.D.; *Head Lifeline Nurse:* Claire Berg

The Lifeline Adult Fitness Program is a comprehensive approach to total fitness through various programs of prevention, intervention, and rehabilitation. Members of the University community and the Greater Portland community participate in numerous Lifeline activities.

Lifeline also promotes adult learning through noncredit courses in stress management, smoking cessation, and nutrition/weight control. All Lifeline activities are designed to promote positive healthy lifestyles through education, exercise, and recreation. Many of the fitness activities require medical clearance. Application to all programs should be made well in advance. All inquiries are welcome at 780-4170.

Admissions Process As part of the initial entry into most Lifeline programs each person participates in a comprehensive admissions process. This includes exercise counseling, health risk appraisal, a full fitness evaluation including treadmill, and computerized exercise prescription. This experience is designed to meet the individual needs of the participants as they prepare to enter a formalized exercise program.

Aerobics Program

Walk/Jog is a program designed for the sedentary person who, for one reason or another, is not in good physical condition. It is essentially a routine of walking/jogging, calisthenics, stretching, and relaxation techniques. Exercise begins slowly and progresses each week. At the end of ten weeks, one may elect to go into the intermediate program.

Aerobic Exercise is a comprehensive exercise program consisting of aerobic conditioning, muscular endurance and toning, postural flexibility, and relaxation. Floor exercises done to contemporary music make up the aerobic portion of the classes. Various relaxation techniques are utilized at the end of each class.

Aquatics is a cardiovascular exercise program for those who prefer swimming. Non-swimmers may also participate, as many of the exercises can be performed in the shallow end of the pool. A combination warmup/water calisthenics routine is followed by a peak exercise period where heart rates are elevated to improve cardiorespiratory endurance. The exercise session will end with a cool down period of slow walking and swimming and final stretch downs on the pool deck.

Aerobic Dance is a choreographed exercise program focusing on aerobic conditioning, muscular endurance, postural flexibility, and relaxation. Simple dances ranging from slow stretching warm-ups to strenuous rhythmical routines are followed by mat work to improve muscle tone, strength, and flexibility. The program develops proper body alignment and maximum range of motion. The final movements of each class are devoted to explore various relaxation techniques.

Beginner Fitness is a basic exercise program for men and women. It includes components of light aerobics, flexibility and postural exercises, and relaxation techniques. A good program for individuals with little or no previous exercise habits.

Bodyshop helps people improve their posture and strength in a supervised program of weight training. A complete assortment of weight training equipment is available including Nautilus, Universal, and free weights. The Bodyshop Program is a sensible approach to progressive resistance weight training for improving body tone, muscular strength, power, and endurance. Individually prescribed programs of exercise are designed to meet the particular goals and needs of each participant.

Employee Wellness can assist a company in the development, implementation, and evaluation of multi-faceted programs based on the needs of both the company and its employees. Such tools as corporate health profiles, employee needs assessments, and health risk appraisals are available to aid in this process. Employee health/fitness programs can be instituted at both large and small companies.

Senior Lifeline is designed for persons over 60 years of age, including those who require a low level of exercise. Cardiovascular conditioning, determined by individual age-predicted heart rates, includes stationary bike riding, walking, or a combination of walking and jogging. Emphasis is placed on flexibility and postural muscle strength, accomplished through slow stretches and muscular improvement of specific muscle groups. Senior Lifeline should be considered a maintenance exercise program where individuals progress at their own rate.

Heartline is a program of cardiac rehabilitation for post-coronary and high risk individuals. This is a physician-supervised class, utilizing walking, jogging, and swimming to recondition persons who need close supervision while exercising. All participants must be referred to Heartline by their personal physician. While Heartline provides medical supervision during the exercise session, it is not intended to replace the role of the primary physician. Throughout the program, periodic reports are sent to the primary physician and all significant events are promptly reported. Heartline is intended to improve communications between the participant and his or her personal physician. All necessary forms are provided by the Heartline office. All participants must enter the program at the start of a new session.

Pulmonary Rehabilitation is a comprehensive program of exercise, education, and proper medical management for patients with chronic obstructive pulmonary disease. This is accomplished by increasing their awareness of their disease and its management, and through participation in a progressive cardiopulmonary exercise program, thereby enabling adaptation to improve lifestyles. Participants are enrolled in the program only after referral from their primary care physician.

Love Your Back is a six-week program consisting of progressive low-level exercise routines combined with periodic educational sessions. Emphasis is placed upon the improvements of postural and muscular strength and endurance, body flexibility, and relaxation techniques. Along with the exercise sessions specific time is devoted to topics relating to low back problems. Such items as body anatomy and physiology, causation factors, body mechanics, and nutrition will be integrated into the ten-week program. Medical clearance is required for all participants regardless of age. Appropriate medical forms will be provided for your physician to sign.

Youth Weight Training/Conditioning Program is a supervised training program for boys and girls 14 to 17 years of age. Courses are offered throughout the year utilizing the Lifeline Bodyshop. The program is designed to teach proper conditioning values and techniques; increase muscular strength and endurance; increase flexibility; and increase cardiovascular conditioning.

Lifeline Leisure Learn Program provides recreational, group, or individual activities, leagues, clinics, and physical fitness opportunities for its members. Lifeline Leisure Services offers a variety of courses including Yoga, Tai Chi, Aikido, Eastern exercise and relaxation, racquetball instruction, Shiatsu, a Wellness Weekend, and others. Goals of this component are threefold: (1) to engage each participant in a challenging physical or intellectual experience; (2) to create an atmosphere conducive to free exchange of ideas and a close association with other participants and staff; and (3) to provide an opportunity for participants to have fun and relax while learning.

Lifeline Lifestyle Courses

Stress and Lifestyle is a six-week course which deals with stress theory and management. Physical, psychological, and socio-cultural dimensions of stress will be discussed. Methods of stress management will be presented for discussion and experimental involvement. Topics will include relaxation training, aerobic exercise, and personality factors.

Weight Wise is a nine-week course using a many-sided approach to weight reduction. The primary emphasis is on the individual identification and solution to problem eating behaviors which may lead to or maintain overweight conditions. Proper nutrition and eating plans are emphasized and developed for participants, along with discussion on the value and myths of exercise.

No-Smoking—"I Quit" This course, offered for five weeks, is designed to assist the smoker in making the decision to stop smoking and does not offer false hopes of 100 percent success. The primary purpose is to help the smoker identify reasons for smoking and through group support make some decisions about possibly stopping.

Note: Certain Lifeline programs may be taken for academic credit. Information on these courses may be found in the course registration outline.

University of Southern Maine Alumni Association

Director: Anne M. Theriault

The University of Southern Maine Alumni Association enrolls more than 20,000 active members representing alumni of Gorham Normal School, Gorham State Teachers College, Portland Junior College, Portland University, University of Maine in Portland, Gorham State College, Gorham State College of the University of Maine, University of Maine at Portland-Gorham, and the University of Southern Maine.

The Association is governed by a 16-member Board of Directors and a 30-member Advisory Council.

The Alumni Association of USM works to expand the tradition of service both to the alumni and the USM community, carrying on a tradition established some years ago at the Gorham campus, and more recently at the Portland campus. Students are urged to visit the Alumni House and to get acquainted with the people and programs of the Alumni Association before graduation. All students, as well as former students, are cordially welcomed.

The Alumni Office is located in the Alumni House on the Portland campus. The land surrounding the Portland campus was first cleared for settlement during the lifetime of George Cleeves, who obtained it from Sir Ferdinando Gorges in 1637. Two of Portland's bloodiest Indian forays took place within a gunshot of this site. Eventually the land, known as the Back Cove Farm, was transformed into a businessman's country estate under the ownership of James Deering in 1802. The land was acquired in 1946 for Portland Junior College, a predecessor to the University of Southern Maine, and the Alumni House is now the only remaining building of that original property.

Administration of the University of Southern Maine

Administrative Organization as of June 1, 1987

President: Patricia R. Plante, 228 Deering Avenue, Portland tel: 780-4480

Provost: Helen L. Greenwood, 228 Deering Avenue, Portland tel: 780-4485

Executive Assistant to the President: William B. Wise, 228 Deering Avenue, Portland tel: 780-4482

Executive Director for Financial Resources: Samuel G. Andrews, 11 Granite Street, Portland tel: 780-4484

Executive Director for Human Resources: Beth I. Warren, 102 Corthell Hall, Gorham tel: 780-5486

Executive Director for University Relations: Alyce S. O'Brien, 209 Deering Avenue, Portland tel: 780-4440

Administrative Offices Serving Students

Admissions

Dennis P. Farrell, Director

Advising and Academic Information

Richard H. Sturgeon, Director

Alumni Association

Anne M. Theriault, Director

Applied Science, School of

Brian C. Hodgkin, Dean

Arts & Sciences, College of

Stephen J. Reno, Dean

Athletics

Richard A. Costello, Director

Business, Economics and Management, School of

Richard J. Clarey, Dean

Business Office

William B. Bullock, Business Manager

Child Care Services

Stephen F. Lehane, Director

Counseling & Career Development

Ira Hymoff, Director

Education, College of

Dorothy D. Moore, Dean

Educational Media Service

Ronald W. Levere, Director

Educational Services

John Keysor, Dean

Financial Aid, Student

Richard R. Campbell, Director

Graduate Affairs, Office of

David L. Silvernail, Associate Provost

Law, University of Maine School of

L. Kinvin Wroth, Dean

Libraries

George Parks, Librarian

Nursing, School of

Nancy P. Greenleaf, Dean

Off-Campus Instruction and Academic Support, Division of

John W. Bay, Director

Police and Safety

Coin P. Hauk, Director

Public Service, Division of

William G. Mortensen, Director

Registrar's Office

Steven Rand, Registrar

Research and Advanced Study, Center of

Robert J. Goettel, Director

Residence Life

Joseph M. Austin, Director

Student Activities and Campus/Student Centers

Judith S. Ryan, Director

Student Affairs

Domenica T. Cipollone, Director

Summer Session

Susan M. Silvernail, Director

Student Testing and Assessment, Office of

David L. Silvernail, Director

EMERITI

Bowman, James A. (1949-1974) Gorham State Teachers College, B.S., 1947; Boston University, Ed.M., 1951; Associate Professor Emeritus of Educational Psychology

Chandler, Joseph (1968) Bowdoin College, A.B., 1942; University of Maine, M.B.A., 1967; University of New Hampshire, M.A., 1971; Associate Professor Emeritus of Business Administration

- Clarke, Alfred** (1946-1971) Dartmouth College, A.B., 1928; Admissions Director Emeritus
- Dickey, Edna E** (1946-1973) University of New Hampshire, B.A., 1933; M.A., 1936; Associate Professor Emerita of History
- Emerson, Horton W., Jr.** (1962-1985) Colby College, A.B., 1949; Yale University, Ph.D., 1957; Professor Emeritus of History
- Goodwin York, Jeanette L.** (1955-1981) Sargent College, B.S., 1944; Springfield College, Ed.M., 1955; Associate Professor Emerita of Physical Education and Dance
- Hanna, John G.** (1963-1984) Trinity College, 1963; Harvard University, M.A., 1946; Boston University, Ph.D., 1958; Professor Emeritus of English
- Hopkinson, David B.** (1959-1983) University of Maine, B.S., 1942; University of Vermont, M.S., 1949; University of Maine, M.E., 1961; P.E. (Maine); Associate Professor Emeritus of Engineering
- Kern, Abraham K.** (1959-1977) Bowdoin College, A.B., 1936; University of Maine, M.Ed., 1956; Professor Emeritus of Biology
- Kerr, Elizabeth E** (1957-1974) Marygrove College, B.S., 1939; Columbia University, A.M., 1946; Ed.D., 1956; Professor Emerita of Education
- Lawrence, Harold Merrill** (1946-1972) Boston University, B.S., 1940; Business Manager Emeritus
- MacLean, Jean** (1958-1975) Boston University, B.S., 1930; Yale University, B.N., 1933; University of Chicago, M.S., 1948; Professor Emerita of Psychiatric Nursing
- Miller, Robert N.** (1946-1977) Colby College, A.B., 1936; Professor Emeritus of Geology
- Mitchell, John** (1947-1977) Fitchburg State College, B.S., 1939; University of Minnesota, M.A., 1947; Pennsylvania State University, Ed.D., 1954; Professor Emeritus of Industrial Arts
- Peabody, Mildred** (1952-1973) Gorham State College, B.S., 1939; Boston University, Ed.M., 1952; Associate Professor Emerita of Education
- Peirce, John A.** (1965-1984) University of Maine, B.S., 1962; University of Virginia, M.A., 1965; Ph.D., 1971; Professor Emeritus of Political Science
- Romanyshyn, John M.** (1953-1981) University of Oklahoma, B.A., 1942; University of Chicago, M.A., 1952; Professor Emeritus of Social Welfare
- Saldanha, Estelita L.** (1966-1985) University of Lisbon, B.A., 1943; University of Nebraska, B.S., 1946, M.A., 1947; Cornell University, Ph.D., 1950; Professor Emerita of Psychology
- Sawtelle, Gwen D.** (1938-43;53) University of Minnesota, B.S., George Peabody College for Teachers, M.S., 1939; Associate Professor Emerita of Arts
- Weeks, Ernest E.** (1951-59;67-83) Bowdoin College, A.B., 1939; Tufts University, M.A., 1949; Columbia University, Ph.D., 1965; Professor Emeritus of English
- Whitten, James M.** (1951-1982) Colby College, A.B., 1944; University of Maine, M.A., 1955; Associate Professor Emeritus of Education
- Whitten, Maurice M.** (1955-1983) Colby College, A.B., 1945; Columbia University, M.A., 1949; Ohio State University, Ph.D., 1971; Professor Emeritus of Chemistry
- Witherill, Robert D.** (1966-1983) Colby College, A.B., 1947; University of Maine, M.A., 1953; M.Ed., 1962; Associate Professor Emeritus of Economics
- Wood, Esther E.** (1930-1972) Colby College, A.B., 1926; Radcliffe College, M.A., 1929; Associate Professor Emerita of Social Sciences
- York, Robert M.** (1962-1984) Bates College, A.B., 1937; Clark University, M.A., 1938; Ph.D., 1941; Professor Emeritus of History
- Young, Anne P** (1965-1984) Boston University, B.S., 1943; M.A., 1944; University of Chicago, Ph.D., 1951; Professor Emerita of History

FACULTY & STAFF

- Abrams, Richard H.** (1979) Associate Professor of English; McGill University, B.A., 1964; University of Pennsylvania, M.A., 1965; University of New York, Ph.D., 1968
- Adams, Julia** (1978) Artist in Residence, Music; Oberlin College, B.A., 1962; San Francisco State College, M.A., 1966
- Aiello, Frederick** (1983) Associate Professor of Associate Business Administration, Northeastern University, B.S., B.A., 1971; M.B.A., 1974
- Albee, Parker E., Jr.** (1966) Associate Professor of History; Dartmouth College, A.B., 1961; Duke University, M.S., 1964; Ph.D., 1968
- Allen, Bruce A.** (1970) Associate Professor of Mathematics Education; Gorham State College, B.S., 1960; M.S., 1967; Boston University, Ed.D., 1973
- Allen, Peter S.** (1983) Acting Admissions Coordinator, Lifeline Adult Fitness Program; Springfield College, B.S., 1982
- Amerling, Joan** (1987) School of Law Director of Development, Alumni Relations and Placement; Mount Holyoke College, B.A., 1966
- Amoroso, Henry C.** (1982) Associate Professor of Education; St. Michael's College, B.A., 1966; Goucher College, M.Ed., 1966; University of Wisconsin, Ph.D., 1978
- Anderson, Andrew L.** (1975) Associate Professor of Technology; University of Wisconsin at Platteville, B.S., 1973; M.S., 1975; Iowa State University, Ph.D., 1983
- Anderson, Arthur** (1985) Productions Director; U.S.M. Television
- Andrews, Bruce H.** (1974) Associate Professor of Business Administration; Research Associate, New Enterprise Institute, Center for Research and Advanced Study; University of Connecticut, B.A., 1967; Polytechnic Institute of New York, M.S., 1969; Ph.D., 1980
- Andrews, Samuel G.** (1966) Executive Director for Financial Resources; Babson College, B.S., 1964; University of Maine, M.S., 1966

- Anspach, Donald F.** (1970) Associate Professor of Sociology; Franklin and Marshall College, A.B., 1964; Western Reserve University, M.A., 1966; Case Western Reserve University, Ph.D., 1970
- Armentrout, Charles E.** (1960) Associate Professor of Physics; University of Maine, B.A., 1955; Wesleyan University, M.A., 1958; Columbia University, M.S., 1970
- Arsenault, Melanie** (1981) Resident Director/Counselor; University of Maine at Farmington, 1981.
- Ashley, Kathleen M.** (1978) Associate Professor of English; Duke University, B.A., 1969; M.A., 1970; Ph.D., 1973
- Atterbury, Betty W.** (1985) Assistant Professor of Music Education; State University of New York, B.S., 1959; City University of New York, Hunter College, M.S., 1976; Northwestern University, Ph.D., 1982
- Austin, Nancy** (1987) Assistant Professor of Education; State University of New York at Buffalo, B.S., 1968; Columbia University, M.A., 1974; Ed.D., 1984
- Austin, Joseph M.** (1981) Assistant Director of Residence Life; University of Maine at Orono, B.A., 1976; M.Ed., 1981
- Avery, Deborah D.** (1974) Job Developer, Counseling and Career Development
- Ayers, George H.** (1959) Associate Professor of Physical Science; University of Maine, B.A., 1951; Ohio State University, M.A., 1959
- Baier, Lee S.** (1966) Associate Professor of English; Reed College, A.B., 1948; Columbia University, M.S., 1952; Ph.D., 1965
- Bailey, Ronda** (1983) Academic Counselor, School of Business, Economics and Management; University of Southern Maine, A.S.B.A., 1984; B.S., 1987
- Banner, Gerald T.** (1968) Head of Acquisitions; New School for Social Research, B.A., 1965; Pratt Institute, M.L.S., 1967
- Baron, Catherine A.** (1976) Administrative Manager, Human Services Development Institute, Center for Research and Advanced Study
- Bay, John W.** (1965) Director, Division of Off-Campus Instruction and Academic Support, Instructional Television and Title III Coordinator and Associate Professor of Economics; Saint Ambrose College, B.A., 1961; Boston College, M.A., 1964; Ph.D., 1966
- Bazinet, Gregory P.** (1979) Assistant Professor of Technology; University of Southern Maine, B.S., 1977; M.S., 1981
- Baxter, Ralph** (1986) Parenting Center Coordinator, Child Care Services; University of Maine at Orono, B.S., 1953; M.Ed., 1970, M.Ed., 1971
- Bean, Albert** (1985) Coordinator of Media Relations and Development; University of Southern Maine, B.S.; 1977
- Bean, Judith A.** (1974) Benefits Specialist
- Bearce, Jeana Dale** (1965) Professor of Art; Washington University, B.F.A., 1951; New Mexico Highlands University, M.A., 1954
- Beirne, Piers** (1982) Professor of Sociology and Legal Studies; Essex University (England), B.A., 1971; Durham University (England), Ph.D., 1975
- Benay, Phyllis** (1987) Peer Advising Coordinator/Academic Counselor; Brooklyn College, B.A., 1974; New York University, M.A., 1976
- Benedict, Diane** (1984) Assistant Professor of English; Goddard College, B.A., 1976; M.F.A., 1979
- Benson, Mary Ann** (1982) Coordinator of Placement and Academic Internships; SUNY at Cortland, B.A., 1973; SUNY at Plattsburgh, M.S., 1976
- Berg, Claire M.** (1984) Head Lifeline Nurse; University of Southern Maine, B.S., 1972
- Bernacchio, Charles P.** (1985) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Boston University, B.S., 1971; Boston College, M.Ed., 1980
- Bernard, Anne** (1978) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study
- Bernotavicz, Freda** (1985) Research Associate, Human Services Development Institute, Center for Research and Advanced Study; Nottingham University (England), B.A., 1963; Syracuse University, M.S., 1966
- Berry, Arthur O.** (1955) Associate Dean, School of Applied Science, Professor of Industrial Education, Gorham State College, B.S., 1950; Pennsylvania State University, Ed.M., 1954; University of Connecticut, Ph.D., 1967
- Bibber, Joyce K.** (1967) Associate Professor of History; Westbrook Junior College, A.A., 1956; Barnard College, B.A., 1958; Stanford University, M.A., 1962; Ph.D., 1969
- Bishop, John S.** (1968) Professor of Psychology; University of New Brunswick, B.A., 1953; Dalhousie University, M.A., 1957; University of London, Ph.D., 1958
- Blazek, Jerry** (1986) Director of Labor Relations; Division of Human Resources; Ohio University, B.A. 1972; M.P.A., 1977
- Blinick, Kathie L.** (1980) Director, Office for Prior Learning Assessment; University of Mississippi, B.A., 1969; University of New Hampshire, M.A., 1986; Memphis State University, M.Ed., 1975; Ed.D., 1980
- Boden, John C.** (1981) Associate Professor of Music; Northwestern University, B.M., 1974; University of Missouri at Kansas City Conservatory, M.M., 1981
- Boisclair, Daniel F.** (1985) Manager of Engineering and Technical Assistance; University of New Hampshire, B.S.M.E., 1981
- Bondeson, Janice M.** (1981) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Wheaton College, B.A., 1960

- Bouchard, Joey A.** (1968) Associate Professor of Physical Education; Springfield College, B.S., 1960; M.Ed., 1961; Boston University, C.A.S., 1968
- Bouchard, Kathleen H.** (1969) Director of Off-Campus Centers and Instructional Delivery; Western Michigan University, B.A., 1966; Indiana University, M.S., 1969
- Boutet, Bruce P.** (1986) Research Assistant, Small Business Development Center, Center for Research and Advanced Study; University of Maine at Orono, B.A., 1975; Metropolitan State College, B.S., 1986
- Bowder, Jerry L.** (1960) Professor of Music; University of Washington, B.A., 1952; Lewis and Clark College, M.M., 1956; Eastman School of Music, Ph.D., 1960
- Boyle, Conrad L.** (1982) Associate Professor of Marketing; United States Military Academy, B.S., 1959; University of Florida, M.B.A., 1964; University of Washington, Ph.D., 1982
- Brady, E. Michael** (1984) Associate Professor, Department of Human Resource Development, College of Education; St. Mary's Seminary & University, A.B., 1971; The University of Connecticut, M.S.W., 1977; St. Mary's Seminary & University, M. Div., 1980; The University of Connecticut, Ph.D., 1982
- Brady, James B.** (1969) Head of Special Services; State University of New York at Albany, B.S., 1967; M.L.S., 1969; University of Illinois, C.A.S., 1977
- Branch, Nicholas G.** (1980) Lifeline Exercise Specialist; Beloit College, B.A., 1973
- Braziel, Lawrence** (1977) Director of Management Information Systems; Southwest Missouri State University, B.S., 1966; Florida State University, M.A., 1974
- Brett, Tybe Ann** (1983) Associate Professor of Law; Barnard College, B.A., 1977; Columbia University School of Law, J.D., 1979
- Briggs, David A.** (1984) Assistant Professor of Computer Science; Swarthmore College, B.A., 1975; University of Massachusetts at Amherst, M.S., 1984
- Briggs, Wayne F.** (1965) Director of Business Services; University of Maine Portland-Gorham, B.S., 1975
- Broida, John P.** (1985) Assistant Professor of Psychology; University of Colorado at Boulder, B.S., 1973; Western Illinois at Macomb, M.S., 1976; State University of New York at Albany, Ph.D., 1984
- Brown, Alan** (1983) Assistant Manager, Gorham Bookcellar
- Brown, Sarah A.** (1986) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Northeastern University, B.S., 1980; University of California at Berkeley, M.S.W., 1983
- Brown, Scott W.** (1987) Assistant Professor of Psychology; Goddard College, B.A., 1974; University of Maine, Ph.D., 1984
- Brown, William A.** (1960) Associate Professor of Mathematics; Bowdoin College, B.A., 1954; University of Maine, M.A., 1959
- Broyles, India L.** (1986) Assistant Professor of Education; Georgia College, B.S., 1968; M.Ed., 1975; University of Georgia, Ed.D., 1983
- Brysh, Janet F.** (1976) Librarian, Center for Research and Advanced Study; Marymount College, B.A., 1958; Hunter College, M.A., 1964; Rosary College, M.L.S., 1968
- Bubier, Jill L.** (1984) Research Associate, Marine Law Institute, Center for Research and Advanced Study; Bowdoin College, B.A., 1974; University of Maine School of Law, J.D., 1978
- Buch, Camille** (1983) Assistant Director of Publications; Central Washington University, B.A., 1977; M.A., 1982
- Bullock, William B.** (1970) Business Manager; Cornell University, B.S., 1954; M.B.A., 1959
- Burk, George** (1985) Assistant Professor of Art; Indiana University, B.A., 1961; M.E.A., 1963
- Burke, Kathy Ann** (1983) Assistant Director of Financial Aid; University of Southern Maine, B.A., 1981
- Burke, L. Morrill** (1959) Associate Professor of English; Bowdoin College, A.B., 1949; University of Washington, M.A., 1951; Columbia University, Ph.D., 1971
- Burson, Janet Z.** (1978) Associate Professor, School of Nursing; Syracuse University, B.S., 1964; Oregon State University, M.S., 1975
- Burtchell, Veda** (1972) Coordinator of Space and Scheduling
- Caffentzis, Constantine G.** (1987) Assistant Professor of Philosophy and Honors Program; City College of the University of New York, B.A., 1966; Princeton University, Ph.D., 1978
- Callender, Willard D., Jr.** (1962;1972) Professor, Department of Human Resource Development, College of Education and Senior Research Associate, Human Services Development Institute, Center for Research and Advanced Study; Bates College, A.B., 1958; University of Connecticut, M.A., 1960; Ph.D., 1967
- Cameron, Julia M.** (1983) Director of Publications; Bates College, B.A., 1972
- Campbell, Anne B.** (1978) Project Coordinator/Child Development Specialist, Child and Family Institute and Assistant Professor of Education; Vermont College, A.A., 1961; Scarritt College, B.A., 1965; George Peabody College, M.A., 1967; Ed.S., 1969; University of Illinois, Ph.D., 1975
- Campbell, Richard R.** (1973) Director, Student Financial Aid; University of Maine at Portland-Gorham, B.S., 1974
- Carner, Frank K.** (1970) Associate Professor of English; Temple University, B.S., 1964; M.A., 1967; Ph.D., 1976
- Carper, Thomas R.** (1967) Associate Professor of English; Harvard University, A.B., 1958; New York University, M.A., 1967; Boston University, Ph.D., 1973

- Carson, Loftus C., II** (1980) Professor of Law; Cornell University, B.S., 1968; Princeton University, M.P.A., 1970; Harvard University, J.D., 1973; University of Pennsylvania, M.B.A., 1980
- Carter, Richard H.** (1964) Associate Professor of Technology; Gorham State College, B.S., 1954; University of Maine, Ed.M., 1964; Boston University, C.A.S., 1971
- Caswell, Robert S.** (1980) Director of Media Relations; University of Southern Maine, B.A., 1974
- Cassidy, Donna M.** (1987) Assistant Professor of Art; University of Lowell, B.A., 1979; Boston University, M.A., 1982; Ph.D., 1988
- Chabot, Maurice J.** (1965) Associate Professor of Mathematics; Coordinator for Administration, College of Arts and Sciences; University of Maine, B.A., 1961; Bowdoin College, M.A., 1965
- Chipman, Carol K.** (1980) Coordinator of New Student Advising/Academic Counselor; University of Southern Maine, B.A., 1976
- Cipollone, Domenica T.** (1977) Director, Student Affairs; University of Cincinnati, B.A., 1969; University of the Americas (Mexico), M.A., 1974
- Clarey, Ann E.** (1985) Administrative Manager, Off-Campus Instruction and Academic Support; University of Southern Maine, B.A., 1985
- Clarey, Richard J.** (1979) Dean, School of Business, Economics and Management; Associate Professor of Management; Director, New Enterprise Institute, Center for Research and Advanced Study; Bowdoin College, B.A., 1961; Dartmouth College, M.B.A., 1963; Cornell University, Ph.D., 1968
- Clark, Donald J.** (1986) Director, Department of Continuing Education for Business; Williams College, B.A., 1954; Union Theological Seminary, M.Div., 1957
- Clary, Bruce B.** (1987) Professor of Public Policy and Management; University of California at Santa Barbara, B.A., 1968; University of Southern California, M.A., 1970; Ph.D., 1974
- Clement, M. Gregory** (1985) Assistant Director of Student Activities; Husson College, B.S., 1981; Salem State College, M.Ed., 1985
- Cluchey, David P.** (1979) Associate Dean and Professor of Law; Yale University, B.A., 1968; State University of New York, M.A., 1970; Harvard Law School, J.D., 1973
- Coakley, Robert W.** (1984) Associate Professor of Physics; Ohio State University, B.S., 1965; Dartmouth College, M.A., 1968; University of Vermont, Ph.D., 1974
- Coburn, Andrew F.** (1981) Acting Director and Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study and Assistant Professor of Public Policy and Management; Brown University, A.B., 1972; Harvard Graduate School of Education, Ed.M., 1975; Brandeis University, Ph.D., 1981
- Coffin, Frank M.** (1985) Adjunct Professor of Law; Bates College, A.B., 1940; Harvard University, L.L.B., 1943
- Coffin, Richard N.** (1964) Associate Professor of English; Bowdoin College, B.A., 1951; Harvard University, A.M., 1952; Boston University, Ph.D., 1962
- Cohen, Libby G.** (1980) Associate Professor of Special Education; University of Connecticut, B.A., 1967; Russell Sage College, M.S., 1971; Boston University, Ed.D., 1977
- Coit, Charles S.** (1977) Director, Center for Real Estate Education and Assistant Professor of Associate Business Administration; Yale University, B.S., 1966; Boston College, J.D., 1971
- Cojuc, Juan-Ricardo** (1984) Assistant Professor of Communication; Universidad Ibero Americana, Mexico, B.A., 1973
- Cole, Phillip A.** (1957) Professor of History; Boston University, B.S., 1954; M.A., 1955; Ph.D., 1963
- Cole, Ronald F.** (1963) Professor of Music; Bowdoin College, B.A., 1961; Eastman School of Music, M.A., 1963; Indiana University, Ph.D., 1975
- Coleman, Loren** (1983) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Southern Illinois University, B.A., 1976; Simmons College School of Social Work, M.S.W., 1978
- Collins, Mary I.** (1976) Staff Development Director, Division of Human Resources; Boston University, B.A., 1963; University of Colorado, M.S., 1968
- Colucci, Nicholas D., Jr.** (1969) Associate Professor of Education; Gorham State College, B.S., 1963; University of Connecticut, M.A., 1964; Ph.D., 1969
- Conforti, Joseph A.** (1987) Director of New England Studies and Professor of History; Springfield College, B.S., 1967; Brown University, A.M., 1972; Ph.D., 1975
- Connolly, Judith M.** (1985) Admissions Counselor; Smith College, A.B., 1962
- Conway, Jeremiah P.** (1978) Associate Professor of Philosophy; Fordham University, B.A., 1970; Yale University, M.Phil., 1974; Ph.D., 1978
- Coogan, William H., III** (1972) Associate Professor of Political Science; Boston College, B.A., 1963; Rutgers University, M.A., 1964; University of North Carolina, Ph.D., 1971
- Coombs, William R.** (1984) Research Assistant, Small Business Development Center, Center for Research and Advanced Study; Nasson College, B.S., 1965; University of Maine at Orono, M.B.A., 1966
- Corkery, Ellen M.** (1966) Assistant to the Director, Division of Public Service; Husson College, A.B.A., 1966; University of Southern Maine, B.A., 1983; M.S., 1987
- Corson, Doane B.** (1966) Maintenance Project Coordinator; Southern Maine Vocational Technical Institute, 1958

- Costello, Melissa H.** (1953) Associate Professor of Education and Director of Clinical Experiences; Gorham State College, B.S., 1952; University of Maine, Ed.M., 1957; C.A.S., 1960
- Costello, Richard A.** (1953) Director, Intercollegiate Athletics and Professor of Health and Physical Education; University of Alabama, B.S., 1952; University of Illinois, M.S., 1953; Springfield College, D.P.E., 1965
- Crader, Diane C.** (1987) Assistant Professor of Anthropology; University of California, Berkeley, B.A., 1971; M.A., 1974; Ph.D., 1981
- Crochet, Monique Y.** (1970) Associate Professor of French; University of Paris, Sorbonne, Licence d'Anglais, 1959; Diplôme d'Études supérieures and C.A.P.E.S., 1960; Doctorat de l'Université de Paris, 1969
- Crosby, Marilyn C.** (1970) Coordinator of Gorham Student Health Center and Family Nurse Practitioner, Clara Maass Hospital, R.N., 1960; University of Maine at Portland-Gorham, B.S., 1978; University of Southern Maine, EN.P., 1982
- Curry, James A.** (1985) Associate Professor of Education; Whitworth College, B.A., 1969; University of Georgia, M.Ed., 1973; Ed.D., 1985
- Czupryna, Louise** (1980) Associate Professor, School of Nursing; Montana State University, B.S., 1974; University of Colorado, M.S., 1976
- Dalvet, Yves F.** (1968) Associate Professor of French; Laval College, B.A., 1940; New York University, M.A., 1965; Yale University, M.Phil., 1969
- Davis, Carol Lynn** (1982) Assistant Professor, Department of Human Resource Development, College of Education; University of Maine at Orono, B.A., 1968; M.S., 1977; Ph.D., 1983
- Davis, Everett A.** (1966) Assistant Professor of Education; Gorham State College, B.S., 1961; Indiana University, M.S.Ed., 1966; Ed.S., 1972
- Davis, Michael N.** (1985) Research and Advanced Study Associate, Small Business Development Center, Center for Research and Advanced Study; Ohio University, B.A., 1981; M.A., 1982
- Deady, John E.** (1981) Associate Professor of Education; Amherst College, B.A., 1947; University of Massachusetts, M.S., 1950; Harvard University, Ed.D., 1956
- DeGrandpre, Charles** (1986) Farm Superintendent, Wolfe's Neck Farm; Essex Agricultural and Technical Institute, 1945
- Delogu, Orlando E.** (1966) Professor of Law and Public Policy; University of Utah, B.S., 1960; University of Wisconsin, M.S., 1963; J.D., 1966
- Deprez, Luisa S.** (1976) Associate Professor of Social Welfare; Keuka College, B.A., 1970; Rutgers University, M.S.W., 1971
- Derby, Michael** (1986) Assistant Professor of Biology; University of Maine, B.S., 1969; University of Oregon, Ph.D., 1977
- diBenedetto, Lucia A.** (1970) Associate Professor of French; Emmanuel College, B.A., 1963; Middlebury College, M.A., 1965; New York University, Ph.D., 1975
- Dietrich, Craig** (1968) Professor of History; University of Chicago, A.B., 1961; Ph.D., 1970
- Dorbacker, Beatrice M.** (1974) Associate Professor, School of Nursing; Columbia University, B.S., 1950; M.A., 1957; Boston University, Ed.D., 1973
- Dorsey, E Donald, Jr.** (1967) Assistant Professor of Biology; Bowdoin College, A.B., 1950; Syracuse University, M.S., 1960; Simmons College, M.S., 1964
- Downey, Loren W.** (1974) Director, University College of Education and Professor of Education; Drake University, B.A., 1949; University of Oregon, M.S., 1950; University of Arizona, Ed.D., 1966
- Downing, Thomas J.** (1978) Assistant Director, Lifeline; University of New Hampshire, B.S., 1973
- Drew, David** (1972) Instructor in Physical Education; Springfield College, B.S., 1967; M.Ed., 1971
- Drew, Judith C.** (1978) Associate Professor, School of Nursing; Northeastern University, B.S., 1972; Boston University, M.S., 1977
- Duclos, Albert J.** (1965) Associate Professor of Theatre; University of Maine, B.S., 1963; M.A., 1965
- Duclos, Gloria S.** (1962) Professor of Classics; Radcliffe College, A.B., 1949; M.A., 1953; Oxford University, B.A., 1951; M.A., 1955
- Durgin, Frank A., Jr.** (1964) Professor of Economics; Tufts University, B.A., 1949; University of Toulouse, France, License en Droit, 1954; Docteur en Droit, 1956
- Dushuttle, Patricia J.** (1985) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Maine at Augusta, A.A., 1980; University of Southern Maine, B.A., 1985
- Duval, Marjorie A.** (1962) University Archivist and Reference Librarian; New England Conservatory of Music, B.Mus., 1945; Simmons College, M.S., 1962
- Eastman, Joel W.** (1970) Professor of History; University of Maine at Orono, B.A., 1962; M.A., 1965; University of Florida, Ph.D., 1973
- Elliott, Elizabeth K.** (1982) R.N. Studies Coordinator and Assistant Professor of Nursing; Barnard College, A.B., 1973; Columbia University, B.S., 1976; Simmons College, M.S., 1981
- Ellis, Edna** (1983) Admissions Coordinator and Instructor, School of Nursing; University of Southern Maine, B.S., 1972; Boston University, M.S.N., 1973
- El-Taha, Muhammad A.** (1987) Assistant Professor of Mathematics; Haigazian College, (Lebanon), B.S., 1978; American University of Beirut, M.S., 1980; North Carolina State University, Ph.D., 1986
- Englund, Miriam** (1987) Youth Program Coordinator, Child Care Services, The College of Wooster, B.A.

- Erickson, Karen** (1984) Assistant Professor of Political Science; Stanford University, B.A., 1958; Harvard University, M.A., 1963; Ph.D., 1976
- Estes, Robert A., Sr.** (1966) Professor of Mathematics; Bowdoin College, A.B., 1958; University of Kansas, M.A., 1961; University of Michigan, Ph.D., 1970
- Evans, Lynn** (1983) Teacher, University Day Care Center; University of Illinois, B.A., 1970
- Fahey, Margaret A.** (1983) Associate Director of Admissions and Assistant Dean, College of Arts and Sciences; Boston College, A.B., 1975; Tufts University, M.Ed., 1981
- Faksh, Mahmud A.** (1987) Assistant Professor of Political Science; American University of Beirut, B.A., 1965; Oklahoma State University, M.A., 1967; University of Connecticut, Ph.D., 1973
- Farrar, John N.** (1966) Assistant Director/Coordinator Transfer Credit Counseling Services, Advising and Academic Information; University of Maine, B.A., 1951; M.Ed., 1958; C.A.S., 1962
- Farrell, Dennis P.** (1981) Director of Admissions; Boston College, B.A., 1964; Worcester State College, M.Ed., 1973
- Faulkner, Howard M.** (1970) Associate Professor of Technology; Massachusetts State College of Fitchburg, B.S., 1957; Northeastern University, M.Ed., 1960
- Ferrari, Jennifer S.** (1985) Staff Associate, Student Financial Aid; University of Southern Maine, B.S., 1984
- Findlay, Robert W.** (1967) Professor of Accounting; Boston University, B.S., 1955; M.B.A., 1964; C.P.A. (Massachusetts and Maine)
- Fisher, Irving D.** (1967) Professor of Political Science; University of Connecticut, B.A., 1946; Columbia University, M.A., 1953; Ph.D., 1976
- Fithian, Bruce** (1984) Assistant Professor of Music; Southampton University (England), B.M., 1972; Brandeis University, M.F.A., 1975
- Fitzherbert, Casandra B.** (1984) Library Special Services Associate; University of Maine at Presque Isle, B.A., 1982
- Flagg, Robert C.** (1987) Assistant Professor of Mathematics, University of Maine, M.A., 1979; SUNY, Buffalo, M.A., 1982; Ph.D., 1984
- Flanagan, Timothy J.** (1982) Associate Professor of Military Science; United States Military Academy at West Point, B.S., 1977
- Folsom, Robert E.** (1968) Associate Professor and Director, Lifeline Adult Fitness Program; Springfield College, B.S., 1953; Boston University, Ed.M., 1962
- Folsom, Scott A.** (1984) Associate Professor of Military Science; University of Maine at Orono, B.S.
- Fortinsky, Richard H.** (1984) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; Pennsylvania State University, B.A., 1975; Brown University, M.A., 1977; Ph.D., 1984
- Foster, Carolyn N.** (1966) Associate Professor of Mathematics; Douglass College (Rutgers), A.B., 1958; Purdue University, M.S., 1961; Bowdoin College, A.M., 1966
- Foster, Cherie Major** (1982) Assistant Professor of Education; University of Wyoming, B.A., 1973; M.A., 1977; Utah State University, Ed.D., 1983
- Fournier, Margaret A.** (1976) Associate Professor, School of Nursing; Fitchburg State College, B.S.N., 1972; Boston University, M.S.N., 1976
- Franklin, Patt R.** (1970) Professor of Art; Pratt Institute, B.F.A., 1962; Tulane University of Louisiana, M.F.A., 1970
- Freebury, Artha L.** (1986) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Montana State University, B.S., 1970; University of Connecticut, M.S.W., 1972
- Freeman, Ardith** (1979) Lecturer in Music; Eastman School of Music, B.M., 1972; M.M., 1974
- French, Robert J.** (1969) Associate Professor of Geography and Director; Museum of Culture Change; Dartmouth College, A.B., 1957; Northeastern University, M.Ed., 1967; Clark University, M.A., 1972
- Friedman, James M.** (1980) Professor of Law and Legal Studies; Brown University, A.B., 1971; University of Chicago, J.D., 1974
- Fullam, David C.** (1970) Associate Professor of Sociology; Colby College, B.A., 1960; University of New Hampshire, M.A., 1965; M.A., 1969
- Gabrovsky, Peter N.** (1985) Associate Professor of Computer Science; Sofia University (Bulgaria), B.S., 1965; Warsaw University (Poland), M.S., 1968; Syracuse University, Ph.D., 1976
- Gainey, Louis E., Jr.** (1976) Associate Professor of Biology; Florida State University, B.S., 1969; M.S., 1972; Ph.D., 1976
- Gallant, Roy A.** (1980) Planetarium Director; Adjunct Professor of English; Bowdoin College, B.A., 1948; Columbia University, M.S., 1949
- Gavin, William J.** (1968) Professor of Philosophy; Fordham University, B.A., 1965; M.A., 1967; Ph.D., 1970
- Gayton, William E.** (1974) Professor of Psychology; Springfield College, B.S., 1963; University of Maine, M.A., 1965; Ph.D., 1968
- Gianopoulos, Christine** (1978) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; University of Pittsburgh, B.A., 1968; Syracuse University, M.P.A., 1970
- Giguere, Madeleine D.** (1967) Professor of Sociology; College of New Rochelle, B.A., 1947; Fordham University, M.A., 1950; Columbia University, M.Phil., 1973
- Gilmore, Leigh** (1987) Assistant Professor of English; University of Washington, B.A., 1980; M.A., 1983
- Giroux, Gayle G.** (1980) Student Financial Aid Staff Associate; Kennebec Valley V.T.I., Associate, 1979

- Gish, Nancy K.** (1979) Professor of English; Western Michigan University, B.A., 1964; University of Michigan, M.A., 1965; Ph.D., 1973
- Glantz, Larry L.** (1986) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Temple University, B.A., 1974; Bryn Mawr College, M.L.S.P., 1974; M.S.W., 1974
- Godfrey, Edward S.** (1962) Adjunct Professor of Law; Harvard College, A.B., 1934; Columbia Law School, J.D., 1939
- Goettel, Robert J.** (1981) Director, Center for Research and Advanced Study and Adjunct Professor of Public Policy and Management; State University, Fredonia, New York, B.A., 1955; Columbia University, M.A., 1963; Ed.D., 1970
- Gold, Joel I.** (1973) Associate Professor of Associate Business Administration; Pace University, B.B.A., 1968; Bernard Baruch College, M.B.A., 1972; University of Southern Maine, M.S., 1982
- Goldsberry, Lee** (1987) Assistant Professor of Education; Purdue University, B.A., 1969; Governors State University, M.A., 1975; University of Illinois, Ed.D., 1980
- Goldstein, Nance** (1987) Instructor of Economics; Tufts University, B.A., 1972; University of London, M.Sc., 1979
- Gorgas, Helen** (1985) Resident Director/Counselor; Wilkes College, B.A., 1982; Ohio University, M.A., 1985
- Graham, Anita K.** (1966) Staff Associate for Business Services; University of Southern Maine, B.S., 1984
- Grange, Joseph** (1970) Professor of Philosophy; St. Joseph's College, B.A., 1961; Fordham University, M.A., 1965; Ph.D., 1970
- Grant, Bruce** (1985) Assistant Professor of Military Science; University of Rhode Island, 1979
- Greene, Charles N.** (1986) Professor of Organizational Behavior and Management; Ohio State University, B.S., 1959; M.B.A., 1961; Ph.D., 1969
- Greene, Nathanael N.** (1980) Coordinator, Saco-Biddeford Center; University of Southern Maine, B.A., 1967; University of Washington, M.L.S., 1970
- Greenleaf, Nancy E** (1982) Dean and Associate Professor, School of Nursing; Boston University, B.S., 1964; M.S., 1967; D.N.Sc., 1982
- Greenwood, Helen L.** (1969) Provost and Associate Professor of Biology; Northeastern University, B.S., 1958; University of New Hampshire, M.S., 1960; University of Connecticut, Ph.D., 1969
- Gregory, David D.** (1972) Professor, School of Law; Duke University, B.A., 1964; University of Maine, LL.B., 1968; Harvard University, LL.M., 1972
- Grzelkowski, Slawomir A.** (1973) Associate Professor of Sociology; University of Warsaw (Poland), M.A., 1962; Indiana University, Ph.D., 1974
- Guay, Merle D.** (1969) Professor of Mathematics; Tufts University, B.S., 1958; University of Maine, M.A., 1960; Michigan State University, Ph.D., 1967
- Gupta, Bhisham C.** (1985) Professor of Applied Mathematics, Punjab University (India), M.A., 1964; University of Windsor (Canada), M.S., 1969; Ph.D., 1972
- Gupta, Sat** (1986) Assistant Professor of Mathematics, University of Delhi (India), B.A., 1970; M.S., 1972; Ph.D., 1977; Colorado State University, Ph.D., 1987;
- Gutmann, Jean E.** (1977) Associate Professor of Associate Business Administration; State University of New York at Albany, B.S., 1971; University of Maine at Orono, M.B.A., 1974
- Hackett, George E.** (1968) Assistant to the Provost, Central Michigan University, B.A., 1952; University of Michigan, M.A., 1957
- Hamilton, Michael S.** (1985) Assistant Professor of Political Science; Colorado State University, B.A., 1974; M.A., 1977; Ph.D., 1984
- Hamilton, Mykol C.** (1987) Assistant Professor of Psychology and Women's Studies; Stanford University, B.A., 1974; San Jose State University, M.A., 1978; University of California, Los Angeles, M.A., 1981; Ph.D., 1985
- Hanisko, SandraLee M.** (1983) Assistant Professor of Communication; University of Wisconsin-Milwaukee, B.A., 1976; University of Nebraska-Lincoln, M.A., 1979; Ph.D., 1984
- Hatch, Dennis J.** (1979) Director, Bath-Brunswick Center; University of Maine, B.A., 1968
- Hathaway, Tania J.** (1986) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Southern Maine, B.A., 1986
- Hauk, Coin E** (1983) Director of Police and Safety; Michigan State University, B.A., 1963
- Healy, Phyllis E** (1980) Associate Professor, School of Nursing; Hunter College, B.S.N., 1971; University of California, M.S.N., 1972
- Hearns, Joseph E** (1970) Associate Professor of Psychology; Boston College, B.S., 1964; University of Massachusetts, M.S., 1966; Ph.D., 1967
- Heath, John R.** (1976) Associate Professor of Computer Science; University of Maine at Orono, B.A., 1968; M.A., 1970; University of Minnesota, M.S., 1976; Ph.D., 1982
- Heckman, Paul E.** (1985) Associate Professor of Education; King's College, B.A., 1966; Boston University, M.Ed., 1970; University of California, Ph.D., 1982
- Heidema, Tjaakje E** (1981) Assistant Professor, School of Nursing; University of Colorado, B.S., 1967; M.S., 1969
- Heinzelman, Kurt** (1987) Visiting Associate Professor; Middlebury College, B.A., 1969; Bread Loaf School of English, M.A., 1972; University of Massachusetts, Ph.D., 1978
- Heinzelman, Susan** (1987) Assistant Professor of English; University of London (England), B.A., 1968; University of Western Ontario, M.A., 1971; Ph.D., 1978

- Helms, Carl H.** (1979) Assistant Director, Learning Assistance; Pacific Lutheran University, B.S., 1962; Washington State University, M.A., 1964
- Hendry, Caroline L.** (1974) Program/Production Coordinator, USM Television; University of Southern Maine, B.A., 1983
- Hewitt, Duncan A.** (1976) Associate Professor of Art; Colby College, B.A., 1971; University of Pennsylvania, M.F.A., 1975
- Hiebert, Maryanne T.** (1970) Coordinator of Gorham Student Health Center; Massachusetts General Hospital, R.N., 1955; Simmons College, B.S., 1956; Boston University, M.S., 1985
- Higgins, Anita** (1972) Information Systems Coordinator; Management Information Systems
- Higgins, George M.** (1971) Director, Business Management Systems; University of Maine in Portland, B.S., 1971
- Higgins, Michael** (1983) Coordinator, C.A.S. Advising Center, Academic Counselor; University of Southern Maine, B.A., 1985
- Hillard, Michael** (1987) Instructor of Economics; University of Massachusetts, B.A., 1980
- Hird, Robert H.** (1986) Research and Advanced Study Associate, Small Business Development Center, Center for Research and Advanced Study; St. Francis College, B.S., 1976
- Hodgdon, Paula D.** (1967) Professor of Physical Education and Coordinator of Women's Athletics; Lasell Junior College, A.A., 1948; Beaver College, B.A., 1950; Columbia University, M.A., 1952; Springfield College, D.P.E., 1973
- Hodges, Franklin D.** (1966) Associate Professor of Geography; Farmington State College, B.A., 1961; Clark University, M.A., 1966
- Hodgkin, Brian C.** (1976) Dean, School of Applied Science and Coordinator, Engineering Program and Associate Professor of Electrical Engineering; University of Maine, B.S., 1963; B.S., 1964; Johns Hopkins University, Ph.D., 1969
- Hodson, D. Bradlee** (1973) Associate Professor of Accounting and Research Associate, New Enterprise Institute, Center for Research and Advanced Study; University of Maine at Orono, B.S., 1968; University of Pennsylvania, M.A., 1969; C.P.A. (Massachusetts)
- Hohnes, Peter K.** (1968) Associate Professor of Biology; Bowdoin College, A.B., 1956; Wesleyan University, M.A., 1958; University of Illinois, Ph.D., 1964
- Honey, Stephen T.** (1987) Director, Public Policy and Management Program; Cornell University, B.A., 1968; Georgetown University, M.A., 1975
- Hornby, Helaine** (1974) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; Simmons College, B.S., 1968
- Houlihan, John J.** (1975) Associate Professor of Business Law; Holy Cross College, A.B., 1969; Harvard Law School, J.D., 1972
- Howard, Albert A.** (1970) Head of Cataloging Services; Brown University, A.B., 1951; University of Kentucky, M.L.S., 1955
- Howe, Elaine** (1978) Placement Specialist, College of Education
- Hughes, Carolyn C.** (1968) Head of Serial Services; University of Maine, B.A., 1968; M.L.S., 1974
- Hunt, H. Draper III** (1965) Professor of History; Harvard University, B.A., 1957; Columbia University, M.A., 1960; Ph.D., 1968
- Hymoff, Ira H.** (1972) Director of Counseling and Career Development; Colby College, B.A., 1965; University of Maine, at Orono, Ph.D., 1970
- Irish, Joel W.** (1971) Associate Professor of Mathematics; Colby College, B.A., 1967; University of New Hampshire, M.S., 1969; Ph.D., 1975
- Ison, Catherine** (1986) Instructor of Nursing; University of Oregon, School of Nursing, B.S.N., 1972; University of Southern Maine, M.S.N., 1985
- Jackson, William** (1978) Academic Counselor; University of Connecticut, B.A., 1975; University of Southern Maine, M.S., 1982
- Jagoliner, Philip** (1966) Professor of Accounting; Clark University, A.B., 1958; University of Rhode Island, M.S., 1960; University of Arizona, Ph.D., 1978; C.P.A. (Maine, Maryland)
- Jaques, John F.** (1946) Professor of English; Bowdoin College, A.B., 1943; Columbia University, A.M., 1946; Ph.D., 1971
- Jensen, Helena M.** (1967) Associate Professor, School of Nursing; University of Maine, B.S., 1943; Pennsylvania State University, M.Ed., 1951
- Johnson, Sheila A.** (1968) Head of Reference Services; Boston College, B.S., 1967; University of Maine, M.L.S., 1975
- Johnson, Suanne M.** (1986) Staff Associate, Student Financial Aid; University of Maine at Orono, B.S., 1979
- Jordan, Percival L.** (1980) Lifeline Exercise Specialist; ACSM Exercise Technician Certification, 1980 (Dallas, Texas); Advanced Physical Fitness Specialist, 1979; ALS Certification, 1980
- Kading, Charles S.** (1978) Associate Professor of Theatre; California State University, B.A., 1973; University of Washington, M.A., 1975; California State University-Fullerton, M.F.A., 1982
- Kandoian, Ellen Arpen** (1981) Professor of Law; Yale College, B.A., 1971; Columbia University, M.A., 1972; Yale Law School, J.D., 1975; Boston University, L.L.M., 1981
- Kane, Katharine** (1985) Academic Counselor, Sanford Center; Trinity College, B.A., 1968; University of Southern Maine, M.Ed., 1977
- Karpeles, Kathy** (1980) Counseling Psychologist; SUNY at Brockport, B.A., 1971; University of Southern California, Ed.D., 1977
- Karraker, David** (1985) Research Associate, Human Services Development Institute, Cen-

- ter for Research and Advanced Study; University of Wisconsin, B.S., 1961
- Kecskemethy, Stephen** (1978) Artist in Residence, Music; Eastman School of Music, B.M., and Performer's Certificate, 1966
- Keller, Carolyn** (1986) Rehabilitation Consultant, Division of Human Resources; Illinois State University, B.A., 1972; M.S., 1978
- Kellogg, Edward Zip** (1985) Reference Librarian; Gettysburg College, B.A., 1979; Southern Connecticut State University, M.L.S., 1980
- Kennedy, Harris W.** (1985) Reference Librarian; Gordon College, B.A., 1963; Boston University, M.A., 1966; Columbia University, M.L.S., 1971
- Kenyon, James** (1987) Assistant Professor of Mathematics; Bates College, B.S., 1974; University of Connecticut, M.S., 1976; Ph.D., 1987
- Ketcham, Judy** (1985) Assistant Professor of Accounting; University of Vermont, B.S., 1978; University of New Hampshire, M.B.A., 1982; CPA (Maine)
- Keyser, John F.** (1974) Dean of Educational Services; University of Wisconsin, B.S., 1962; M.S., 1966
- Khoury, Colleen** (1985) Visiting Associate Professor of Law; Colby College, B.A., 1964; Illinois Institute of Technology/Chicago-Kent College of Law, J.D., 1975
- Kilbreth, Elizabeth H.** (1984) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; Radcliffe College, B.A., 1973; Johns Hopkins University, M.H.S., 1979
- King, Susan A.G.** (1984) Acting Assistant Director, Office of Student Testing and Assessment; University of Southern Maine, B.A., 1984
- Kirk, Albert S. III** (1977) Associate Professor of Technology; Florida College, A.A., 1961; University of Tampa, B.S., 1963; Northern Illinois University, M.S., 1967; Murray State University, S.C.T., 1980
- Kivatisky, Russell J.** (1974) Assistant Professor of Communication; State University of New York, Brockport, B.S., 1970; M.A., 1971; Bowling Green State University, Ph.D., 1974
- Klibonoff, Jon** (1987) Assistant Professor of Music; Manhattan School of Music, B.M., 1979; Julliard School, M.M., 1982
- Knowlton, Gayle K.** (1981) Assistant to the Dean, School of Law; Eastern Nazarene College, A.B., 1964
- Knowlton, Suzanne L.** (1968) Associate University Librarian; University of Kansas, B.A., 1960; University of Denver, M.A., 1963
- Kohaut, Susan M.** (1986) Counseling Psychologist; University of Southern Maine, B.A., 1977; Bowling Green State University, Ph.D., 1984
- Kramer, John D.** (1986) Coordinator for Photography and Design; Middlebury College, B.A., 1976
- Kratzer, Richard O.** (1971) Professor of Mathematics; Fort Hays Kansas State College, B.A., 1957; Kansas State College of Pittsburg, M.A., 1964; New York University, Ph.D., 1971
- Kreisler, Joseph D.** (1972) Associate Professor of Social Welfare; Oklahoma University, B.A., 1947; Columbia University, M.A., 1949; M.S.W., 1959
- Krichels, Deborah** (1986) Acting Director of Development; University of Wisconsin, B.A., 1970; University of Maine, M.A., 1986
- Kucsma, Michael C.** (1987) Assistant Professor of Associate Business Administration; Emory and Henry College, B.A., 1968; University of Virginia, M.S.Ed., 1973
- Lacognata, Angelo A.** (1965) Professor of Sociology; University of Buffalo, B.A., 1957; University of Rochester, M.A., 1959; Michigan State University, Ph.D., 1962
- Laffin, Catherine A.** (1962) Coordinator of Administrative Services
- Lake, Francis A.** (1986) Computer Programmer, Management Information Systems; University of Southern Maine, B.A., 1986
- Lambert, David** (1986) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; Tulane University, B.A., 1972; Indiana University, M.A., 1974; Brandeis University, Ph.D., 1986
- Lamontagne, Carol** (1984) Staff Associate, Professional Development Center, College of Education
- Lang, Isa** (1986) Assistant Law Librarian for Public Services; Stern College for Women, B.A., 1972; University of Pennsylvania, J.D., 1975; Drexel University, M.L.S., 1978
- Lang, Michael** (1983) Professor, School of Law; Harvard University, A.B., 1972; University of Pennsylvania, J.D., 1975
- Lantz, Ronald** (1978) Artist in Residence, Music; Indiana University, B.M., 1967; Julliard School of Music, Graduate Studies, 1968
- LaPlante, Josephine M.** (1985) Assistant Professor of Public Policy and Management; Syracuse University, B.A., 1973; M.A., 1983; Ph.D., 1984
- Lapointe, Norman J.** (1967) Program Director, Child and Family Institute and Assistant Professor of Education; University of Maine, B.S., 1956; University of Massachusetts, M.A., 1960
- LaSala, Gerald J., Jr.** (1987) Assistant Professor of Physics; Yale University, B.A., 1970; Rutgers University, M.S., 1978; Dartmouth College, Ph.D., 1983
- Lasky, Kathryn** (1987) Assistant Professor of Communication; Murray State University, B.S., 1974; M.A., 1977
- Law, Eleanor W.** (1980) Volunteer Assistant to the Executive Director for Human Resources; Simmons College, B.A., 1950
- Lazar, Bonnie** (1975) Associate Professor of Social Welfare; State University of New York at Buffalo, B.A., 1970; Boston University, M.S.S.S., 1972

- LeBel, Kathleen S.** (1986) Assistant Director of Conferences; State University of New York at Plattsburgh, B.A., 1981
- Leh-Douglas, Sharyn** (1983) Academic Counselor and Coordinator of Handicapped Student Services; Lake Erie College, B.A., 1969; University of New Hampshire, M.Ed., 1974; CAS, 1979; University of Maine, Ed.D., 1986
- Lehane, Stephen** (1984) Director, Child Care Services; St. Anselm College, B.A., 1965; University of New Hampshire, M.A.T., 1967; Columbia University, Ed.D., 1973
- Lehman, Peter M.** (1974) Associate Professor of Sociology; Oberlin College, A.B., 1968; Meadville Theological School, University of Chicago, M.A., 1970; University of Massachusetts, Ph.D., 1978
- Lemelin, Robert** (1977) Director; Learning Assistance Systems; Southern Connecticut State University, B.S., 1959; University of Maryland, M.A., 1963; Ph.D., 1967
- Leodas, Elpiniki** (1984) Special Needs Child Development Specialist, Child and Family Institute; American University, B.A., 1943; Tufts University, M.Ed., 1973
- Lepelley, Edith** (1965) Associate Professor of French; Lycée de Jeunes Filles de Chartres, Baccalaureate, 1950; University of Rennes (France), License es Lettres, 1956
- Levere, Ronald W.** (1976) Director, Educational Media Center; State University of New York, B.S., 1965; University of Connecticut, M.A., 1976
- Levesque, Marc A.** (1986) Program Specialist, Department of Community Programs; Boston College, B.A. 1970
- Levine, Frank M.** (1975) Coordinator, Organized Camping Resources Center for Research and Advanced Study; Cambridge College, A.A., 1950
- Lewis, Sandra M.** (1983) Acting Director of Student Billing; University of Southern Maine, B.S., 1978; M.S., 1980
- Lewis, Virginia M.** (1953) Graduate Education Specialist, College of Education; Maine School of Commerce, 1940
- Libby, Philip C.** (1961) Coordinator of Property Management
- Lieberman, Alice A.** (1982) Assistant Professor of Social Welfare; Research Associate, Human Services Development Institute, Center for Research and Advanced Study; University of Texas at Austin, B.A., 1974; University of Texas at Arlington, M.S.W., 1976; Washington University, St. Louis, Missouri, Ph.D., 1978
- Locke, Phyllis R.** (1968) Serials Reference Librarian; University of Toronto, B.A., 1951; University of Maine, M.L.S., 1968
- Lockridge, Rebecca B.** (1984) Assistant Professor of Communication; Indiana University, A.B., 1960; Connecticut State College, Certificate, 1962; Ohio State University, M.A., 1983
- Lombardo, Gary A.** (1987) Assistant Professor of Business Administration; New Hampshire College, B.S. 1976; University of Southern California, M.S., 1980; University of Oregon, Ph.D., 1986
- Loper, Merle W.** (1971) Professor, School of Law; Northwestern University, B.A., 1962; University of Chicago, J.D., 1965
- Louden, Robert B.** (1982) Assistant Professor of Philosophy; University of California at Santa Cruz, B.A., 1975; University of Chicago, M.A., 1976; Ph.D., 1981
- Lumbert, Lanier D.** (1978) Head of Circulation Services; University of Maine at Orono, B.A., 1971; University of Denver, M.A., 1974
- Lyons, Charles M.** (1973) Interim Director, Health Professions Education/Associate Professor of Education; St. Francis Xavier University, B.A., 1966; University of Hartford, M.Ed., 1970; Boston University, Ed.D., 1978
- Lyons, George C.** (1984) Director, Professional Development Center; College of Education; St. Francis Xavier University, B.A., 1955; University of Maine, Portland, M.Ed., 1968
- MacDonald, Stephen A.** (1970) Associate Professor of Mathematics; Gorham State College, B.S., 1963; University of Maine, M.A., 1964; Case Western Reserve University, Ph.D., 1972
- MacDonald, Thomas** (1984) Assistant Professor of Associate Business Administration, University of Southern Maine, B.A., 1973; M.S., 1979; B.A. (computer science), 1981
- MacLeod, Bruce** (1986) Instructor of Computer Science; Bowdoin College, A.B., 1979; Rensselaer Polytechnic Institute, M.S., 1981; University of Massachusetts, M.S., 1985; Ph.D. Candidate, 1986
- MacPherson, Kathleen I.** (1974) Associate Dean for Graduate Affairs and Professor, School of Nursing; Boston University, B.S., 1963; M.A., 1965; M.S., 1974, Brandeis University, Ph.D., 1986
- Maiman, Richard J.** (1971) Professor of Political Science; Lake Forest College, B.A., 1967; Brown University, Ph.D., 1972
- Mainville, Waldeck E., Jr.** (1965) Professor of Mathematics; University of Maine, B.S., 1960; Bowdoin College, A.M., 1964; Bowling Green State University, Sp.Ed., 1965; Michigan State University, Ph.D., 1972
- Manny, Carter** (1986) Assistant Professor of Business Law; Harvard, A.B., 1971; Boston University, J.D., 1975
- Marasco, Rose** (1986) Assistant Professor of Art; Syracuse University, B.E.A., 1971; Goddard College, M.A., 1981
- Martin, Joyce** (1980) Professional Staff Developer, Professional Development Center, College of Education; Simmons College, B.A., 1965; New York University, M.A., 1973
- Martin, Laurie L.** (1980) Data Base Manager; Management Information Systems; University of Maine at Orono, B.A., 1980

- Martin, Peter J.** (1980) Associate Professor of Music; Northern Illinois University, B.A., 1971; Wichita State University, M.M.E., 1973; Northwestern University, Ph.D., 1983
- Martin, Thomas A.** (1965) Assistant Professor of Physical Education and Recreation, Director of Intramurals; University of Maine, B.S., 1963; M.Ed., 1969
- Mason, Edith C.** (1974) Professional Nurse, Student Health Center; Maine Medical Center, R.N., 1954
- Masure, Lorraine D.** (1973) Director, Sanford Center, Nasson College, B.A., 1970; University of Southern Maine, M.S., 1976
- Mazurkiewicz, Michael, Jr.** (1969) Professor of Biology; Rutgers University, B.S., 1961; M.S., 1964; University of Connecticut, Ph.D., 1970
- McCrillis, George** (1980) Exercise Instructor, Lifeline Adult Fitness Program
- McCullough, William T.** (1978) Associate Professor, Therapeutic Recreation; Southern Connecticut State College, B.S., 1971; M.S., 1977; Boston University, Ed.D., 1986
- McDonald, Thomas P.** (1983) Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; Bucknell University, B.S., 1971; University of Pennsylvania, M.S.W., 1973; University of Wisconsin-Madison, Ph.D., 1977
- McDonnell, Polina C.** (1976) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Maine at Portland-Gorham, B.A., 1972
- McDuffie, Bruce** (1987) Case Consultant, Division of Human Resources; University of Maine, B.A., 1960; Case-Western Reserve University, M.S., 1969
- McGough, Barbara** (1984) Field Coordinator, Hearing Impairment, College of Education; Seton Hall University, B.S., 1963
- McGrath, Barbara** (1986) Instructor of English; Illinois Wesleyan University, B.A., 1967
- McGrath, Francis C. III** (1985) Associate Professor of English; Dartmouth College, B.A., 1964; University of Texas at Austin, Ph.D., 1973
- McGuire, Catherine A.** (1984) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Southern Maine, B.A., 1983
- McKeil, Richard L.** (1966) Professor of Associate Business and Economics; University of Maine, B.A., 1959; M.A., 1965
- McMahon, Robert C.** (1969) Associate Professor of Economics; University of Washington, B.A., 1959; M.A., 1964; Lehigh University, Ph.D., 1970
- McMullen, Faith** (1979) Coordinating Manager, Child Care Services, University of Maine at Orono, B.S., 1968
- Medley, Joseph E.** (1983) Assistant Professor of Economics; State University of New York-Albany, B.A., 1973; University of Massachusetts, Amherst, M.A., 1976; Ph.D., 1981
- Medici, Angelo** (1983) Instructor in Math; Boston College, B.S., B.A., 1950; Bridgewater State College, M.Ed., 1961; Clarkson College, M.S., 1969
- Messerschmidt, James** (1986) Associate Professor of Sociology; Portland State University, B.S., 1973; San Diego State University, M.S., 1976; University of Stockholm (Sweden), Ph.D., 1979
- Meisner, Roberta** (1985) Reference Librarian; Colby College, B.A., 1982; Simmons College, M.S., 1985
- Meyer, Linda** (1980) Associate Professor, Therapeutic Recreation Programs; Bridgewater State College, B.S., 1969; University of Connecticut, M.A., 1973; Ph.D., 1976
- Miaoulis, George** (1983) Professor of Marketing; New York University, B.S., 1965; M.B.A., 1969; Ph.D., 1974
- Milbury, Allen W.** (1963) Associate Professor of Education; University of New Hampshire, B.S., 1960; Indiana University, M.S., 1963; Ed.D., 1969
- Miller, Lynne** (1987) Associate Professor of Educational Administration/Instructional Leadership; University of Pennsylvania, B.A., 1967; Harvard University, M.A.T., 1970; University of Massachusetts, Ed.D., 1975
- Milligan, Patricia M.** (1975) Senior Law Cataloger, School of Law Library; Ohio State University, B.A., 1971
- Monsen, S. Henry** (1969) Professor of Sociology; Florida State University, B.A., 1957; University of California, Los Angeles, M.A., 1959; University of Texas, Ph.D., 1967
- Moore, Dorothy D.** (1968) Dean and Associate Professor, College of Education; University of Maine, B.S., 1966; M.Ed., 1968; Ed.D., 1978
- Moore, Edward T.** (1980) Library Circulation Associate, University Library; St. Anselm College, B.A., 1974
- Moore, Jo-Anna J.** (1983) Assistant Professor of Art Education; Syracuse University, B.F.A., 1965; Massachusetts College of Art, M.S., 1980
- Moore, Michael G.** (1967) Associate Professor of Art; Syracuse University, B.F.A., 1963; University of Washington, M.F.A., 1967
- Moore, Ramona L.** (1972) Serials Law Librarian, School of Law
- Moore, William H.** (1971) Associate Professor of Technology; Gorham State College, B.S., 1969; University of Maine at Portland-Gorham, M.Ed., 1970; University of Tennessee, D.Ed., 1979
- Morrill, David** (1970) Associate Professor of Education; Moorehead State College, B.S., 1967; Texas A & M University, M.Ed., 1968; Ed.D., 1970
- Mosher, Martha** (1984) Assistant Manager, Portland Bookstore
- Mortensen, William G.** (1965) Director of Public Service; University of Maine, B.S., 1961; M.S., 1966
- Mullane, Michael W.** (1987) Associate Professor of Law; University of Notre Dame, B.A., 1964; Notre Dame Law School, J.D., 1972

- Murphy, Julien** (1984) Assistant Professor, Philosophy Department; Northern Illinois University, B.A., 1977; DePaul University, M.A., 1980; Ph.D., 1982
- Myers, Anne** (1987) Assistant Law Librarian for Technical Services; Vanderbilt University, B.A., 1976; University of Texas at Austin, M.L.S., 1977
- Nadel, Judith L.J.** (1986) Research Assistant, Office of Student Testing and Assessment; University of Maine, B.A., 1982; University of Southern Maine, M.S., 1986
- Najarian, Haig H.** (1966) Professor of Biology; University of Massachusetts, B.S., 1948; Boston University, M.A., 1949; University of Michigan, Ph.D., 1953
- Najemy, Jeanne** (1985) Coordinating Manager, Child Care Services; Clark University, B.A., 1968; Lesley College, M.Ed., 1981
- Nannay, Robert W.** (1972) Associate Professor of Industrial Education and Technology; Trenton State College, B.A., 1964; M.A., 1967; University of Maryland, Ed.D., 1970
- Narang, Kamal** (1987) Assistant Professor of Mathematics, University of Allahbad (India), B.S., 1968; M.S., 1970; Indian Institute of Technology, M.S., 1973; The Ohio State University, Ph.D., 1985
- Nealand, Sallie C.** (1980) Associate Dean for Undergraduate Affairs and Assistant Professor, School of Nursing; Mt. Holyoke College, A.B., 1961; University of Delaware, B.S.N., 1973; University of Pennsylvania, M.S.N., 1979
- Nelson, Gordon E., Jr.** (1981) Assistant Director, Facilities Management; Brown University, B.A., 1975
- Neuberger, Harold T.** (1957) Professor of Science Education; Iowa-Wesleyan College, B.S., 1952; University of New Mexico, M.S., 1953; Boston University, E.D., 1964
- Neveu, Raymond P.** (1982) Professor of Finance; Providence College, A.B., 1959; Boston College, M.A., 1961; University of Pittsburgh, Ph.D., 1968
- Newell, Alma H.** (1969) Assistant to the Director, Child and Family Institute; University of Southern Maine, B.A., 1986
- Newton, Thomas A.** (1987) Assistant Professor of Chemistry; Hobart College, B.S., 1965; Bucknell University, M.S., 1968; University of Delaware, Ph.D., 1973
- Nickerson, Merton A.** (1986) Director of Academic Computer Services; University of Maine at Orono, B.S., 1963; University of Northern Iowa, M.S., 1968; University of Maine at Orono, Ph.D., 1976
- Norbert, Mary** (1984) Resident Director/Counselor; Residence Life; Boston College, B.A., 1981
- Normandeau, Jeanne G.** (1968) Associate Professor, School of Nursing; Boston College, B.S., 1964; M.S., 1967
- Novak, Irwin D.** (1971) Associate Professor of Geology; Hunter College, A.B., 1966; University of Florida, M.S., 1968; Cornell University, Ph.D., 1971
- O'Brien, Alyce S.** (1982) Executive Director for University Relations; Wilmington College, B.A., 1965; Ohio University, M.A., 1967
- O'Donnell, Michael P.** (1970) Professor of Education; University of Maine, B.S., 1958; M.S., 1961; Syracuse University, Ed.D., 1968
- O'Mahoney-Damon, Patricia M.** (1977) Associate Professor of Biology; Long Island University, B.S., 1971; State University of New York at Buffalo, M.A., 1974; Ph.D., 1977
- Osier, Donald T.** (1982) Counselor, Bath Center; Bates College, B.S., 1973; Michigan State University, M.A., 1976
- Owens, William M.** (1987) Assistant Professor of Classics; Cornell University, B.A., 1976; Yale University, M.A., 1977; M. Phil., 1979; Ph.D., 1986
- Padula, Alfred L.** (1972) Associate Professor of History; College of the Holy Cross, B.S., 1957; University of the Americas (Mexico City), M.A., 1961; University of New Mexico, Ph.D., 1975
- Palmacci, Viola** (1966) Coordinator, Portland Student Health Center/Family Nurse Practitioner; Maine Eye and Ear Infirmary, R.N., 1944; University of Southern Maine, EN.P., 1972
- Palmer, Margaret** (1983) Assistant to the Dean, School of Business, Economics and Management; Shippensburg University, B.S., 1970; Goddard College, M.A., 1980
- Paltrow, Merle** (1987) Associate Professor of Nursing; University of Oregon, B.S., 1966; Lewis and Clark College, M.Ed., 1975; Columbia University, Ed.D., 1983
- Paradise, Noel E.** (1967) Professor of Psychology; University of Maryland, A.B., 1948; University of Michigan, Ph.D., 1960
- Parchman, Thomas** (1984) Assistant Professor of Music; Southern Methodist University, B.M., 1976; Northwestern University, M.M., 1978
- Parent, Suzanne P.** (1975) Acquisitions and Accounts Law Librarian; University of Maine at Portland-Gorham, B.A., 1975
- Parker, Helen F.M.** (1974) Assistant Director, Student Financial Aid; University of Maine at Portland-Gorham, B.A., 1973
- Parker, Kevin S.** (1984) Associate Professor of Military Science; Norwich University, B.S., 1978
- Parks, George R.** (1985) University Librarian; University of New Hampshire, A.B., 1959; University of Michigan, M.L.S., 1962
- Parsons, Gregory L.** (1983) Assistant Professor of Business Administration; University of Minnesota, B.S., 1974; Purdue University, Ph.D., 1980
- Parsons, Henry L.** (1983) Assistant Professor of Production/Operations Management; Michigan State University, B.S., 1960; University of Oregon, M.S., 1968; Ph.D., 1974
- Partridge, Susan E.** (1985) Consultant/Infant Telecourse Project Coordinator; Human Services Development Institute, Center for Research and Advanced Study; University of

- Michigan, B.A., 1971; M.S.W., 1974; M.A., 1976; Ph.D., 1980
- Passerman, Toni L.** (1984) Academic Counselor, Saco-Biddeford Center; Faculty Liaison, Off-Campus Instruction and Academic Support; University of New Hampshire, B.S., 1981; University of Southern Maine, M.S.Ed., 1984
- Peake-Godin, Helen** (1980) Associate Professor, School of Nursing; Spalding College, B.S., 1969; Emory University, M.N., 1979
- Pendleton, James W.** (1967) Associate Professor of Physical Science; Keene State College, B.Ed., 1959; Oregon State University, M.S., 1963
- Pennell, Beth-Ellen** (1987) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Maine at Orono, B.A., 1978
- Perry, Caryn** (1983) Assistant Professor of Nursing; University of Maine at Portland-Gorham, B.S., 1978; University of Virginia, M.S., 1983
- Perry, Judith** (1986) Occupational Health and Safety Consultant/Coordinator, Division of Human Resources; Maine Medical Center School of Nursing, R.N., 1959; University of Southern Maine, B.S., 1981; M.S.E.D., 1987
- Peters, Gerald** (1987) Assistant Professor of English; University of Saskatchewan, B.A., 1975; M.A., 1982; University of Illinois, Ph.D., 1986
- Pflug, Julie S.** (1987) Assistant Professor of Chemistry; Rensselaer Polytechnic Institute, B.S., 1978; University of Illinois, Ph.D., 1983
- Phillips, William A.** (1980) Associate Professor of Economics; Florida State University, B.S., 1961; M.S., 1975; Ph.D., 1979
- Plante, Patricia R.** (1987) President; Professor of English; St. Joseph's College, B.A., 1955; St. Michael's College, M.A., 1958; Boston University, Ph.D., 1962; University of Paris (Sorbonne), Post Doctoral Studies, 1976
- Pollock, Stephen G.** (1979) Associate Professor of Geology; Bucknell University, A.B., 1968; University of Maine, M.S., 1972; Rutgers University, Ph.D., 1975
- Potter, Judy R.** (1972) Professor, School of Law and Director, Clinical Practice Program; Cornell University, B.A., 1960; University of Michigan Law School, J.D., 1967
- Potts, Andrew J.** (1985) Professor of Accounting; George Washington University, A.B., 1960; M.B.A., 1962; Ed.D., 1977; C.P.A., (Virginia, District of Columbia); C.C.A., (District of Columbia)
- Power, Thomas A.** (1966) Associate Professor of Theatre; University of Maine, B.S., 1964; M.A., 1968
- Powers, Kathleen** (1977) Research Assistant, Human Service Development Institute, Center for Research and Advanced Study; University of Maine, B.A., 1969
- Pranger, Eugene B.** (1973) Assistant Director for Management and Finance, Center for Research and Advanced Study; Indiana University, B.S., 1971
- Preston, JoAnne** (1986) Assistant Professor of Sociology and Director of Women's Studies; Jackson College, B.S., 1966; Brandeis University, Ph.D., 1982
- Purdy, Warren** (1980) Associate Professor of Associate Business Administration; Bethany College, B.A., 1970; Fordham University, M.B.A., 1974
- Quinn, Cynthia** (1976) Manager, USM Bookstores; University of Maine, B.S., 1975
- Quintrell, Ella J.** (1985) Research Assistant, Marine Law Institute, Center for Research and Advanced Study; Colby College, B.A., 1980
- Rakovan, Lawrence E.** (1967) Associate Professor of Art; Wayne State University, B.S., 1967; Rhode Island School of Design, M.A., 1969
- Rand, Steven** (1972) Registrar; University of Maine at Presque Isle, B.S., 1970
- Redonnett, Rosa S.** (1987) Assistant Director of Summer Session; Simmons College, B.A., 1980; Northeastern University, M.B.A., 1982
- Rees, Toni** (1984) Assistant Professor of Hearing Impairment; Teaching Certificate, Norwich College of Education (England), 1967; Southampton University, M.A., 1971; Gallaudet College, Ph.D., 1983
- Reitman, Eloise V.** (1982) Coordinator, Displaced Homemakers Project, Bath Center; University of Pittsburgh, B.A., 1970; University of Southern Maine, M.S., 1977
- Remen, Fred W.** (1985) Assistant Director, Facilities Management; Southern Connecticut University, B.S., 1978; Calhoun M.E.B.A. Engineering School, 1983
- Reno, Stephen J.** (1980) Dean, College of Arts and Sciences and Associate Provost; St. John's College, A.B., 1965; University of California (Santa Barbara), M.A., 1968; Ph.D., 1975
- Reuter, John E.** (1969) Associate Professor of English; University of New Hampshire, A.B., 1958; University of Rochester, M.A., 1963; Ph.D., 1968
- Reynolds, Randy D.** (1986) Director of Facilities Management; Thomas College, B.S., 1974
- Rhodes, Gale W.** (1985) Associate Professor of Chemistry, North Carolina State University, B.S., 1965; University of North Carolina, Ph.D., 1971
- Ricci, John S.** (1981) Professor of Chemistry; American International College, A.B., 1962; Columbia University, M.A., 1963; SUNY (Stony Brook), Ph.D., 1969
- Rice, Frances** (1986) Reference Librarian/Cataloger; University of Maine at Presque Isle, A.A., B.S., 1977; Simmons College, M.L.S., 1978
- Rich, Barbara** (1974) Associate Professor of Social Welfare; Columbia University, M.S.W., 1970
- Richardson, Linda L.** (1986) Assistant Professor of Finance; Connecticut College, B.A., 1970; Montana State, M.S., 1974
- Ricupiti, Remo H.** (1965) Associate Professor of Biology; University of New Hampshire, B.A., 1954; M.S., 1958

- Rieser, Alison** (1980) Director, Marine Law Institute, Center for Research and Advanced Study and Adjunct Associate Professor, School of Law; Cornell University, B.S., 1973; George Washington University, J.D., 1976
- Roberts, James W.** (1967) Associate Professor of Political Science; San Diego State College, B.A., 1954; University of North Carolina, Ph.D., 1973
- Robichaud, Kathy** (1985) Admissions Counselor; University of Southern Maine, B.A., 1985
- Roche, Mildred A.** (1982) Assistant Professor, School of Nursing; Boston College, B.S.N., 1960; Catholic University, M.S.N., 1966; F.N.A., 1972
- Rodgers, Marianne W.** (1981) Associate Professor, School of Nursing; University of Maine, B.S.N., 1967; Boston University, M.S., 1981
- Rogers, Paul C.** (1965) Professor of Mathematics; College of the Holy Cross, B.N.S., 1945; Boston University, M.A., 1948
- Rogoff, Martin A.** (1972) Director, Honors Program and Professor, School of Law; Cornell University, B.A., 1962; University of California, Berkeley, M.A., 1963; Yale Law School, LL.B., 1966
- Rolfe, Frederick B.** (1966) Associate Professor of French; Bowdoin College, A.B., 1946; Middlebury College, A.M., 1948
- Rootes, Minor R.** (1966) Professor of Theatre; University of California, Santa Barbara, A.B., 1954; San Francisco State College, M.A., 1961; University of Connecticut, M.F.A., 1983
- Rosen, Kenneth E.** (1965) Professor of English; Pennsylvania State University, B.A., 1962; University of Iowa, M.F.A., 1964
- Rosenthal, Charlotte** (1987) Assistant Professor of Russian; Cornell University, B.A., 1964; University of Chicago, M.A., 1967; Stanford University, Ph.D., 1979
- Ross, Paul** (1978) Artist in Residence, Music; Juilliard School of Music, B.M., and Performers Degree, 1960
- Rost, Mary Ann** (1972) Director, Department of Continuing Education for Nursing and Health Professions and Adjunct Faculty, School of Nursing; Boston College, B.S., 1964; University of Massachusetts, M.S., 1972
- Rote, Neal** (1987) Director, Applied Immunology Program; Temple University, B.A., 1969; Ph.D., 1974
- Rusch, Willard** (1987) Assistant Professor of English; State University of New York, Fredonia, B.A., 1976; University of Illinois, M.A., 1981; Ph.D., 1987
- Russell, Kevin P.** (1980) Director, Department of Conferences; University of Idaho, B.S., 1973
- Russell, Marilyn** (1984) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; University of Southern Maine, B.A., 1981
- Russell, Robert J.** (1979) Associate Professor of Music; Wake Forest University, B.A., 1971; University of North Carolina, M.M., 1975; University of Colorado, D.M.A., 1979
- Ryan, Judith S.** (1979) Director of Campus/Student Centers and Student Activities; University of South Florida, B.F.A., 1975; University of Southern Maine, M.A., 1982
- Salvo, Gerard R.** (1979) Admissions Coordinator, Child Care Services; University of Southern Maine, B.A., 1977
- Sampson-Armstrong, Priscilla** (1986) Child Development Specialist, Child and Family Institute; University of Southern Maine, B.A., 1970; M.Ed., 1980; Southern Maine Vocational Institute, A.A., 1984
- Sanborn, Jane O.** (1961) Associate Professor of Psychology; Wilson College, A.B., 1942; University of California, Los Angeles, Ed.D., 1961
- Sanders, John J.** (1982) Assistant Professor of Accounting; Plymouth State College, B.S., 1972; University of Southern Maine, M.B.A., 1977; C.P.A. (Maine)
- Santry, Robert T.** (1979) Assistant Manager; Portland Bookstore; University of Southern Maine, B.A., 1979
- Sayers, Frances** (1981) Assistant Professor of Communication; Auburn University, B.G.S., 1974; M.A., 1977; Florida State University, Ph.D., 1980
- Schaible, Robert M.** (1986) Instructor of English; Furman University, B.A., 1965; University of Tennessee, M.A., 1966; Ph.D., 1971
- Schiferl, Ellen** (1980) Associate Professor of Art; Grinnell College, B.A., 1971; University of Minnesota, M.A., 1974; Ph.D., 1980
- Schleh, Eugene, EA.** (1965) Professor of History; Union College, B.A., 1961; Yale University, M.A., 1962; Ph.D., 1968
- Schroeder, Jerie L.** (1980) Lifeline Exercise Specialist; University of Buffalo, B.S., 1973; University of New Hampshire, M.S., 1981
- Schroff, Roger** (1982) Associate Professor of Computer Science; Kansas University, B.A., 1966; M.A., 1978; M.S., 1979; Ph.D., 1980
- Schwanauer, Francis** (1962) Professor of Philosophy; Technical University of Stuttgart, Dr.Phil., 1959
- Schwanauer, Johanna** (1963) Lecturer in German; Wellesley College, B.A., 1957
- Schwinck, Lotte** (1969) Associate Professor of Biology; University of Tübingen, Dr. rer. nat., 1956
- Selkin, Michael** (1970) Associate Professor of English; Columbia College, A.B., 1961; Cornell University, M.A., 1963; Columbia University, Ph.D., 1975
- Shaughnessy, Michael** (1987) Assistant Professor of Art; University of Missouri, Kansas City, B.A., 1981; Ohio University, M.F.A., 1984
- Shaw, Pandora N.** (1984) Assistant Dean, School of Law; University of Texas, B.A., 1971; Harvard Law School, J.D., 1980
- Shedletsky, Leonard** (1979) Associate Professor of Communication; Brooklyn College, B.A., 1965; San Francisco State College, M.A., 1968; University of Illinois, Ph.D., 1974

- Sheppard, Lucille T.** (1972) Administrative Staff Associate, Department of Community Programs
- Sheridan, James** (1985) Resident Director/Counselor; Marietta College, B.A., 1974; Ohio University, M.Ed., 1985
- Shoobs, Dorothy S.** (1973) Associate Professor, School of Nursing; New York University, B.S., 1953; M.A., 1960; Ph.D., 1973
- Siegal-Loya, Harriet** (1985) Instructor, School of Nursing; University of California at Los Angeles, B.A., 1975; M.N., 1977
- Silkman, Richard Harris** (1983) Associate Professor of Public Policy and Management; Purdue University, B.S., 1972; Yale University, M.A., 1975; M. Phil, 1975; Ph.D., 1980
- Silvernail, David L.** (1977) Director of Testing and Assessment, Associate Provost and Associate Professor of Education; Indiana University, A.B., 1969; M.S., 1975; Ed.D., 1977
- Silvernail, Susan M.** (1977) Director of Summer Session; Ball State University, B.S., 1975; University of Southern Maine, M.S., 1980
- Simonds, Stephen P.** (1971) Director of International Studies and Senior Research and Advanced Study Associate, Human Services Development Institute, Center for Research and Advanced Study; University of New Hampshire, A.B., 1948; University of Chicago, M.A., 1953
- Sinclair, Gail M.** (1978) Professional Nurse, Student Health Center; Maine Medical Center, R.N., 1963
- Slavick, William H.** (1970) Professor of English; University of Notre Dame, B.A., 1949; M.A., 1951; Ph.D., 1971
- Small, William U.** (1967) Academic Counselor; Bowdoin College, A.B., 1949; Columbia University, M.B.A., 1951
- Smith, Alan G.** (1967) Professor of Chemistry; Mount Allison University (New Brunswick), B.S., 1949; University of New Brunswick, M.S., 1951; University of Maine, Ph.D., 1966
- Smith, Dorothy Woods** (1986) Instructor of Nursing, Johns Hopkins University, B.S.N., 1960; University of Southern Maine, M.Ed., 1975; New York University, M.A., Nursing, 1985
- Smith, James W.** (1986) Associate Professor of Applied Science; Pennsylvania State University, B.S., 1961; M.S., 1963; Ph.D., 1967
- Smith, Charles E.** (1969) Associate Professor of Education; Westfield State College, B.S., 1960; University of Massachusetts, M.S., 1963; Ed.D., 1969
- Soifer, Naira B.** (1984) Visiting Associate Professor of Law; Bryn Mawr College, B.A., 1974; Boston College Law School, J.D., 1980; Georgetown University Law Center, LL.M., 1983
- Sottery, Theodore W.** (1956) Professor of Chemistry; Dartmouth, B.N.S., 1949; University of Maine, M.S., 1956; Ph.D., 1966
- Southworth, Robert S.** (1963) Professor of Education Psychology; Boston University, B.A., 1951; Ed.M., 1958; Ed.D., 1965
- Soychak, Anthony G.** (1965) Assistant Professor of Mathematics; University of Maine, B.S., 1959; Bowdoin College, M.A., 1963
- Spaulding, Forrest** (1983) Television Technical Operations Specialist
- Spear, Joanne** (1977) Director, Department of Community Programs; University of Maine, B.S., 1974; M.S., 1977
- Spruill, JoAnna** (1985) Assistant Professor of Education; Smith College, B.A., 1961; Boston University, M.Ed., 1973
- Stebbins, Barbara D.** (1984) Head of Media Services; Bethany College, B.A., 1971; University of Hawaii, M.Ed., 1983
- Stebbins, Richard G.** (1983) Associate Professor of Chemistry; Wesleyan University, B.A., 1965; Texas A & M University, Ph.D., 1970
- Steele, William P.** (1967) Associate Professor of Theatre; University of Maine, B.S.Ed., 1964; M.A., 1967
- Steinman, Richard** (1966) Professor of Social Welfare; University of Missouri, B.A., 1949; Columbia University, M.S., 1952; Brandeis University, Ph.D., 1968
- Stevens, Reid D.** (1985) Assistant Professor of Education; Suffolk University, B.S., 1971; University of Maine at Orono, M.Ed., 1973; University of Georgia, Ph.D., 1981
- Stocks, Cynthia M.** (1987) Conference Coordinator, Department of Conferences; University of Maine, B.A., 1985
- Stone, Deborah** (1983) Assistant Professor, School of Nursing; University of New Hampshire, B.S.N., 1977; Boston University School of Nursing, M.S.N., 1983
- Stout, Elizabeth** (1979) Assistant to the Director, Small Business Development Center, Center for Research and Advanced Study
- Stump, Walter R.** (1968) Professor of Theatre; San Diego State College, B.A., 1959; M.A., 1960; Indiana University, Ph.D., 1974
- Sturgeon, Richard H.** (1962) Director, Advising and Academic Information Department; Veterans Affairs Coordinator; Associate Professor of Physical Education; University of Maine, B.S., 1960; M.Ed., 1966
- Sturner, William** (1978) Professor of Management; Fordham College, B.S.S., 1957; University of Wisconsin, M.A., 1960; Fordham University, Ph.D., 1966; Certificate, Gestalt Institute of Cleveland, 1978
- Sullivan, James V.** (1959) Coordinator and Professor, Therapeutic Recreation Programs and Director of Employee Health and Recreation; University of Maine, B.S.Ed., 1951; University of Delaware, M.Ed., 1954; Boston University, Ed.D., 1971
- Suscavage, Charlene E.** (1986) Assistant Professor of Spanish; Millersville State, B.S.E., 1970; University of Delaware, M.A., 1973; Penn State University, Ph.D., 1980
- Sutton, John M., Jr.** (1978) Associate Professor of Education; Boston College, A.B., 1961; Uni-

- versity of Maine, M.S., 1972; Ed.D., 1976
- Swain, Susan** (1986) Assistant Director of Media Relations; City College of New York, B.A., 1974
- Swanson, Mark T.** (1983) Assistant Professor of Geology; Northeastern University, B.S., 1975; Lehigh University, M.S., 1979; State University of New York at Albany, Ph.D., 1982
- Sweet, Curtis B.** (1985) Director of Telecommunications; Brandeis University, B.A., 1979
- Sytsma, Donald** (1972) Associate Professor of Psychology; Arizona State University, B.A., 1965; University of Waterloo, Ph.D., 1971
- Talbot, Franklin** (1963) Reference Librarian; University of Maine, B.A., 1946; Columbia University, M.S., 1949
- Taylor, Susan E.** (1979) Administrative Manager; School of Nursing; Westbrook College, A.S., 1979
- Therault, Anne M.** (1969) Director, University of Southern Maine Alumni Association; University of Maine in Portland, A.B.A., 1967
- Thompson, Janice** (1984) Associate Professor of Nursing; University of Iowa, B.S.N., 1975; University of Utah, Ph.D., 1983
- Tiffany, Julia (Jill)** (1981) Associate Professor, School of Nursing; University of Washington, Seattle, B.S., 1962; Rutgers, The State University, M.S., 1967
- Tilbor, Karen R.** (1986) Research Assistant, Human Services Development Institute, Center for Research and Advanced Study; Elmira College, B.A., 1968; Wheelock College, M.S.Ed., 1969
- Tisdale, Janice** (1984) Research Assistant, Small Business Development Center, Center for Research and Advanced Study; Bates College, B.S., 1971; University of Minnesota, M.A., 1972
- Tizon, Judy** (1972) Associate Professor of Anthropology; University of Illinois, B.A., 1965; University of California, M.A., 1969; Ph.D., 1975
- Tryon, Phyllis A.** (1965) Associate Professor, School of Nursing; Boston University, B.S., 1958; Yale University, M.S.N. and C.N.M., 1962
- Tucker, Frances M.** (1970) Registrar, School of Law
- Tukey, Geraldine M.** (1970) Associate Professor, School of Nursing; Mercy College of Detroit, B.S., 1957; Boston University, M.A., 1964
- Turlo, Kathleen E.** (1980) Instructor, College of Education; University of Maine, B.S., 1974; M.S., 1980
- Ubans, Juris K.** (1968) Professor of Art; Director, Art Gallery; Syracuse University, B.F.A., 1966; Pennsylvania State University, M.F.A., 1968
- Ubans, Mara** (1970) Associate Professor of German; Indiana University, A.B., 1960; University of Southern California, M.A., 1962; Ph.D., 1975
- Vanzandt, C.E.** (1987) Assistant Professor of Education; Michigan State University, B.A., 1969; M.A., 1970; University of Maine, Ed.D., 1976
- Veazie, Carl E.** (1977) Senior Economist, New Enterprise Institute, Center for Research and Advanced Study; Whitman College, B.A., 1943; Columbia University, M.B.A., 1948
- Ventresco, Fiorello B.** (1966) Associate Professor of History; Boston University, A.B., 1959; University of Michigan, M.A., 1961
- Viana, Marlos A.G.** (1987) Assistant Professor of Mathematics; Universidade Federal, Rio de Janeiro, B.S., 1971; M.S., 1973; Stanford University, M.S., 1975; Ph.D., 1978
- Viehmann, Nancy Hines** (1982) Assistant Director, Department of Community Programs; Hartford College for Women, A.A., 1966; Marymount College, B.A., 1968; Boston State College, M.Ed., 1974
- Voyer, John J.** (1987) Assistant Professor of Business Administration; Harvard University, A.B., 1973; Clark University, M.B.A., 1981; University of Massachusetts, Ph.D., 1986
- Walker, David** (1986) Instructor of English; Bowdoin College, B.A., 1964; University of Oxford, B. Litt., 1967
- Walking, Robert A.** (1969) Associate Professor of Physics; Swarthmore College, B.A., 1953; Harvard University, M.S., 1954; Ph.D., 1962
- Ward, Jean F.** (1977) Academic Counselor; University of Southern Maine, B.A., 1977
- Ward, Thomas M.** (1976) Professor, School of Law; University of Pennsylvania, B.A., 1965; Notre Dame Law School, LL.B., 1968; University of Illinois Law School, LL.M., 1970
- Warren, Beth I.** (1978) Executive Director for Human Resources; Wheaton College, B.A., 1959; Simmons College School of Social Work, M.S.W., 1963
- Watterworth, Richard H.** (1987) Assistant Professor of Associate Business Administration; Quinnipiac College, B.S., 1961; Central Connecticut State University, M.A., 1967
- Watts, Felicity** (1987) Assistant Professor of Philosophy; St. Anne's College, Oxford University, B.A., 1981; University of Pennsylvania, Ph.D., 1986
- Waxler, Lawrence I.** (1976) Coordinator of Contracts and Grants, Center for Research and Advanced Study; University of Maine at Portland-Gorham, B.S., 1975
- Webster, Brenda D.** (1984) Information Services Associate, School of Nursing; University of Southern Maine, B.A., 1981
- Wells, William** (1986) Law Librarian and Associate Professor of Law; Eastern Oregon College, B.S., 1972; University of Puget Sound, J.D., 1977; University of Washington, M.L.L., 1979
- Welty, Charles** (1979) Professor of Computer Science; University of California at Berkeley, B.S., 1967; M.S., 1968; University of Massachusetts, M.A., 1977; Ph.D., 1979
- Wernick, Sidney W.** (1983) Adjunct Professor of Law; University of Pennsylvania, B.A., 1934; M.A., 1935; Harvard University, Ph.D., 1937; LL.B., 1940

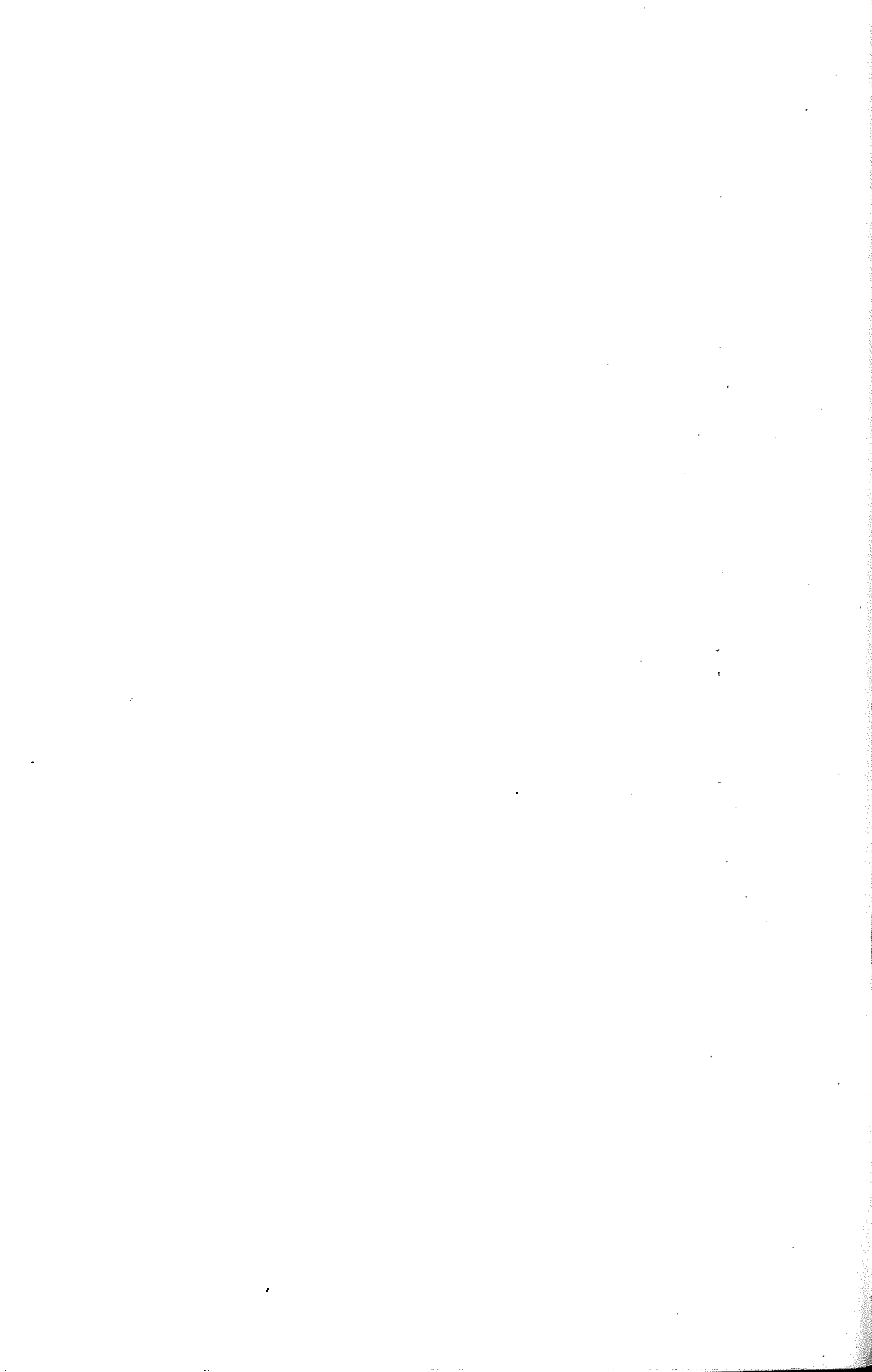
- Wescott, Madeline H.** (1956) Staff Associate for Payroll, Division of Human Resources
- Westfall, James R.** (1983) Assistant Professor of Associate Business Administration; Dartmouth College, A.B., 1967; Amos Tuck School of Business Administration, M.B.A., 1968
- Westort, Peter J.** (1986) Assistant Professor of Accounting; St. Francis Xavier University, B.A., 1969; University of Southern Maine, M.B.A., 1980; CPA (Maine)
- Whitcher, Sally** (1984) Instructor of Nursing; Fitchburg State College, B.S.N., 1976; Arizona State University, M.S.N., 1981
- Whitmore, Allan R.** (1969) Associate Professor of History; University of Maine, B.A., 1962; Northwestern University, M.A., 1964; Ph.D., 1970
- Willard, Nancy L.** (1969) Assistant Professor of Physical Education and Recreation; Russell Sage College, B.S., 1958; State University College, Plattsburgh, N.Y., M.S., 1967
- Willey, Barbara** (1965) Employment Services Consultant, Division of Human Resources; Westbrook Junior College, A.S., 1946
- Williamson, Gabriel P.** (1981) Exercise Specialist, Lifeline Adult Fitness Program; University of Southern Maine, B.S., 1975; M.S., 1979
- Willison, Gary S.** (1984) Lieutenant Colonel, U.S. Army, Professor of Military Science, ROTC; Indiana University of Pennsylvania, B.A., 1966; M.Ed., 1973
- Wise, William B.** (1966) Executive Assistant to the President; University of Maine, B.S., 1961; University of Maine at Orono, M.Ed., 1971
- Wood, Margo** (1980) Associate Professor of Education; Vassar College, B.A., 1961; University of Southern Maine, M.S., 1979; Boston University, Ed.D., 1986
- Woshinsky, Oliver H.** (1971) Professor of Political Science; Oberlin College, B.A., 1961; Yale University, M.A., 1967; M. Phil., 1968; Ph.D., 1971
- Wright, James L.** (1977) Vocational Education In-Service Staff Developer and Assistant Professor of Vocational Education; Boston University, B.S., 1950; Bridgewater State College, M.Ed., 1956; University of Maine at Orono, Ed.D., 1973
- Wroth, L. Kinvin** (1964) Dean and Professor; School of Law; Yale, B.A., 1954; Harvard, J.D., 1960
- Young, Cynthia A.** (1978) Staff Associate for Student Advising, School of Business, Economics and Management; University of Southern Maine, B.S., 1987
- Young, Jane Coolidge** (1987) Assistant Professor of Nursing; University of Maine, School of Nursing, B.S., 1970; Boston University, M.S., 1975
- Zaner, John A.** (1974) Associate Professor of Technology; Millersville State College, B.S., 1969; M.Ed., 1972; Pennsylvania State University, Ed.D., 1977
- Zarr, Melvyn** (1973) Professor, School of Law; Clark University, A.B., 1958; Harvard University, LL.B., 1963
- Zimmerman, Jean T.** (1983) Coordinator of Student Intramurals and Recreation; Gettysburg College, B.A., 1974; University of New Hampshire, M.S., 1978

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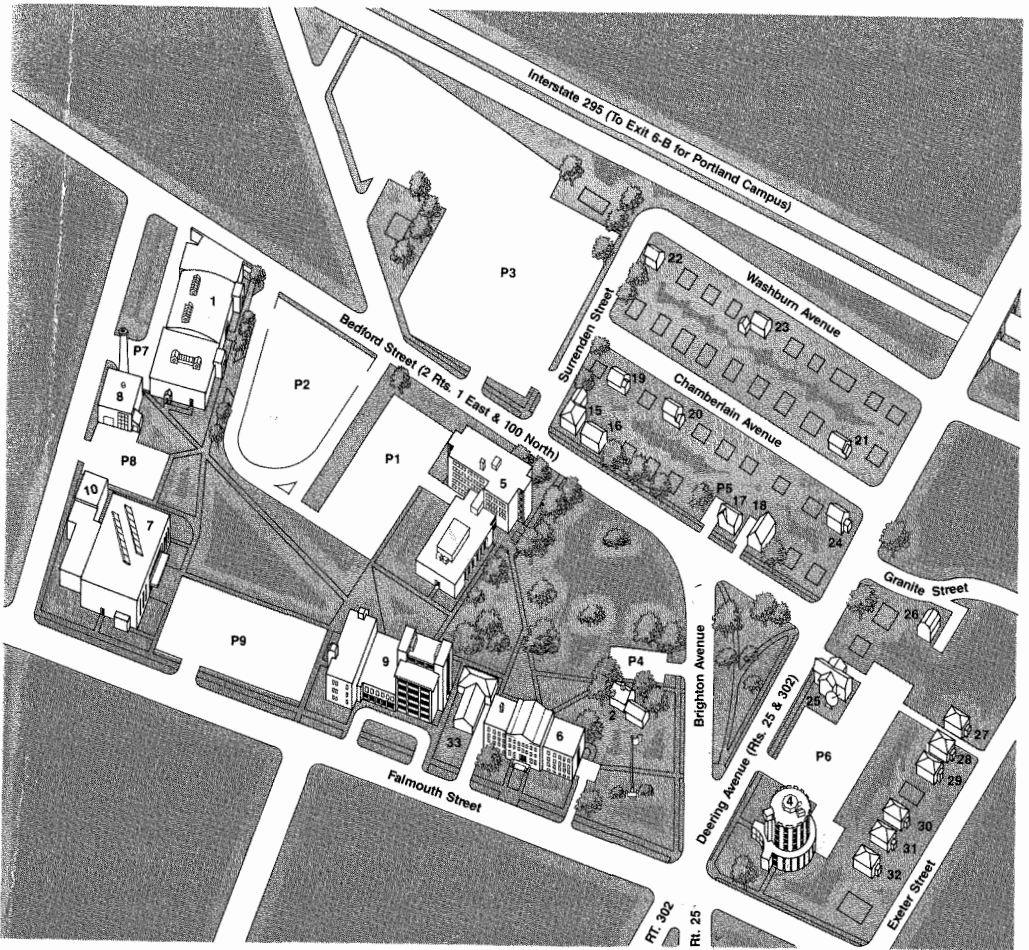
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Portland Campus



Portland Campus

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2. Alumni House
4. Law School/Center for Research and Advanced Study
5. Luther Bonney Hall (Library)
6. Payson Smith Hall
7. Portland Gymnasium
8. Central Heating Plant
9. Science Building
10. Child Care
15. 92 Bedford Street
16. 94 Bedford Street
17. 118 Bedford Street
18. 120 Bedford Street
19. 7 Chamberlain Avenue
20. 15 Chamberlain Avenue
21. 38 Chamberlain Avenue
22. 3 Washburn Avenue
23. 25 Washburn Avenue
24. 209 Deering Avenue

25. 228 Deering Avenue
26. 11 Granite Street
27. 39 Exeter Street
28. 45 Exeter Street
29. 47 Exeter Street
30. 55/57 Exeter Street
31. 59/61 Exeter Street
32. 65 Exeter Street
33. West Hall

Parking

- P1. Faculty/Staff/Student Commuter
- P2. Student Commuter
- P3. Student Commuter/Resident
- P4. Faculty/Staff
- P5. Faculty/Staff
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